# APPENDIX INT-1

## NOTICE OF PREPARATION

**Office of Planning and Environmental Review**
Leighann Moffitt, Director




**County Executive**
Navdeep S. Gill

# COUNTY OF SACRAMENTO
## OFFICE OF PLANNING AND ENVIRONMENTAL REVIEW
## NOTICE OF PREPARATION

**OCTOBER 5, 2020**

**TO: ALL INTERESTED PARTIES**

**SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR UPPER WESTSIDE SPECIFIC PLAN (PLNP2018-00284)**

Sacramento County will be the CEQA Lead Agency for preparation of an Environmental Impact Report (EIR) for a project known as Upper Westside Specific Plan. This Notice of Preparation has been sent to responsible and trustee agencies, and involved federal agencies, pursuant to Section 15082 of the CEQA Guidelines. Agencies should comment on the scope and content of the environmental information that is germane to the agencies' statutory responsibilities in connection with the Project. Due to the time limits mandated by State law, your response must be sent at the earliest possible date, but not later than 30 days after receipt of this notice.

The project description, location, and the probable environmental effects are contained in the attached materials, which may be viewed online at the following webpage along with full resolution images for the each of the attached Plates:

https://planningdocuments.saccounty.net/ViewProjectDetails.aspx?ControlNum=PLNP2018-00284

Please send your Agency's response to this Notice to:

Todd Smith, Acting Environmental Coordinator
Office of Planning and Environmental Review
827 7th Street, Room 225, Sacramento, CA 95814

Or via e-mail to: CEQA@saccounty.net.

Your response should include the name of a contact person in your agency.

Agencies with specific questions about the Project should contact Todd Taylor, Project Manager, at (916) 874-3125 for further information.

**COMMENT PERIOD:**

October 5, 2020 to November 6, 2020

**SCOPING MEETINGS:**

Two scoping meetings have been scheduled for the Project, one for service providers and other public agencies, and one for the public. Interested parties and agency representatives are invited to learn more about the Project and submit comments and suggestions concerning the analysis in the EIR.

In compliance with directives of the County, State, and Centers for Disease Control and Prevention (CDC), the scoping meetings will be conducted virtually using the BlueJeans software application. The dates, times, and locations for those meetings are as follows:

Service Providers and Public Agencies Scoping Meeting

**October 13, 2020, 3:00 PM**
Location: Online via the BlueJeans app at https://bluejeans.com/952299568
Meeting ID: 952 299 568
Teleconference option: 1 (408) 419-1715

Public Scoping Meeting

**October 13, 2020, 6:00 PM**
Location: Online via the BlueJeans app at https://bluejeans.com/403358137
Meeting ID: 403 358 137
Teleconference option: 1 (408) 419-1715

**PROJECT TITLE:**

Upper Westside Specific Plan

**CONTROL NUMBER:**

PLNP2018-00284

**PROJECT PROPONENT(S):**

Applicant: Upper Westside, LLC
Applicant's Representative: Thomas Law Group
Applicant's Planner/Engineer: Wood Rodgers, Inc.

**PROJECT DESCRIPTION AND LOCATION:**

The Project is a Specific Plan that encompass approximately 2,066 acres in the unincorporated Natomas community of Sacramento County, approximately 3.5 miles from downtown Sacramento (see **Plate NOP-1**). The Project area is bounded by Interstate 80 to the south, the West Drainage Canal to the east, Fisherman's Lake Slough to the north, and Garden Highway to the west. The Project is located outside of the County's Urban Policy Area (UPA) and Urban Services Boundary (USB), but is bounded on three sides by the City of Sacramento, bordering the communities of North and South Natomas (see **Plate NOP-2**).

The Project area is mostly agricultural, but has existing agricultural residential homes inside the northeastern and southwestern boundaries, and commercial uses located near the intersection of El Centro Road and West El Camino Avenue. Existing General Plan Land Use designations include Agricultural Cropland (1,858.3± acres); Agricultural Residential (97.0± acres); Commercial and Office (52.2± acres); and Recreation (58.8± acres). A number of individuals own property within the Project area.

The Project includes the following entitlement requests:

- Amend the Sacramento County General Plan (General Plan) to move the UPA and USB boundaries to include the proposed 1,532± acre Development Area within the 2,066-acre Project area (see **Plate NOP-3**),
- Amend the General Plan Land Use Diagram to change land use designations within the 1,532-acre Development Area (see **Plate NOP-4**),
- Amend the General Plan Transportation Plan to identify roadway classifications within the 2,066-acre Project area (see **Plate NOP-5**),
- Amend the Bicycle Master Plan, a policy document of the General Plan, to identify bikeway classifications within the 2,066-acre Project area (see **Plate NOP-6**),
- Amend the General Plan text and policies to align County policies in various General Plan Elements regarding urban development in the Natomas Joint Vision Area,
- Amend the Sacramento County Zoning Ordinance to adopt zoning district classifications for the participating property owners (see **Plate NOP-7**),
- Adopt the Upper Westside Specific Plan, and
- Adopt other necessary entitlements to support the Project.

The Preliminary Land Use Plan (see **Plate NOP-8**) envisions a community with a 1,532± acre Development Area and a 534± acre Ag Buffer Area that is located west of the Development Area, providing a transition to the Garden Highway. Within the Development Area, the applicant has proposed an urban, commercial mixed-use town center district near the intersection of El Centro Road and West El Camino Avenue surrounded by neighborhoods. The Development Area includes 9,356± dwelling units and 3,096,245± square feet of commercial uses, with three K-8 school sites, one high school site, and several parks (see **Table NOP-1**). A 10.0± acre urban farm site is proposed on property owned by the Los Rios Community College District that is envisioned to be a 16.0± vocational training campus. Other amenities include trail networks, a greenbelt and urban farm corridor, and a canal system that will all encourage pedestrian and bicycle use by providing connections between neighborhoods.

**PROPOSED SERVICES:**

Schools

The Project is located within the Natomas Unified School District (NUSD). There are three proposed K-8 schools at 16.0± acres each, one 79.3± acre high school, and a 16.0± acre vocational training

campus. The K-8 schools are located so that they are within walking and biking distance of future students, and are adjacent to parks to allow for shared use of green space. The high school and vocational training campus are located on sites already owned by NUSD and the Los Rios Community College District, respectively.

Parks and Open Space

The Project area is not currently within the boundaries of any recreation or park district. Parks are distributed throughout the Project area, within neighborhoods to be within convenient walking distance of future residents, and adjacent to school sites to allow for shared use. The town center district will include an “activated median” and may include small plazas or squares associated with adjacent high-density development, and a larger 25.8± acre park is located directly west of the town center district.

The greenbelt and urban farm corridors provide connections throughout the Project, with trails through the landscaped corridors connecting between neighborhoods and to spaces targeted for urban farming. Amenities placed along these corridors could include raised planter beds to allow gardening by local residents, sheds for tools, greenhouses, meeting rooms and/or an outdoor demonstration kitchen. A 10.0± acre urban farm is proposed to be located next to the envisioned Los Rios Community College vocational training campus. This urban farm will allow for the production of crops and provides a place where students could have test plots and study agricultural methods.

The Westside Canal is centrally located and connects north-south through the Project. It is proposed to be approximately 1-mile long with pedestrian and bike trails on either side, and front-on architecture. It will be similar to “Amsterdam-style” canals, and could provide recreational opportunities on the water with kayaks, canoes, rowboats, water taxis, etc.

Open space is proposed along the western edge of the Development Area as a buffer between existing agricultural residential and agricultural properties and the proposed housing. The open space corridor is proposed to be 30- to 40-feet in width, planted with native vegetation and trees, and will include a hiking/biking trail to facilitate connectivity and access of the area. This corridor will be located over the top of an underground Natomas Central Mutual Water Company water line.

The operation and maintenance of these facilities has yet to be determined, but may include the creation of a new recreation and park district, community service area (CSA), and/or community service district (CSD).

Fire Protection

The Project is located within the boundaries of the Natomas Fire Protection District. Although it is not within the City of Sacramento’s jurisdiction, fire protection and prevention services are currently provided by the City’s Fire Department through a contract with the Natomas Fire Protection District. The City’s Fire Station 43, at 4201 El Centro Road, is the closest station to the Project area and is located approximately 2 miles north of the town center district.

Water Supply

The Project area is currently served by the Natomas Central Mutual Water Company (NCMWC) with agricultural water drawn from the Sacramento River from existing pump stations located outside

the 2,066± acre Project area to the northwest. Additionally, the Project area is located within the City of Sacramento's American River Place of Use. Domestic water required to serve the Project may be provided through one of the following three alternatives:

- Alternative No. 1 – NCMWC via City of Sacramento. NCMWC has water rights that could be utilized if converted from agricultural use to municipal and industrial use. NCMWC water would be conveyed via the Sacramento River to the City's intake system at the Matsui Waterfront Park or other location for treatment. Treated water would then be conveyed via existing City infrastructure to the Project.

- Alternative No. 2 – NCMWC with Onsite Treatment. Similar to Alternative No. 1, NCMWC water rights would be converted. NCMWC water would be conveyed via existing and proposed facilities to the Project area for treatment. This alternative would require a new domestic water treatment plant.

- Alternative No. 3 – Utilize Place of Use Water. Utilize excess water rights held by the City of Sacramento. Delivery of City treated water to the Project would be by existing City infrastructure. The anticipated Project water use is approximately 3% of the City's unused available water supply.

The Project would require a retailer to deliver treated water. The retailer would own, operate, and maintain the transmission and distribution facilities. The retailer is anticipated to be one of the following three options:

- City of Sacramento - Department of Utilities

- Sacramento County Water Agency through an establishment of a water supply zone

- Creation of an independent water district or annexation to an existing water district

Land uses that do not require treated water, including landscape corridors, parks, and the Westside Canal may be able to use existing NCMWC water as a potential alternative water source for irrigation and make-up water.

Sewer

The project is partly within the Sacramento Regional County Sanitation District (Regional San) and the Sacramento Area Sewer District (SASD) boundaries. Existing sewer conveyance infrastructure borders the Project area to the north and traverses through the Project area on El Centro Road to San Juan Road, then east on San Juan Road to a regional pump station operated by Regional San located northeast of the I-80/I-5 interchange. It is anticipated that this regional facility will provide sewer service to the Project. The existing sewer infrastructure within San Juan Road has some available capacity and the remaining development flows will gravity flow to a new on-site pump station that will convey wastewater to Regional San's existing pump station via a force main within the San Juan Road right-of-way.

**PROJECT OBJECTIVES:**

The primary objectives for the Project as submitted by the applicant are outlined below:

1. Formulate a specific plan and related land use planning documents and regulatory approvals for the Project area as a means of expanding the USB and UPA in an orderly manner and accommodating the County's share of future regional population growth.

2. Create a land use plan that satisfies County policies, regulations, and expectations, as defined in the General Plan, including Policies LU-114, LU-119, and LU-120.

3. Provide a comprehensively planned, high quality, large-scale, residential-based community in northwestern Sacramento County, directly northwest of the City of Sacramento, with a balanced mix of uses, employment opportunities, a wide variety of housing types, park and open space, and supporting public and quasi-public uses.

4. Develop a master-planned community that can be efficiently served by existing infrastructure or proposed infrastructure that would encourage logical, orderly development and would discourage leapfrog or piecemeal development and sprawl.

5. Provide residential housing within five miles of the existing job centers of downtown Sacramento and West Sacramento, as well as in close proximity to newly developing or proposed job centers.

6. Create a development that has an overall positive economic impact on Sacramento County and achieves a neutral to positive fiscal impact on the County's finances and existing ratepayers.

7. Create a community that can be logically and efficiently phased to allow the orderly build-out of the community.

8. Provide a safe and efficient circulation system that interconnects land uses and promotes pedestrian and bicycle circulation and transit options that will encourage non-vehicular trips, thereby reducing vehicle miles traveled (VMT).

9. Incorporate parks and open space, including an urban farm-greenbelt and canal, into the project design in a manner that provides community connectivity and encourages walking and bicycle use.

10. Make efficient use of development opportunity as the project site is bordered on three sides by existing or planned urban development.

11. Plan for enough units to provide housing choices in varying densities to respond to a range of market segments, including opportunities for rental units and affordable housing, and significant commercial uses, consistent with the General Plan and Housing Element.

12. Design a land use plan where the development footprint avoids impacts to wetland resources to the extent feasible.

13. Develop a specific plan that respects existing agricultural land uses and operations to the west of the proposed Development Area.

14. Provide for development that meets the seven identified SACOG Blueprint principles, including provision of transportation choice, compact development, mixed use development, housing choice and diversity, use of existing assets, natural resource conservation, and quality design.

15. Develop the Project and any associated on- and/or off-site mitigation to complement the Natomas Basin Habitat Conservation Plan and the Metro Airpark Habitat Conservation Plan.

16. Designate open space preserves along the south side of Fisherman's Lake Slough or along the West Drainage Canal that provide natural buffer to these features, and along the westerly edge of the proposed Development Area to provide a transition between residential and agricultural designations to the west, which will provide a regional benefit for habitat, resources, and open space amenities.

17. Balance development with resource protection in an inter-connected, permanent open space.

18. Create multi-functional habitat within open space corridors that provide on-site habitat and contribute to water quality.

**REQUESTED ENTITLEMENTS:**

The Project would require the following entitlements:

1. A General Plan Amendment to expand the USB and UPA to include the 1,532± acre Development Area within the 2,066-acre Project area (see **Plate NOP-3**). The 534± acre Ag Buffer Area, located west of the Development Area, which is mostly agricultural-residential homes inside of the southwestern boundary, would remain outside of the UPA and USB, providing a transition to the Garden Highway.

2. A General Plan Amendment to amend the Land Use Diagram to change the land use designations in the Project area from: Agricultural Cropland (1,858.3± acres), Agriculture Residential (97.0± acres), Recreation (58.8± acres), and Commercial and Offices (52.2± acres); to Low Density Residential (851.3± acres), Medium Density Residential (46.0± acres), High Density Residential (29.7± acres), Commercial and Office (57.4± acres), Mixed Use (101.2± acres), Public/Quasi-Public (156.3± acres), Recreation (323.1± acres), Agricultural Cropland (415.5± acres), and Agricultural Residential (85.8± acres) (see **Plate NOP-4**).

3. A General Plan Amendment to amend the Transportation Plan to include the roadway system as proposed in the Project area (see **Plate NOP-5**).

4. An amendment to the Sacramento County Bicycle Master Plan, a policy document of the General Plan, to include the bikeway system as proposed in the Project area (see **Plate NOP-6**).

5. A General Plan Amendment for text amendments to align County policies in various General Plan Elements regarding development in the Natomas Joint Vision Area.

6. A Zoning Ordinance Amendment to adopt the Upper Westside Special Planning Area (SPA), and rezone the 291.2± acres of property controlled by the applicant from AG-40 to SPA (see **Plate NOP-7**). Properties not controlled by the applicant will retain their existing zoning until non-participating property owners elect to submit a rezoning application.

7. Adopt the Upper Westside Specific Plan document to establish land use, zoning, and development standards for the Very Low Density Residential VLDR (160.6± acres), Low Density Residential LDR (431.5± acres), Low Medium Density Residential LMDR (138.6± acres), Medium Density Residential MDR (62.5± acres), High Density Residential HDR (36.4± acres), Very High Density Residential (22.6± acres), Commercial Mixed Use CMU (83.2± acres), and Employment/Highway Commercial E/HC (52.9± acres).

8. Adopt an Urban Services Plan that discusses in detail the plan for sheriff, fire, library and other public services. This document may be summarized by the appropriate sections of the Specific Plan.

9. Adopt an Affordable Housing Strategy that discusses the plan for the provision of moderate, low, and very-low income housing. This document may be summarized by the appropriate sections of the Specific Plan.

10. Adopt a Water Supply Master Plan for the 1,532± acre Development Area within the 2,066-acre Project area.

11. Approve a Water Supply Assessment (WSA) for the 1,532± acre Development Area within the 2,066-acre Project area.

12. Adopt a Public Facilities Financing Plan for the 1,532± acre Development Area within the 2,066-acre Project area.

13. Adopt a Reimbursement Fee so that the applicant is reimbursed for the cost to prepare and process the Project, including a Specific Plan and EIR, by non-participating property owners when they elect to submit development applications.

14. Adopt a Development Agreement for the applicant's properties located within the 1,532± acre Development Area within the 2,066-acre Project area.

In addition to the above entitlements, separate Service District Annexation requests for the Project area are proposed to include:

- Annexation to County Service Area 10 (CSA-10) or the creation of a new CSA. (Note: A separate subsequent action may be required by the Sacramento County Board of Supervisors to establish a Benefit Zone to implement funding and service provision.)

- Annexation to Sacramento Regional County Sanitation District (Regional San).

- Annexation to Sacramento Area Sewer District (SASD).

**ENVIRONMENTAL/LAND USE SETTING:**

The Project area is bounded on three sides by the City of Sacramento and is mostly agricultural with large parcels devoted to growing crops. General Plan land use designations for the Project consist of: Agricultural Cropland (1,858.3± acres), Agricultural Residential (97.0± acres), Recreation (58.8± acres), and Commercial and Offices (52.2± acres).

Well known agriculturally-related uses include Goblin Gardens Pumpkin Patch at Bastiao Farms and Perry's Garden. Agricultural residential homes are located inside the northeastern boundary near El Centro Road and inside the southwestern boundary along Garden Highway. Commercial uses located near the intersection of El Centro Road and West El Camino Avenue include a truck stop, gas stations, restaurants, hotels, self-storage, construction equipment sales, and union offices. The Natomas Unified School District and the Los Rios Community College District own two vacant parcels within the Project area. Finally, a radio broadcast tower is located in the northern part of the Project and a television broadcast tower is located within the agricultural residential area along the southwestern boundary.

The Project area is considered agricultural land in the Natomas Basin Habitat Conservation Plan (NBHCP) and the Metro Air Park Habitat Conservation Plan (MAPHCP). The NBHCP and MAPHCP are supporting documents for federal Endangered Species Act Section 10(a)(1)(B) and State Fish & Game Code Section 2081 permits. Sacramento County is not a party to either of these Habitat Conservation Plans (HCPs). The HCPs limit urban development in their Permit Areas to a combined total of 17,500 acres, (the City of Sacramento (8,050 acres), Sutter County (7,467 acres), and Metro Air Park in Sacramento County (1,983 acres)).

**PROBABLE ENVIRONMENTAL EFFECTS/EIR FOCUS:**

The analysis in the EIR will describe existing conditions, describe the legal and regulatory framework relevant to the Project, describe standards of significance to be used in analysis, and describe analysis methodologies. A review of the Project and of the environmental resources in the study area has resulted in the identification of potential categories of environmental effect. The descriptions below are not exhaustive, and other sections and discussions may be included if further research indicates that their inclusion is warranted. As the analyses progress and the extent of impacts to the categories is determined, appropriate CEQA alternatives will be included for analysis.

<u>Aesthetics</u>

The proposed Development Area will be analyzed for its effects on the views from surrounding properties and roadways.

<u>Agricultural Resources</u>

Areas of active agricultural use, designated agricultural lands, prime farmland soils, and Williamson Act contract land will be identified and analyzed within and adjacent to the Project area.

<u>Air Quality</u>

Project-related emissions analyzed may include toxic air contaminants, ozone precursors, and particulates. The analysis will include discussions of emissions resulting from construction-related activities and emissions resulting from operational activities of the completed Project.

Biological Resources

The Project will be analyzed to identify areas where proposed changes may affect biological resources. The analysis will discuss impacts to general wildlife populations and habitats, but will focus on special-status species and particularly sensitive habitats, including wetlands. The Project will also be analyzed to determine if it would conflict with the provisions of an adopted HCP or other approved local, regional, State or federal plan for the conservation of habitat.

Climate Change

Project-related greenhouse gas emissions will be quantified and analyzed for the cumulative impacts to climate change. The probable impacts to the Project as a result of climate change will also be examined.

Cultural/Historical Resources

The Project will be analyzed to identify areas where proposed changes may impact cultural and historical resources, including tribal cultural resources.

Geology, Soils, and Mineral Resources

Underlying soil types and suitability will be examined in the Development Area where urban uses are proposed. Erosion potential will also be considered.

Hazards and Hazardous Materials

Hazardous materials sites, if any, will be identified in the vicinity of the proposed Development Area. Project compatibility with any existing hazardous materials sites will be examined.

Hydrology and Water Quality

Areas of potential flooding will be identified and drainage patterns will be examined within the watersheds affected by the Project. The Project will be analyzed for impacts to the existing hydrologic environment and vice-versa. Agencies involved with flood control issues will be consulted. These may include, but are not limited to the California State Department of Water Resources, the Central Valley Flood Protection Board (CVFPB), the Sacramento Area Flood Control Agency (SAFCA), Reclamation District 1000 (RD-1000) and the Sacramento County Department of Water Resources. The potential impacts of the Project on water quality will also be examined, which includes construction-related impacts (e.g., erosion of exposed soil) and operational impacts (e.g., use of pesticides and fertilizers).

Land Use

The Project will be examined to determine consistency with land use policies/ordinances/plans that have been adopted in order to avoid environmental effects. The Project's impact relative to the planned and existing land use environment will also be disclosed. The EIR will include analysis of the Project's compatibility with the Sacramento International Airport Land Use Compatibility Plan and applicable FAA regulations, policies, and guidance for land use decisions that have the potential to affect airport operations. The EIR will include analysis of potential hazardous wildlife attractants associated with the proposed land uses.

Noise

Existing and proposed uses with the potential to generate significant noise will be analyzed, which will include modeling of noise generated by transportation sources.

Public Services

The Project will be analyzed for its compatibility with public services and to determine what may be required to extend service to the Project. Services analyzed may include but are not limited to schools, park services, libraries, fire protection, and police protection.

Public Utilities

The Project will be analyzed for its compatibility with public utilities and to determine what may be required to extend service to the Project. Utilities analyzed may include but are not limited to water supply, sewer service, and energy services.

Transportation

A Transportation Analysis will be prepared to examine the impacts of the Project on VMT in compliance with Senate Bill 743. A Local Transportation Analysis (LTA) will also be prepared to examine the Project's effects on area roadways as well as transit and bicycling and pedestrian modes of transportation. However, the LTA is not required to be part of the CEQA document.

**INTENDED USES OF THE EIR:**

The Sacramento County Planning Commission and the Board of Supervisors will use the information contained in the EIR to evaluate the Project and render a decision to approve or deny the requested entitlements. Responsible and other agencies, including but not limited to those listed below, may also use the EIR for their own discretionary approvals associated with the Project.

- Federal Clean Water Act Section 404 Permit (U.S. Army Corps of Engineers)
- Federal Endangered Species Act Section 7 or 10 Consultation (U.S. Fish and Wildlife Service)
- Federal Clean Water Act Section 401 Water Quality Certification (Regional Water Quality Control Board – Central Valley Region)
- California Endangered Species Act Incidental Take Permit (California Department of Fish and Wildlife)
- California Fish and Game Code Section 1602 Streambed Alteration Agreement (California Department of Fish and Wildlife)
- Federal Clean Water Act Section 402 National Pollutant Discharge Elimination System Permit (Regional Water Quality Control Board – Central Valley Region)
- Reclamation Board
- State Lands Commission

- California Department of Transportation
- Sacramento Local Agency Formation Commission (LAFCO) Service District Annexations
- Sacramento Area Flood Control Agency (SAFCA)
- Sacramento Metropolitan Air Quality Management District
- Sacramento County Water Agency (SCWA)
- Sacramento Area Sewer District (SASD)
- Sacramento Regional County Sanitation District (Regional San)
- Natomas Unified School District
- Los Rios Community College District
- Sacramento Municipal Utilities District (SMUD)
- Pacific Gas and Electric Company (PG&E)
- Natomas Central Mutual Water Company

## Plate NOP-1: Vicinity Map

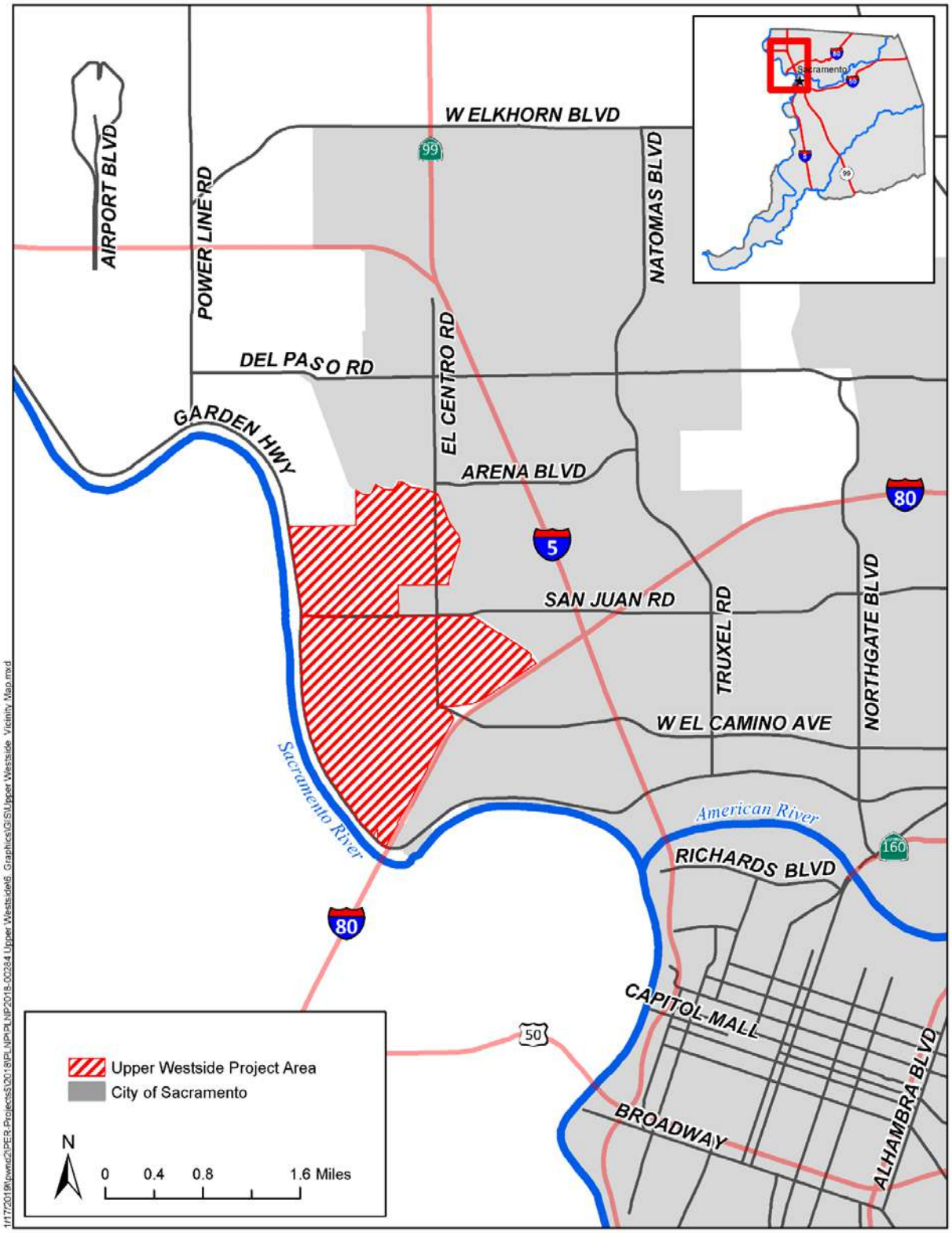


**Plate NOP-2: Existing USB/UPA Map**

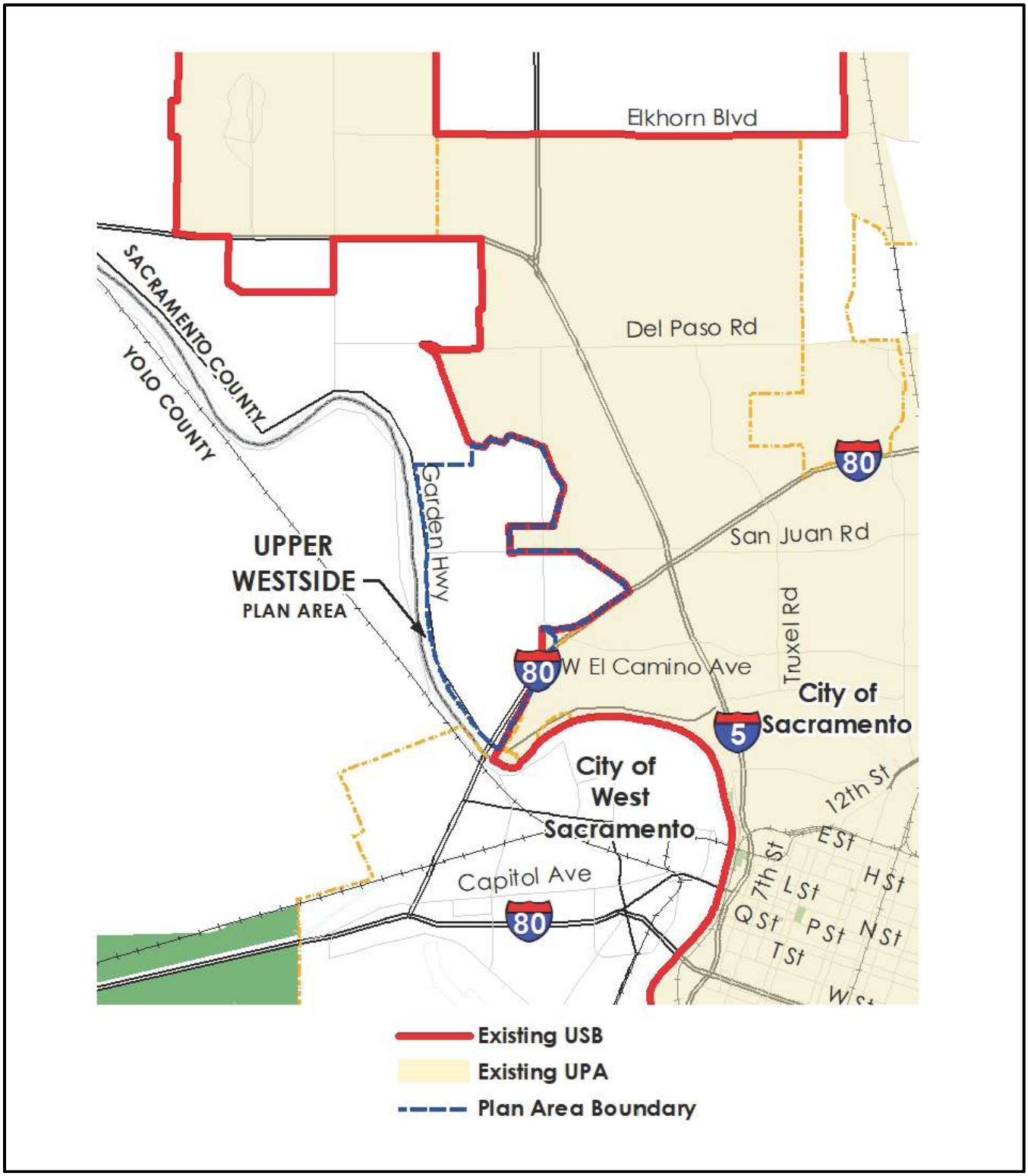


**Plate NOP-3: Proposed USB/UPA Exhibit**

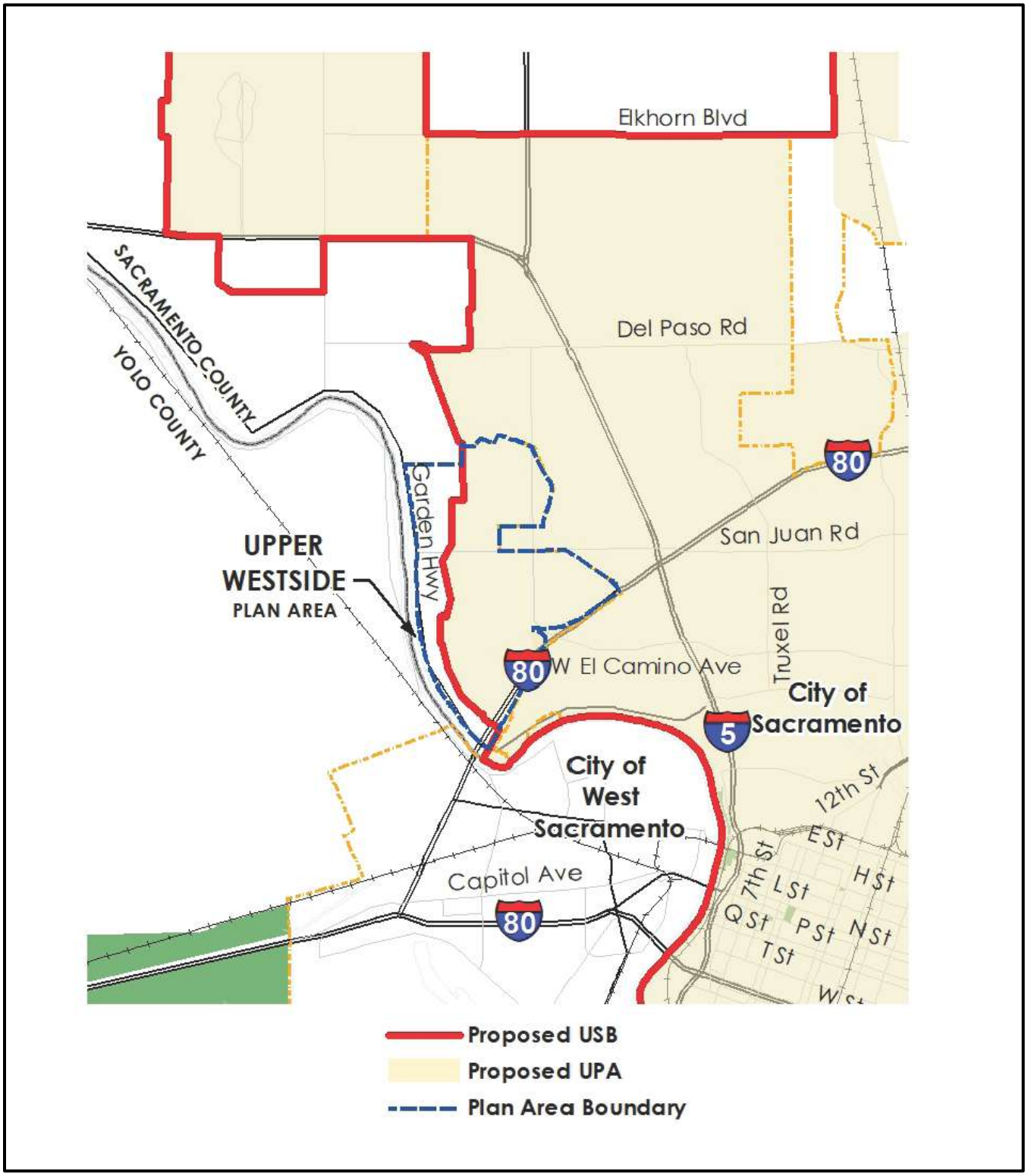


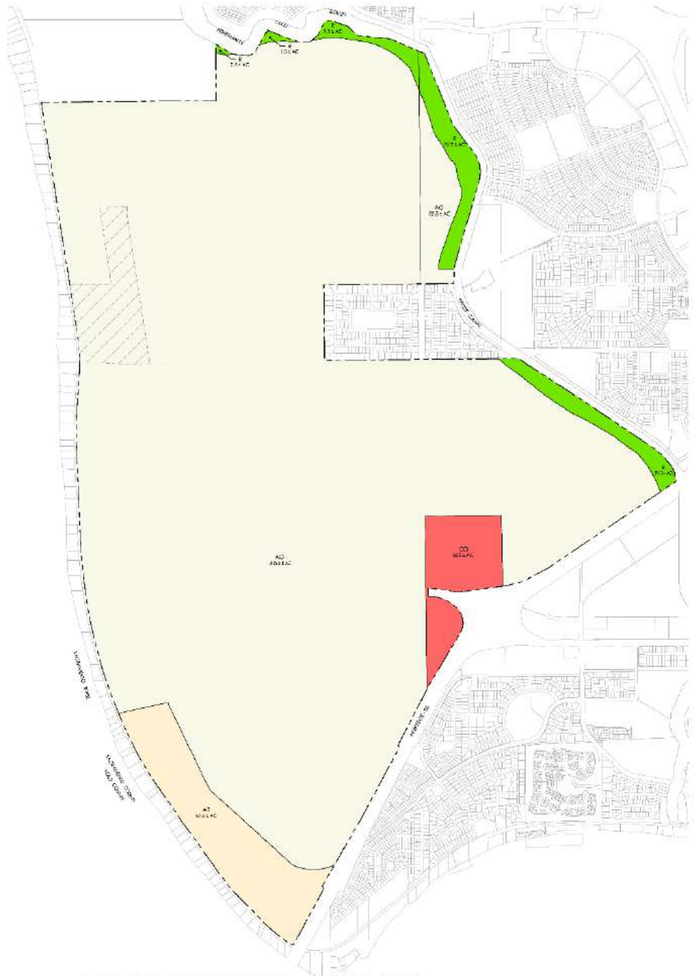
**Plate NOP-4: Proposed Land Use Diagram Exhibit**

GENERAL PLAN AMENDMENT EXHIBIT

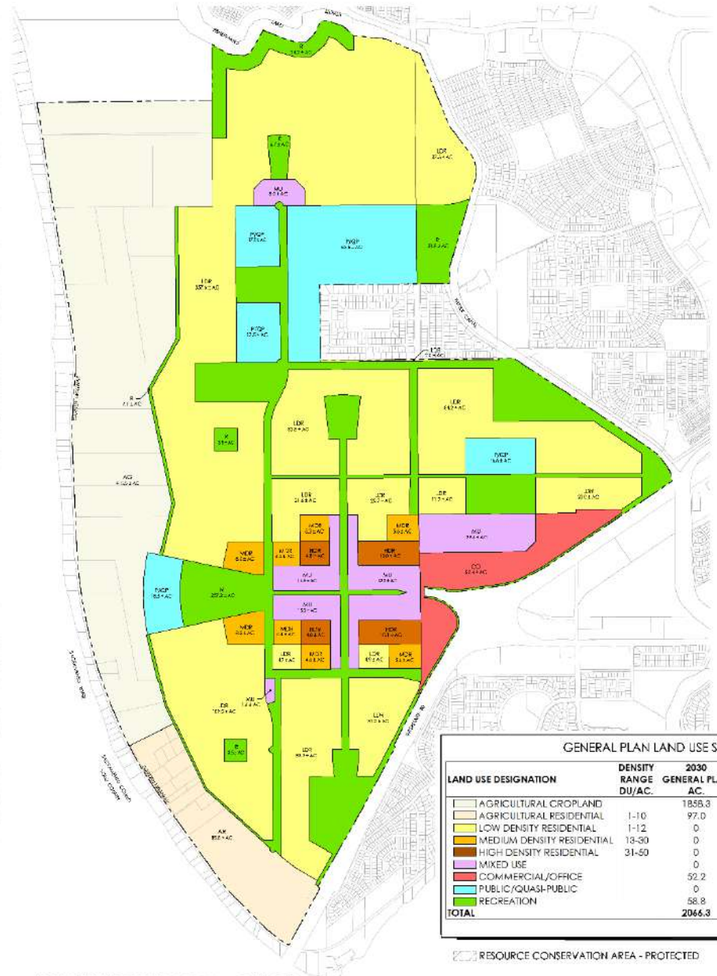
# UPPER WESTSIDE

COUNTY OF SACRAMENTO, CALIFORNIA

SEPTEMBER 30, 2020



SACRAMENTO COUNTY 2030 GENERAL PLAN DESIGNATIONS



UPPER WESTSIDE GENERAL PLAN AMENDMENT

GENERAL PLAN LAND USE SUMMARY

| LAND USE DESIGNATION | DENSITY RANGE DU/AC. | 2030 GENERAL PLAN AC. | GENERAL PLAN AMENDMENT AC. | DIFFERENCE AC. |
|---|---|---|---|---|
| AGRICULTURAL CROPLAND | | 1858.3 | 415.5 | -1442.8 |
| AGRICULTURAL RESIDENTIAL | 1-10 | 97.0 | 85.8 | -11.2 |
| LOW DENSITY RESIDENTIAL | 1-12 | 0 | 851.3 | 851.3 |
| MEDIUM DENSITY RESIDENTIAL | 13-30 | 0 | 46.0 | 46.0 |
| HIGH DENSITY RESIDENTIAL | 31-50 | 0 | 29.7 | 29.7 |
| MIXED USE | | 0 | 101.2 | 101.2 |
| COMMERCIAL/OFFICE | | 52.2 | 57.4 | 5.2 |
| PUBLIC/QUASI-PUBLIC | | 0 | 156.3 | 156.3 |
| RECREATION | | 58.8 | 323.1 | 264.3 |
| TOTAL | | 2066.3 | 2066.3 | 0.0 |

RESOURCE CONSERVATION AREA - PROTECTED

NORTH 0 600 1200 2400

WOOD RODGERS

BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

3301 C St. Bldg. 100 B, Sacramento, CA 95816 Tel 916.341.7760 Fax 916.341.7767

GENERAL PLAN AMENDMENT - UPPER WESTSIDE

**Plate NOP-5: Proposed Transportation Plan Exhibit**

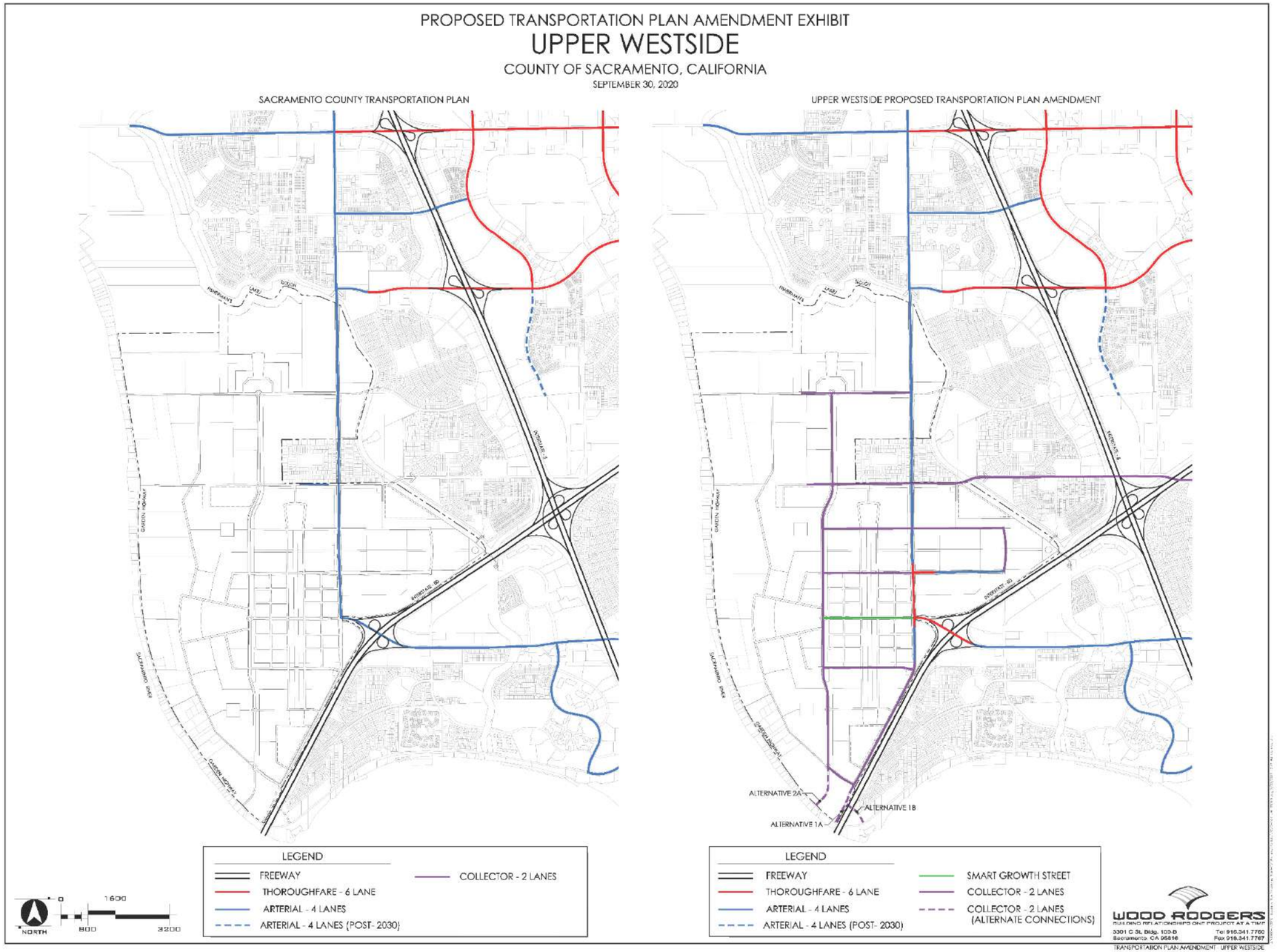


**Plate NOP-6: Bicycle Master Plan Exhibit**

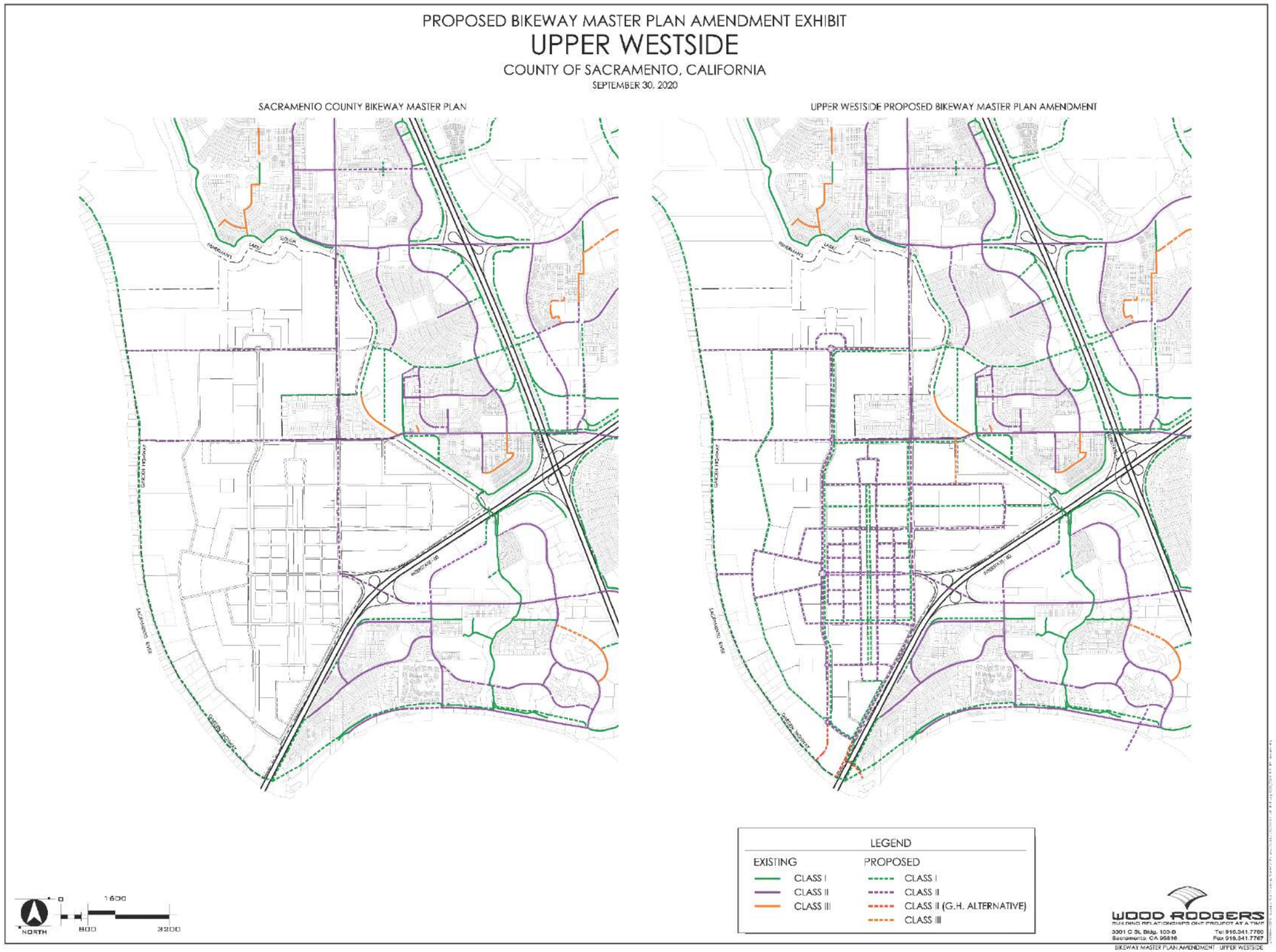
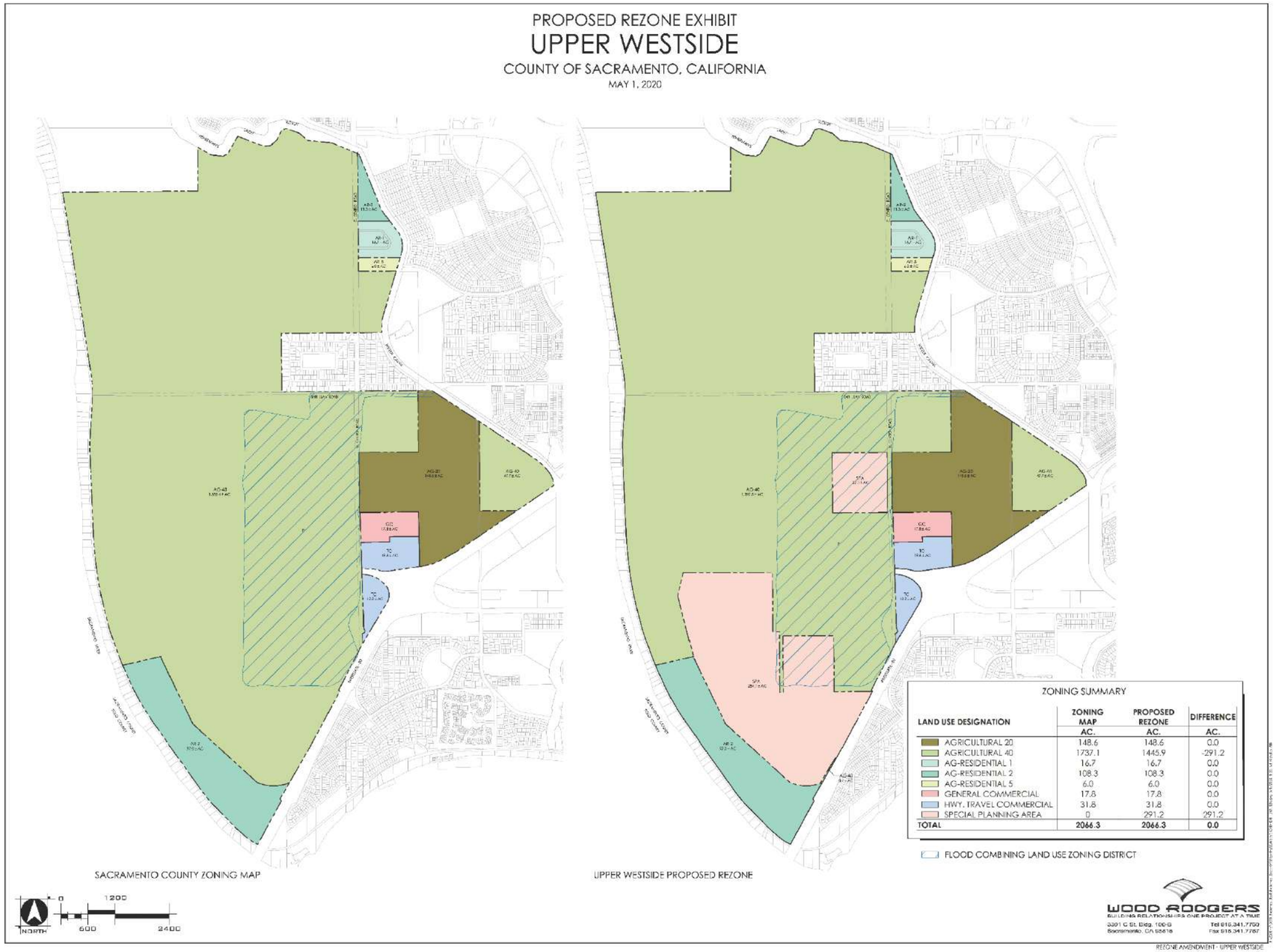
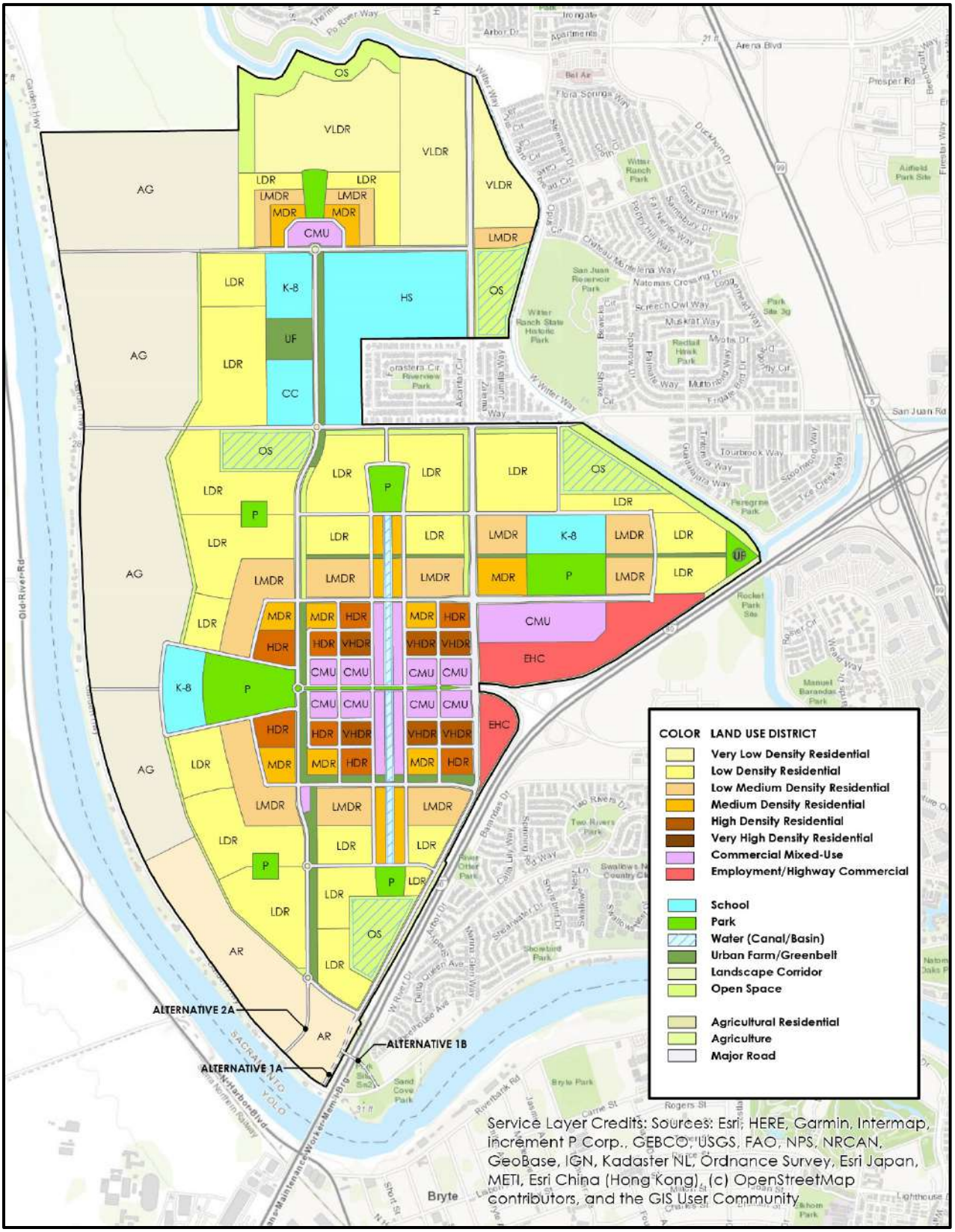


**Plate NOP-7: Rezone Exhibit**



## Plate NOP-8: Preliminary Land Use Plan Exhibit



## Table NOP-1: Preliminary Land Use Plan Summary

| Land Use Map Symbol | Master Plan/ SP Land Use Designation (Density Range) | Net (1) Acres | Target Density du/ac or FAR | Dwelling Units or Sq. Ft. | Est. (2) Pop. | % of Plan Area acres | % of Resid. Units |
|---|---|---|---|---|---|---|---|
| VLDR | Very Low Density Residential (1.0-4.0 du/ac) | 160.6 | 1.0 | 161 | 483 | 7.8% | 1.7% |
| LDR | Low Density Residential (4.0 – 7.0 du/ac) | 431.5 | 5.5 | 2,351 | 7,053 | 20.9% | 25.1% |
| LMDR | Low Medium Density Residential (6.0 – 10.0 du/ac) | 138.6 | 8.0 | 1,105 | 3,315 | 6.7% | 11.8% |
| MDR | Medium Density Residential (8.0 – 15.0 du/ac) | 62.5 | 12.0 | 750 | 2,250 | 3.0% | 8.0% |
| HDR | High Density Residential (15.0 – 30.0 du/ac) | 36.4 | 25.0 | 910 | 2,275 | 1.8% | 9.8% |
| VHDR | Very High Density Residential (30.0 – 50.0 du/ac) | 22.6 | 35.0 | 791 | 1,978 | 1.1% | 8.5% |
| CMU | Commercial Mixed Use (1.00 FAR and 30.0 du/ac) | 83.2 | 40.0<br>0.60 | 3,288(3)<br>2.2 MSF | 8,220 | 4.0% | 35.1% |
| E/HC | Employment/Highway Commercial | 52.9 | 0.40 | 0.9 MSF | | 2.6% | |
| | **Subtotal Residential** | **852.2** | | **9,356** | **25,574** | **41.3%** | **100%** |
| | **Subtotal Commercial** | **136.1** | | **3.1 MSF** | | **6.6%** | |
| K-8, HS | Schools (K-8s and High School) | 130.1 | | | | 6.3% | |
| CC | Community College | 16.0 | | | | 0.8% | |
| | **Subtotal Schools** | **146.1** | | | | **7.1%** | |
| P | Parks | 73.5 | | | | 3.6% | |
| UF | Urban Farm/Greenbelt | 45.0 | | | | 2.2% | |
| W | Water (Canals, Basins, Lakes) | 15.0 | | | | 0.7% | |
| | **Subtotal Parks, Urban Farm, Water** | **133.5** | | | | **6.5%** | |
| AR | Agricultural Residential (3) (0.0 – 1.0 du/ac) | 84.2 | | 0(4) | | 4.1% | |
| AG | Agricultural Cropland | 410.2 | | 0(4) | | 19.9% | |
| OS | Open Space | 141.8 | | | | 6.9% | |
| | **Subtotal AR and OS** | **636.2** | | **0** | | **30.9%** | |
| | Landscape Corridors | 35.6 | | | | 1.7% | |
| | Major Roadways | 126.5 | | | | 6.1% | |
| | **TOTAL** | **2,066.2** | | **9,356<br>3.1 MSF** | **25,274** | **100%** | **100%** |

(1) Net acreage based on Preliminary Land Use Plan generated in GIS/AutoCAD by Wood Rodgers March 2020. This plan is subject to change. Arterial and collector roads, and landscape corridors as shown on map, are netted out.

(2) Estimated population calculated utilizing 3.0 persons per household (pph) for single-family and 2.5 pph for multi-family (HDR and higher). This is a preliminary estimate and subject to change.

(3) The 1.2 acre CMU site located southwest of the town center is intended for a special use (e.g. fire station, sheriff sub-station, church, day-care, etc.) and therefore was not allocated residential units.

(4) The AR (Agricultural Residential) and AG (Agricultural Cropland) areas are not included in proposed 1,532-acre Development Area or the UPA / USB Expansion request. It is assumed the "Ag Buffer" area will remain as is and no units are allocated.

The Preliminary Land Use Plan may change based on input received during the specific plan preparation, detailed engineering studies, environmental analysis, and other factors.

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October 5, 2020

Todd Taylor
Sacramento County
827 7th Street, Room 225
Sacramento, CA 95814

**Re: 2020100069, Upper Westside Specific Plan Project, Sacramento County**

Dear Mr. Taylor:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements**. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

**Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws**.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

**1.** Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
- **b.** The lead agency contact information.
- **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- **d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

**2.** Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

**3.** Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- **a.** Alternatives to the project.
- **b.** Recommended mitigation measures.
- **c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).

**4.** Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- **a.** Type of environmental review necessary.
- **b.** Significance of the tribal cultural resources.
- **c.** Significance of the project's impacts on tribal cultural resources.
- **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

**5.** Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

**6.** Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.
- **b.** Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

**7.** Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

**a.** The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

**b.** A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

**8.** Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

**9.** Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

**10.** Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

**a.** Avoidance and preservation of the resources in place, including, but not limited to:

**i.** Planning and construction to avoid the resources and protect the cultural and natural context.

**ii.** Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

**b.** Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

**i.** Protecting the cultural character and integrity of the resource.

**ii.** Protecting the traditional use of the resource.

**iii.** Protecting the confidentiality of the resource.

**c.** Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

**d.** Protecting the resource. (Pub. Resource Code §21084.3 (b)).

**e.** Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

**f.** Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

**11.** Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

**a.** The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

**b.** The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

**c.** The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

**1.** Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).

**2.** No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.

**3.** Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).

**4.** Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:

- **a.** The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
- **b.** Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

**1.** Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:

- **a.** If part or all of the APE has been previously surveyed for cultural resources.
- **b.** If any known cultural resources have already been recorded on or adjacent to the APE.
- **c.** If the probability is low, moderate, or high that cultural resources are located in the APE.
- **d.** If a survey is required to determine whether previously unrecorded cultural resources are present.

**2.** If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.

- **a.** The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
- **b.** The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

**3.** Contact the NAHC for:

**a.** A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.

**b.** A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

**4.** Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.

**a.** Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.

**b.** Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.

**c.** Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Nancy.Gonzalez-Lopez@nahc.ca.gov.

Sincerely,



Nancy Gonzalez-Lopez
Cultural Resources Analyst

cc: State Clearinghouse

## Taylor. Todd

**Subject:** Notice of Preparation (NOP) of an Environmental Impact Report for the Upper Westside Specific Plan project

**From:** Stan Stewart <n664v@hotmail.com>
**Sent:** Monday, October 5, 2020 7:02 PM
**To:** PER-CEQA <CEQA@saccounty.net>
**Subject:** Notice of Preparation (NOP) of an Environmental Impact Report for the Upper Westside Specific Plan project

**EXTERNAL EMAIL:** If unknown sender, do not click links/attachments.

TO: Todd Smith, Acting Environmental Coordinator

I just received the email regarding the Notice of Preparation (NOP) of an Environmental Impact Report for the Upper Westside Specific Plan project.

I have two concerns about the project, which will greatly affect those of us who live on the Garden Hwy opposite the project, as well as everyone in the west Natomas area.

1. The plans continue to show street access from the project to the Garden Hwy around one mile south of San Juan Road. This is a very bad idea inasmuch as the Garden Hwy is a substandard width road with no shoulders, on top of a levy. I live a little south of San Juan Road on the Garden Hwy and cars have run off the road into my front yard fence twice, and have once run off the road down the levy opposite my home, taking out a quite substantial mailbox! All three times the cars had to be removed with tow trucks. The ingress and egress from the project must only be to a widened San Juan Road and a widened El Central Road, and not to the Garden Hwy anywhere. Not anywhere on the Garden Hwy!
2. Southbound El Central Road backs up around 7/8 of a mile almost to San Juan Road in morning rush hours (pre-Covid-19) as the existing road and street structure, including on and off ramps to I-80, are inadequate for the existing level of traffic. This project must not be approved without including extensive, massive improvements to the transportation infrastructure in the adjacent areas. For example, at a minimum widening the overpass of West El Camino Avenue over I-80 and widening all of West El Camino to a minimum of two through lanes in each direction, as well as the same for El Central Road and San Juan Road. Nice text about public transportation or other attempts to minimize this problem, if taken seriously and allow the project to go forward absent adequate accompanying transportation infrastructure (for vehicles) improvements, will very significantly affect the quality of life of everyone in the west Natomas area for the foreseeable future as ingress and egress to the entire area during rush hours will be a nightmare! Actually a much worse nightmare than it already is!

Thanks for your consideration. I am looking forward to reading about realistic, significant improvements to the streets and freeway intersections to accompany the project, in the Environmental Impact Report.

Stanley Stewart
3077 Garden Hwy
Sacramento, CA 95833

Department of Toxic Substances Control

Jared Blumenfeld
Secretary for
Environmental Protection

Meredith Williams, Ph.D.
Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Gavin Newsom
Governor

October 8, 2020

Mr. Todd Taylor
Sacramento County
827 7th Street
Sacramento, CA 95814
TaylorTO@saccounty.net

NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT (EIR) FOR UPPER WESTSIDE SPECIFIC PLAN – DATED OCTOBER 5, 2020 (STATE CLEARINGHOUSE NUMBER: 2020100069)

Mr. Taylor:

The Department of Toxic Substances Control (DTSC) received a Notice of Preparation of an Environmental Impact Report (EIR) for the Upper Westside Specific Plan (Project). The Lead Agency is receiving this notice from DTSC because the Project includes one or more of the following: groundbreaking activities, work in close proximity to a roadway, work in close proximity to mining or suspected mining or former mining activities, presence of site buildings that may require demolition or modifications, importation of backfill soil, and/or work on or in close proximity to an agricultural or former agricultural site.

DTSC recommends that the following issues be evaluated in the EIR. Hazards and Hazardous Materials section:

1. The EIR should acknowledge the potential for historic or future activities on or near the project site to result in the release of hazardous wastes/substances on the project site. In instances in which releases have occurred or may occur, further studies should be carried out to delineate the nature and extent of the contamination, and the potential threat to public health and/or the environment should be evaluated. The EIR should also identify the mechanism(s) to initiate any required investigation and/or remediation and the government agency who will be responsible for providing appropriate regulatory oversight.
2. Refiners in the United States started adding lead compounds to gasoline in the 1920s in order to boost octane levels and improve engine performance. This practice did not officially end until 1992 when lead was banned as a fuel additive in California. Tailpipe emissions from automobiles using leaded gasoline

contained lead and resulted in aerially deposited lead (ADL) being deposited in and along roadways throughout the state. ADL-contaminated soils still exist along roadsides and medians and can also be found underneath some existing road surfaces due to past construction activities. Due to the potential for ADL-contaminated soil DTSC, recommends collecting soil samples for lead analysis prior to performing any intrusive activities for the project described in the EIR.

3. If any sites within the project area or sites located within the vicinity of the project have been used or are suspected of having been used for mining activities, proper investigation for mine waste should be discussed in the EIR. DTSC recommends that any project sites with current and/or former mining operations onsite or in the project site area should be evaluated for mine waste according to DTSC's 1998 Abandoned Mine Land Mines Preliminary Assessment Handbook (https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/11/aml_handbook.pdf).

4. If buildings or other structures are to be demolished on any project sites included in the proposed project, surveys should be conducted for the presence of lead-based paints or products, mercury, asbestos containing materials, and polychlorinated biphenyl caulk. Removal, demolition and disposal of any of the above-mentioned chemicals should be conducted in compliance with California environmental regulations and policies. In addition, sampling near current and/or former buildings should be conducted in accordance with DTSC's 2006 *Interim Guidance Evaluation of School Sites with Potential Contamination from Lead Based Paint, Termiticides, and Electrical Transformers* (https://dtsc.ca.gov/wpcontent/uploads/sites/31/2018/09/Guidance_Lead_Contamination_050118.pdf).

5. If any projects initiated as part of the proposed project require the importation of soil to backfill any excavated areas, proper sampling should be conducted to ensure that the imported soil is free of contamination. DTSC recommends the imported materials be characterized according to *DTSC's 2001 Information Advisory Clean Imported Fill Material* (https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/09/SMP_FS_Cleanfill-Schools.pdf).

6. If any sites included as part of the proposed project have been used for agricultural, weed abatement or related activities, proper investigation for organochlorinated pesticides should be discussed in the EIR. DTSC recommends the current and former agricultural lands be evaluated in accordance with DTSC's 2008 *Interim Guidance for Sampling Agricultural Properties (Third Revision)* (https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/09/Ag-Guidance-Rev-3-August-7-2008-2.pdf).

DTSC appreciates the opportunity to comment on the EIR. Should you need any assistance with an environmental investigation, please submit a request for Lead Agency Oversight Application, which can be found at: https://dtsc.ca.gov/wp-

content/uploads/sites/31/2018/09/VCP_App-1460.doc. Additional information regarding voluntary agreements with DTSC can be found at: https://dtsc.ca.gov/brownfields/.

If you have any questions, please contact me at (916) 255-3710 or via email at Gavin.McCreary@dtsc.ca.gov.

Sincerely,



Gavin McCreary
Project Manager
Site Evaluation and Remediation Unit
Site Mitigation and Restoration Program
Department of Toxic Substances Control

cc: (via email)

Governor's Office of Planning and Research
State Clearinghouse
State.Clearinghouse@opr.ca.gov

Mr. Dave Kereazis
Office of Planning & Environmental Analysis
Department of Toxic Substances Control
Dave.Kereazis@dtsc.ca.gov

REGIONALSAN
TAKING THE WASTE OUT OF WATER
Sacramento Regional County Sanitation District

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**Treatment Plant**
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City of West Sacramento

Prabhakar Somavarapu
*District Engineer*

Ruben Robles
*Director of Operations*

Christoph Dobson
*Director of Policy & Planning*

Matthew Doyle
*Director of Internal Services*

Joseph Maestretti
*Chief Financial Officer*

Nicole Coleman
*Public Affairs Manager*

**www.regionalsan.com**

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October 19, 2020

Mr. Todd Smith
County of Sacramento - Office of Planning and Environmental Review
827 7th Street, Room 225
Sacramento, CA 95814

**Subject: Notice of Preparation of a Draft Environmental Impact Report for the Upper Westside Project Specific Plan – Control No. PLNP2018-00284**

Dear Mr. Smith,

The Sacramento Regional County Sanitation District (Regional San) and the Sacramento Area Sewer District (SASD) have the following comments regarding the Notice of Preparation of a Draft Environmental Impact Report for the Upper Westside Specific Plan.

Large areas of the Upper Westside Specific Plan (Project) are located outside of the Urban Services Boundary (USB) and the SASD and Regional San service areas. Regional San does not plan for areas located outside of the USB or SASD or Regional San service areas. To receive sewer service, the Project area must annex into both SASD and Regional San service areas. The Project applicant should work closely with the Sacramento Local Agency Formation Commission (https://saclafco.saccounty.net) to begin the annexation process.

Upon annexation, SASD will provide local sewer service for the Project area. Regional San provides conveyance from local trunk sewers to the Sacramento Regional Wastewater Treatment Plant (SRWTP) through large-diameter pipelines called interceptors.

In February 2013, the Regional San Board of Directors adopted the Interceptor Sequencing Study (ISS). The ISS updated the Regional San Master Plan 2000. The ISS is located on the Regional San website at www.regionalsan.com/ISS.

In January 2012, the SASD Board of Directors approved the most current SASD planning document, the 2010 System Capacity Plan Update (SCP). The SCP is located on the SASD website at www.sacsewer.com/devres-standards.html.

Regional San and SASD are not land-use authorities. Regional San and SASD plans and designs its sewer systems using information from land use authorities. Regional San and SASD base the projects identified within its planning documents on growth projections provided by these land-use authorities.

Onsite and offsite environmental impacts associated with extending sewer services to this development should be contemplated within this Environmental Impact Report.

The project proponents propose connecting the Project wastewater conveyance facilities to the Regional San New Natomas Pump Station (NNPS) through proposed and existing SASD facilities. The Upper Westside Specific Plan area was never intended to be provided service by SASD facilities, the NNPS, Lower Northwest Interceptor (LNWI) or the South River Pump Station (SRPS) during design of these facilities. Allowing connection of the Upper Westside Specific Plan area may result in significant capacity constraints within the existing SASD and Regional San system. These capacity constraints must be thoroughly addressed by the project proponent before receiving service from SASD and Regional San. Project proponents should work closely with both SASD and Regional San Development Services to ensure proper connection to any existing SASD or Regional San facilities.

The project proponent must complete a Sewer Master Plan that includes connection points and phasing information to assess the capacity of the existing sewer system to accommodate the additional flows generated by this project.

Customers receiving service from Regional San and SASD are responsible for rates and fees outlined within the latest Regional San and SASD ordinances. Fees for connecting to the sewer system recover the capital investment of sewer and treatment facilities that serves new customers. The SASD ordinance is located on the SASD website at www.sacsewer.com/ordinances.html, and the Regional San ordinance is located on their website at www.regionalsan.com/ordinance.

If you have any questions regarding this letter, please feel free to contact me at (916) 876-6104 or by email: armstrongro@sacsewer.com.

Sincerely,

*Robb Armstrong*

Robb Armstrong
Regional San Development Services & Plan Check

cc: SASD Development Services

# Sacramento Metropolitan Fire District

10545 Armstrong Ave., Suite 200 · Mather, CA 95655 · Phone (916) 859-4300 · Fax (916) 859-3702

**TODD HARMS**
*Fire Chief*


October 28, 2020

**SENT VIA EMAIL**

Todd Smith, Acting Environmental Coordinator
Office of Planning and Environmental Review
County of Sacramento
827 7th Street, Room 225, Sacramento, CA 95814

**Subject: Comment Letter for the Notice of Preparation of a Draft Environmental Impact Report for Upper Westside Specific Plan**

Dear Mr. Smith:

Thank you for the opportunity to comment on the Upper Westside Specific Plan's (Project) Notice of Preparation (NOP) of a Draft Environmental Impact Report. The Sacramento Metropolitan Fire District (District) has reviewed the document and has the following comments.

*Natomas Fire Protection District*

The Project is located within the boundaries of the Natomas Fire Protection District (NFPD) which is a dependent special district with no employees. Currently, the NFPD contracts with the City of Sacramento's Fire Department for fire protection and prevention services. Planning for fire protection and prevention services can be labor and capital intensive and often extends beyond project and jurisdictional boundaries. As such, the District has a vested interest in service delivery within Sacramento County and offers the following.

*Response Standards and Initial Deployment Study*

The District adopted a neighborhood-based fire company deployment plan, with response times, meeting national best practice recommendations. These response standards are in place to deliver good outcomes to keep serious, but still emerging, fires small and to rescue and treat the emergency's victims. For areas that have over 1,000 people per square mile (Suburban/Urban Areas), the District's standard 1st due travel time is four minutes with an overall reflex time of seven minutes. Given the Project's acreage and proposed land uses, the proposed development fits the District's Suburban/Urban Area response model. Additionally, multiple units are needed to quickly control building fires. The District's performance standard for an Effective Response Force to a building fire incident is to deliver 3 engines, 1 ladder truck and 1 battalion chief and have all the units arrive at the incident within 8 minutes travel time.

The District uses deployment studies and a gap analysis to anticipate the number and location of new fire stations that will be required to serve the Project given the 1st Due and 1st Alarm response requirements. The initial deployment study indicates a new station will be needed to meet the 1st Due response requirements for the southern portion of the Project. The northern portion of the Project area will also be served by the City of Sacramento's existing station #43.

- The NOP depicts a potential fire station location on a 1.2 acre CMU site southwest of the town center. At the earliest convenience please forward the proposed street network shapefiles to the District to ensure adequate response coverage.

*Fire Service*

Based on the proposed land use, the District estimates the Project could generate approximately 1,250 emergency calls per year at full buildout. Additionally, given the large amount of wetland preserve and urban farm land uses, the District anticipates the need for wildland fire protection. Based on this information, 1st Due Response for the Project would include:

- 1 Structural Engine Company (full time assignment)
- 1 Wildland Fire Engine (cross-staffed by structural engine company)
- 1 Medic Company (full time assignment)

*Station Criteria, Lot Size and Timing*

To meet the District's 1st Due and Effective Response Force standards, the District requires the new station to meet the following criteria:

- 3 Bay:8 Bed Station
- 2 acre site

District policy requires new stations to be operational by the time the Project's population density exceeds 1,000 people per square mile outside of the 4 minute response time from an in-service station. In future documents, please describe/depict Project phasing.

If you have any questions, please feel free to contact me at (916) 859-4517 or via email at frye.jeff@metrofire.ca.gov.

Sincerely,

Jeff Frye
Chief Development Officer

**DEPARTMENT OF TRANSPORTATION**
DISTRICT 3
PLANNING DIVISION
703 B Street, MS-4130
Marysville CA 95901
Phone (530) 634-7616
www.dot.ca.gov
TTY 711
www.dot.ca.gov

*Making Conservation a California Way of Life.*

October 29, 2020

GTS# 03-SAC-2020-00765
SCH# 2020100069

Mr. Todd Smith
Principal Planner and Interim Environmental Coordinator
Planning and Environmental Review
Sacramento County
827 7th Street Sacramento, CA 95814

**Upper Westside Project – Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR)**

Dear Mr. Smith,

Thank you for including the California Department of Transportation (Caltrans) in the review process for the project referenced above. Caltrans' new mission, vision, and goals signal a modernization of our approach to California's transportation system. We reviewed this local development for impacts to the State Highway System (SHS) in keeping with our mission, vision, and goals for sustainability/livability/economy, and safety/health. We provide these comments consistent with the State's smart mobility goals that support a vibrant economy, and build communities, not sprawl.

The Upper Westside Project (Project) proposes general plan amendments, rezoning, and development of 2,066 acres in unincorporated Sacramento County. The Project will rezone most of the current agricultural land to a variety of uses including residential, commercial mixed-use, open space/public park, and agricultural. The Project is bounded by Interstate 80 (I-80) to the south, the West Drainage Canal to the east, Fisherman's Lake Slough to the north, and Garden Highway to the west. The center of the Project is located approximately 3.5 miles from downtown Sacramento and is outside of the Urban Policy Area (UPA) and Urban Services Boundary (USB) in the Natomas New Growth Area. Based on the information received, Caltrans provides the following comments.

**Traffic Operations / Forecasting**

On June 10, 2020 and October 21, 2020, Caltrans provided advance feedback to the Sacramento County Department of Transportation on the Transportation Analysis Scope of Work for the Project. Caltrans has no additional comments at this time on the Transportation Analysis Scope of Work. We would like to thank Sacramento County for the advance coordination. We look forward to continuing that effort.

**Hydraulics**

The Project will increase impervious surface runoff due to the proposed construction. Increases in peak runoff discharge for the 10-year and 100-year storm events to the State Right of Way and to Caltrans highway drainage facilities must be reduced to at or below the pre-construction levels. Any cumulative impacts to Caltrans drainage facilities arising from effects of development on surface water runoff discharge from the 10-year and 100-year storm events should be minimized through project drainage mitigation measures.

All grading and/or drainage improvements must maintain or improve existing drainage pathways and may not result in adverse hydrologic or hydraulic conditions within the State Right of Way or to Caltrans drainage facilities. The developer must maintain or improve existing drainage patterns and/or facilities affected by the proposed project to the satisfaction of the State and Caltrans. This may be accomplished through the implementation of storm water management Best Management Practices (i.e., detention/retention ponds or basins, sub-surface galleries, on-site storage and/or infiltration ditches, etc.). Once installed, the property owner must properly maintain these systems. The proponent/developer may be held liable for future damages due to impacts for which adequate mitigation was not undertaken or sustained.

Runoff from the Project that will enter the State Right of Way and/or Caltrans drainage facilities must meet all regional water quality control board water quality standards prior to entering the State Right of Way or Caltrans drainage facilities. Appropriate storm water quality Best Management Practices may be applied to ensure that runoff from the site meets these standards (i.e., is free of oils, greases, metals, sands, sediment, etc.). Once installed, the property owner must properly maintain these systems in perpetuity.

All work proposed and performed within the State Right of Way must be in accordance with Caltrans standards and require a Caltrans Encroachment Permit prior to commencing construction. For the encroachment permit application, provide drainage plans and calculations for the pre and post 10- and 100-year peak run-off

(quantities and velocities) and water quality treatment for all discharge to the State Right of Way and to Caltrans highway drainage facilities.

**Encroachment Permit / Right of Way Engineering**

As the Project moves forward, please note that an encroachment permit will be required from Caltrans for any work performed on the State Right of Way if not previously obtained. Specifically, an encroachment permit will be required if the Project will affect the areas of traffic operations, hydraulics, or environmental. All mitigations required by Caltrans must be addressed before issuance of an encroachment permit. To apply, a completed encroachment permit application, environmental documentation, and five sets of plans clearly indicating State Right of Way must be submitted to:

Hikmat Bsaibess
California Department of Transportation
District 3, Office of Permits
703 B Street
Marysville, CA 95901
(530) 755-6357

Please contact d3rwmaprequest@dot.ca.gov for any right of way map request/information needs.

Please provide our office with copies of any further actions regarding the Project. We would appreciate the opportunity to review and comment on any changes related to this development.

If you have any questions regarding these comments or require additional information, please contact Douglas Adams, Intergovernmental Review Coordinator, at (530) 741-4543 or by email at: douglas.adams@dot.ca.gov.

Sincerely,

Alexander Fong

Alex Fong
Acting Branch Chief, Transportation Planning – South
Planning, Local Assistance, and Sustainability

# Central Valley Regional Water Quality Control Board

30 October 2020

Todd Smith
Office of Planning and Environmental Review
Sacramento County
827 7th Street
Sacramento, CA 95814

**COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT (EIR), UPPER WESTSIDE PROJECT, SCH#2020100069, SACRAMENTO COUNTY**

Pursuant to the State Clearinghouse's 5 October 2020 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Notice of Preparation of a Draft Environmental Impact Report* for the Upper Westside Project, located in Sacramento County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

## I. Regulatory Setting

### Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental

Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

**Antidegradation Considerations**

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:
https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

In part it states:

*Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.*

*This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.*

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

## II. Permitting Requirements

**Pesticide Discharge Permits**

If the proposed project involves the application of pesticides at, near, or over waters of the United States that could result in the discharge of pollutants, the proposed project will require coverage under one or more of the State Water Resources Control Board (State Water Board) National Pollutant Discharge Elimination System (NPDES) Pesticide Permits. For more information regarding the Pesticides Permits, visit the State Water Board website at:
https://www.waterboards.ca.gov/water_issues/programs/npdes/pesticides/

**Construction Storm Water General Permit**

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or

excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For more information on the Construction General Permit, visit the State Water Resources Control Board website at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

**Phase I and II Municipal Separate Storm Sewer System (MS4) Permits**[1]
The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

**Industrial Storm Water General Permit**
Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ. For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml

**Clean Water Act Section 404 Permit**
If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to

[1] Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

**Clean Water Act Section 401 Permit – Water Quality Certification**

If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/

**Waste Discharge Requirements – Discharges to Waters of the State**

If USACE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at:https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more information on the General Order 2004-0004, visit the State Water Resources Control Board website at: https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf

**Dewatering Permit**

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage

under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf

**Regulatory Compliance for Commercially Irrigated Agriculture**

If the property will be used for commercial irrigated agricultural, the discharger will be required to obtain regulatory coverage under the Irrigated Lands Regulatory Program.

There are two options to comply:

1. **Obtain Coverage Under a Coalition Group.** Join the local Coalition Group that supports land owners with the implementation of the Irrigated Lands Regulatory Program. The Coalition Group conducts water quality monitoring and reporting to the Central Valley Water Board on behalf of its growers. The Coalition Groups charge an annual membership fee, which varies by Coalition Group. To find the Coalition Group in your area, visit the Central Valley Water Board's website at: https://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/regulatory_information/for_growers/coalition_groups/ or contact water board staff at (916) 464-4611 or via email at IrrLands@waterboards.ca.gov.
2. **Obtain Coverage Under the General Waste Discharge Requirements for Individual Growers, General Order R5-2013-0100**. Dischargers not participating in a third-party group (Coalition) are regulated individually. Depending on the specific site conditions, growers may be required to monitor runoff from their property, install monitoring wells, and submit a notice of intent, farm plan, and other action plans regarding their actions to comply with their General Order. To enroll as an Individual Discharger under the Irrigated Lands Regulatory Program, call the Central Valley Water Board phone line at (916) 464-4611 or e-mail board staff at IrrLands@waterboards.ca.gov. To find information on Agricultural and Irrigated land Fees, visit the State Water Resources Control Board website at https://www.waterboards.ca.gov/resources/fees/water_quality/#agwaiver and click the California Code of Regulations (Fee Schedule) linked text.

**Limited Threat General NPDES Permit**

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to

water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order. For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf

**NPDES Permit**

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit. For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/help/permit/

If you have questions regarding these comments, please contact me at (916) 464-0335 or Angela.Nguyen-Tan@waterboards.ca.gov.



Angela Nguyen-Tan
Environmental Scientist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

November 2, 2020

VIA EMAIL: TAYLORTO@SACCOUNTY.NET
Todd Taylor, Associate Planner
Sacramento County
345 N. El Dorado Street
Stockton, CA 95202

Dear Ms. Moore:

NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT FOR THE UPPER WESTSIDE SPECIFIC PLAN PROJECT (PLNP2018-00284), SCH# 2020100069

The Department of Conservation's (Department) Division of Land Resource Protection (Division) has reviewed the Initial Study and Notice of Preparation of an Environmental Impact Report for the Upper Westside Specific Plan Project (Project). The Division monitors farmland conversion on a statewide basis, provides technical assistance regarding the Williamson Act, and administers various agricultural land conservation programs. We offer the following comments and recommendations with respect to the project's potential impacts on agricultural land and resources.

Project Description

The project is a Specific Plan that encompass approximately 2,066 acres in the unincorporated Natomas community of Sacramento County, approximately 3.5 miles from downtown Sacramento. The Project is located outside of the County's Urban Policy Area (UPA) and Urban Services Boundary (USB), but is bounded on three sides by the City of Sacramento, bordering the communities of North and South Natomas. The Preliminary Land Use Plan envisions a community with a 1,532± acre development area and a 534± acre ag buffer area located west of the development area. The development area includes 9,356± dwelling units and 3,096,245± square feet of commercial uses, with three K-8 school sites, one high school site, and several parks.

The project site contains Prime Farmland as defined by the Department of Conservation's Farmland Mapping and Monitoring Program[1], and a portion of the site is enrolled in a Williamson Act contract.

[1] California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, https://maps.conservation.ca.gov/DLRP/CIFF/

Department Comments

Although conversion of agricultural land is often an unavoidable impact under CEQA analysis, feasible alternatives and/or feasible mitigation measures must be considered. In some cases, the argument is made that mitigation cannot reduce impacts to below the level of significance because agricultural land will still be converted by the project, and therefore, mitigation is not required. However, reduction to a level below significance is not a criterion for mitigation under CEQA. Rather, the criterion is feasible mitigation that lessens a project's impacts. As stated in CEQA statue, mitigation may also include, "Compensating for the impact by replacing or providing substitute resources or environments, including through permanent protection of such resources in the form of conservation easements."[2]

The conversion of agricultural land represents a permanent reduction in the State's agricultural land resources. As such, the Department advises the use of permanent agricultural conservation easements on land of at least equal quality and size as partial compensation for the loss of agricultural land. Conservation easements are an available mitigation tool and considered a standard practice in many areas of the State. The Department highlights conservation easements because of their acceptance and use by lead agencies as an appropriate mitigation measure under CEQA and because it follows an established rationale similar to that of wildlife habitat mitigation.

Mitigation via agricultural conservation easements can be implemented by at least two alternative approaches: the outright purchase of easements or the donation of mitigation fees to a local, regional, or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural conservation easements. The conversion of agricultural land should be deemed an impact of at least regional significance. Hence, the search for replacement lands should not be limited strictly to lands within the project's surrounding area.

A source that has proven helpful for regional and statewide agricultural mitigation banks is the California Council of Land Trusts. They provide helpful insight into farmland mitigation policies and implementation strategies, including a guidebook with model policies and a model local ordinance. The guidebook can be found at:

http://www.calandtrusts.org/resources/conserving-californias-harvest/

Of course, the use of conservation easements is only one form of mitigation that should be considered. Any other feasible mitigation measures should also be considered.

[2] Public Resources Code Section 15370, Association of Environmental Professionals, 2020 CEQA, California Environmental Quality Act, Statute & Guidelines, page 284, https://www.califaep.org/docs/2020_ceqa_book.pdf

Conclusion

The Department recommends further discussion of the following issues:

- Type, amount, and location of farmland conversion resulting directly and indirectly from implementation of the proposed project.
- Impacts on any current and future agricultural operations in the vicinity; e.g., land-use conflicts, increases in land values and taxes, loss of agricultural support infrastructure such as processing facilities, etc.
- Incremental impacts leading to cumulative impacts on agricultural land. This would include impacts from the proposed project, as well as impacts from past, current, and likely future projects.
- Proposed mitigation measures for all impacted agricultural lands within the proposed project area.
- Potential contract resolutions for land in an agricultural preserve and/or enrolled in a Williamson Act contract.

Thank you for giving us the opportunity to comment on the Notice of Preparation of an Environmental Impact Report for the Upper Westside Specific Plan Project. Please provide this Department with notices of any future hearing dates as well as any staff reports pertaining to this project. If you have any questions regarding our comments, please contact Farl Grundy, Associate Environmental Planner via email at Farl.Grundy@conservation.ca.gov.

Sincerely,



Monique Wilber

Conservation Program Support Supervisor

Natomas Unified School District
*Connecting students to their future*

**BOARD OF TRUSTEES**
Jag Bains
Scott Dosick
Micah Grant
Susan Heredia
Lisa Kaplan
Chris Evans, Superintendent

November 2, 2020

Todd Smith, Acting Environmental Coordinator
Office of Planning and Environmental Review
827 7th Street, Room 225
Sacramento, CA 95814

Dear Mr. Smith:

Thank you very much for providing notice of the forthcoming Environmental Impact Report (EIR) for the Upper Westside Specific Plan.

As you know, the Natomas Unified School District would serve the proposed Specific Plan Area. We greatly appreciate the proactive outreach to the District, and the changes to the preliminary land use plan and Specific Plan application to set aside land for schools, factor in the specific types of schools that will serve the Specific Plan Area, and ensure that schools are appropriately spaced from one another and integrated into residential areas with parks and greenways. We need to insist that the land set aside for schools remains consistent with the California Department of Education's (CDE) requirements and evaluation of safety factors for a school site https://www.cde.ca.gov/ls/fa/sf/schoolsiteguide.asp. Factors the CDE evaluates include but are not limited to the school site's proximity to airports, high-voltage power transmission lines, hazardous air emissions within a quarter mile and proximity to pressurized gas or sewer lines. The District understands the complexities in planning for such a large area and diverse mix of land uses, and we would like to remain an active partner through development of the Specific Plan, preparation of the EIR, and implementation of the County's vision for Upper Westside.

We appreciate that schools are within biking and walking distance of future residences, which is the most important factor in ensuring that future students can access schools without the use of automobiles. There are also programmatic elements that can help promote walking and bicycling to school, including programs that could be adaptively managed over time to help reduce vehicle miles travelled (VMT) impacts of the Specific Plan, while also promoting safe and convenient pedestrian and bicycle travel to and from school.

As noted, we support integration of school sites in areas with parks and greenways. If school sites are to rely on adjacent parks for school recreational use, it will be important to address access, security, design, and maintenance related to shared-use parkland so that it may meet the needs of the adjacent schools, while also meeting the needs of the community.

Relative to the scope of analysis, the EIR should study impacts of residential development on school services and facilities, as well as impacts that can be caused when there are insufficient school sites in close proximity to students' homes. Such impacts may include greenhouse gas emissions, air quality effects, transportation noise impacts, and other impacts related to students not being able to safely and conveniently walk or bike to school, as well as parents driving relatively longer distances to get students to school. As noted above, we acknowledge and appreciate the efforts in preliminary planning to place school sites within close proximity of the homes they would likely serve – carrying these concepts through to the Specific Plan land use and transportation diagrams will help reduce these impacts.

The District is interested in using the County's EIR for analysis and mitigation of impacts related to future school sites within the Specific Plan Area. As such, we would encourage appropriate survey work to establish the environmental baseline in appropriate detail, along with comprehensive analysis and mitigation of all impacts associated with constructing and operating schools. While it is possible that the District will need to prepare site-specific studies in the future, we would like to start with the goal of using this environmental documentation to support District actions, appropriate school sites as well as issuance of any required permits for future schools, including encroachment permits and grading permits from the County.

As a part of the Specific Plan's implementation section or EIR mitigation, please include language requiring, as a condition of approval for projects developed under the Specific Plan, for the subject developer to enter into an agreement with the Natomas Unified District to fully mitigate and address the costs associated with housing students generated by the proposed development.

The District looks forward to coordinating with the County throughout this important planning process.

Sincerely,

Lalanya Rothenberger

Lalanya Rothenberger
Executive Director
Facilities and Strategic Planning

SACOG
Sacramento Area Council of Governments

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Sacramento, CA 95814

916.321.9000
sacog.org

November 4, 2020

Todd Smith, Acting Environmental Coordinator
Office of Planning and Environmental Review
827 7th Street, Room 225
Sacramento, CA 95814
CEQA@saccounty.net

Re: Notice of Preparation of DEIR for Upper West Side Specific Plan (PLNP2018-00284)

Dear Mr. Smith:

Thank you for the invitation to comment on the Upper West Side project proposal. SACOG's primary responsibility as the Metropolitan Planning Organization for the six county Sacramento region is the development and implementation of the Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS), a document that establishes transportation spending priorities throughout the region. The MTP/SCS must be based on an estimated land use pattern to be built over a 20+ year planning period, and it must conform with federal and state air quality regulations.

The focus of the MTP/SCS is on the intersection of land use and transportation: it identifies the region's strategies for meeting the regional greenhouse gas (GHG) emissions reduction target; establishes conformity with state and federal clean air act requirements; provides the foundation for the regional housing needs allocation and establishes a plan for housing the population of the region; considers the impact of the plan on regional resources, including financial, biological, agricultural and farming, etc.; and identifies a transportation network to serve the transportation needs of the region, and to reduce vehicle miles traveled (VMT) to, among other things, support achievement of the region's GHG emissions reduction target. For these reasons, the MTP/SCS provides a benchmark for considering the impacts of a project.

The foundation for the MTP/SCS land use forecast includes local government general plans, community plans, specific plans, and other local policies and regulations, and the Sacramento Region Blueprint. The Blueprint vision, based on the principles of smart growth, contributes to the development of the MTP/SCS by giving general direction on how the region should develop over time to curb sprawl, cut down on vehicle emission and congestion, and improve the quality of life for residents. Implementation of the Blueprint vision depends greatly on the efforts of cities and counties through local plans and projects. In support of city

Auburn
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Davis
El Dorado County
Elk Grove
Folsom
Galt
Isleton
Lincoln
Live Oak
Loomis
Marysville
Placer County
Placerville
Rancho Cordova
Rocklin
Roseville
Sacramento
Sacramento County
Sutter County
West Sacramento
Wheatland
Winters
Woodland
Yolo County
Yuba City
Yuba County

and county efforts, SACOG regularly monitors and comments on projects in the region as they relate to implementation of the MTP/SCS and Sacramento Region Blueprint.

The Upper West Side project and the project area itself are not anticipated for development in either the MTP/SCS or the Blueprint. However, the Blueprint is not just a map, it is based on a set of smart growth principles. We're encouraged to see that the early goals and initial plans for the Upper Westside project include alignment with many of the principles contained in the Blueprint and the county's smart growth policy LU-120. We also understand that the project applicants are striving to design the Upper West Side project to exemplify excellent planning principles and be a model for new development. We appreciate and applaud that goal and hope these comments are useful in making the proposed project achieve that standard of excellence. We believe projects like this represent unique opportunities to examine how new growth can be planned in the region while also contributing to regional goals to reduce reliance on single-occupant automobiles, build in walking, bicycling and transit options from the ground up, and offer both housing and transportation choice to residents.

Throughout much of the Sacramento region, the capacity for growth in existing entitled lands far exceeds expected demand for new growth over the next twenty years. Because of this overabundance of entitled lands, it is critical that any new lands entitled for urban development be well thought out and fully implement Blueprint smart growth principles. Planning and development that fully implements the Blueprint principles is critical to allowing the Sacramento region to reducing vehicle miles traveled and greenhouse gas emissions. These principles are described in more detail below along with our initial comments on the proposed project.

**Transportation Choice**: There is a strong connection between land use patterns, travel behavior and air quality. Higher density housing and employment, locating jobs near housing, and providing strong connectivity in the design of the street and bicycle and pedestrian networks, all lead to increased walking, biking, and transit use, and shorten the length of auto trips. How a new growth area contributes to the region's vehicle miles traveled and greenhouse gas reduction goals is an important consideration in determining whether or not a project is consistent with the Blueprint.

The Upper West Side proposal discusses a commitment to travel options beyond single occupancy vehicles (SOV), including car share, micro-mobility, and walking/biking. The proposed bike network is comprehensive and includes both class 1 and 2 facilities throughout the project area. However, while the mixed use town center area is gridded with short block lengths, the area outside this grid, which will include over 3,675 units, appears to have longer block lengths and low intersection density, as identified in the project materials. This street and block design across the majority of the project area may promote auto-centric travel patterns and presents a challenge for alternative modes of transportation. The project should examine ways in which higher intersection density, traffic calming, or other design elements, could

encourage improved integration of non-auto modes across a greater proportion of the project area. Incorporating an internal circulation system that provides more separation of cars from bicycle and pedestrian traffic, such as shifting priority for vehicles to outer ring roads and prioritizing bicycles and pedestrians on the internal roadways by expanding the number of Class 1 facilities and converting Class 2 facilities to Class 4 cycle tracks, can encourage high use of walking and biking for local trips. Additionally, ensuring the proposed network of bike paths offer direct and front door access to destinations in the mixed use town center and other destinations throughout the project will increase the likelihood that walking, biking and other non-SOV modes are the most convenient choice for local trips.

While the project demonstrates strong proximity to existing jobs, with over 200,000 jobs within five miles of the project area, access to downtown is still challenging and largely auto-centric. The primary gateway to the project area will be El Camino Ave, with over half the trips coming into or out of the project, according to the conceptual traffic feasibility analysis. The I-80 interchange at El Camino and the 6-lane El Camino overpass are, as stated in the Project Description, "already experiencing congestion during peak hours" and will accommodate an additional 53,000 daily trips from the project. As such, while ensuring the proposed circulation plan creates fast and direct bicycle and pedestrian connections to amenities throughout the project area such as the town center, urban farm, parks, educational node, school sites, and the Westside Canal can facilitate good transportation choice for internal trips, the project may struggle to promote non-auto modes for trips in and out of the project area. Additionally, the high volume of traffic on El Camino will be funneled from six lanes immediately onto the "smart growth street" in the mixed use town center, which may present challenges to fostering a truly pedestrian and bike-friendly corridor. To better ensure traffic into and out of the project area is compatible with the goal of promoting travel choice, the county and project applicant could coordinate with the City of Sacramento and SACOG to identify measures that would provide safe and comfortable integration of non-auto modes, and potentially, local auto trips, into the surrounding transportation system. Some examples, though by no means an exhaustive list, could include ways to diffuse or calm traffic entering the town center, street design elements to provide additional comfort and protection for non-auto modes, strategic local street connections from the project to the street network of the surrounding communities. Further, to better demonstrate a commitment to encouraging transportation choice, the project could offer incentives and design elements that support micro-mobility options like bike and scooter share such as mobility hubs, memberships discounts, and integration of sufficient, secure, and attractive bike parking in convenient locations in front of priority destinations and throughout neighborhoods surrounding the town center.

The location also offers opportunity for transit access to employment centers. Existing and planned bus transit service provides connections from South Natomas, immediately across I-80 from the project location, to Downtown Sacramento, the regional's largest employment center, as well as connection via bus to the planned Green Line LRT extension from Downtown, Railyards and the River District into South and North Natomas. Extensions of existing or planned transit to the project, plus opportunities for new local transit within the project itself, should be explored.

In short, the project location has significant characteristics that would allow for the project to be a truly low-VMT and high alternative mode community. The standards applied to the project in terms of lowering vehicle miles traveled within Sacramento County and the region should be very high, and the target performance on VMT per capita for future project residents should be ambitious and well below the standard applied to other projects.

**Housing Choice and Diversity:** Offering a variety of housing options is critical to supporting residents of all ages and incomes. SACOG recently adopted cycle six of the Regional Housing Needs Assessment, which significantly increased the number of affordable, higher density, housing units the region needs to plan for. The MTP/SCS assumes that almost 74 percent of the new homes in the region are small-lot or attached homes. The region has a history and established pattern of constructing single-family homes on large lots, making it critical to plan for small-lot detached and attached housing at higher densities. The Upper Westside Preliminary Land Use Plan targets 2,560 large-lot single-family homes, 1,118 homes that could be small- or large-lot single-family homes, 2,418 attached homes, and 3,135 homes in the commercial mixed use district. If all the targeted homes are built as planned, the proposal will be at least 60 percent small-lot or attached homes. The concept of higher densities and mixed use in and around the town center is Blueprint supportive, but the extent to which this project will promote housing choice will depend upon whether the homes targeted in the mixed use district come to fruition. Vertical mixed use is a particularly challenging product to bring to market in a developing community and there is a potential risk that the mixed use district will develop as employment-only uses. Developing communities that seek to promote housing choice can look to increase the amount of land that allows for higher density multifamily housing and pursue policies and safeguards to prevent mixed use areas from developing exclusively as commercial or office.

While the specific plan for the Upper West Side includes a variety of housing types, most of this diversity is contingent upon the mixed use town center developing as planned. Outside of the town center, approximately 600 of the 941 residentially designated acres and over 2,500 units will be large-lot single-family neighborhoods, which lend themselves to being homogenous, expensive, and segregated. One way to provide more housing choice within neighborhoods of the plan would be to allow for more “missing middle” housing products, like fourplexes, garden apartments, and bungalow courts, wherever housing is allowed in the plan area. These types of housing products are more likely to facilitate economic integration and a diversity of households.

**Mixed Use Development:** Districts that have a mix of uses are efficient in their use of land and resources, but also function as local activity centers where people tend to walk or bike to destinations, use transit more frequently, and take shorter auto trips. The project’s mixed use town center is of central importance for encouraging non-auto modes as an attractive and convenient option for internal circulation and providing a diversity of housing products, particularly higher density housing, within the project area. The mixed use town center estimates 3,135 new units, making up approximately 34-percent of the planned housing units and the majority of the plan’s higher density housing. Maintaining a housing product mix in the

proposed Upper West Side Project that is in alignment with the Blueprint Vision and the MTP/SCS hinges on fully realizing the higher density homes proposed in mixed use town center.

While mixed use development that blends housing and commercial uses is crucial for many reasons, this type of development is particularly challenging to bring to market in new communities and risks being developed as solely commercial products. Further, the uncertain future of retail, made even more uncertain by the global COVID-19 pandemic, necessitates creating flexibility in our commercial products to make them more resilient in the face of an evolving economy.

The town center proposed in the project is ambitious and warrants measures that can help ensure it is developed as planned and remains successful into the future. Building communities in greenfield areas that seek to promote mixed use development may benefit from measures that ensure mixed use sites do not develop as auto-oriented, lower density, commercial-only uses. These measures may include, but are certainly not limited to, exploring parking maximums that are compatible with pedestrian scale design, triggers that limit commercial only buildings within the mixed use areas, and flexibility to allow for telework space, childcare, community space, or other revenue generating uses that complement adjacent housing, but do not rely on traditional retail.

**Compact Development and Natural Resources Conservation:** These two principles work together at both the neighborhood and the larger citywide scale. At a neighborhood level, environments that are more compactly built at pedestrian scale can encourage more walking, biking, and public transit use and shorter auto trips. Incorporating public-use open space (such as parks, town squares, trails, greenbelts) is an important contribution to the aesthetics and sense of community and also helps lead to these outcomes. The Upper Westside specific plan includes a variety of these features, including parks, trails, an agricultural greenbelt, and an urban canal. At a larger scale, these two principles call for urban growth expansion that is adjacent to existing developed lands, well planned, and conserves natural resources. Growing in a way that utilizes existing urbanized lands ensures more open space, including wildlife and plant habitat preservation, agricultural preservation, and open recreation areas. The compact footprint and growth pattern of the MTP/SCS assumes that only 34 percent of the new housing growth in the region happens in greenfield areas. The Upper Westside proposal would increase the percentage of development in greenfields, should it move forward. Additionally, because the project area is not anticipated for growth in the Blueprint or the MTP/SCS, it would convert more agricultural land to urban uses beyond what was analyzed as part of the Blueprint or MTP/SCS.

**Design for Quality** is the Blueprint Principle that relates not only to the attractiveness of buildings but also to street pattern and urban design of a development. A walkable street pattern is one of the most significant factors in reducing VMT for an area. A pedestrian-friendly street pattern and quality urban design encourages not only walking but also transit use. Other factors affecting walkability include the presence or absence of sidewalks, pedestrian amenities on the street, traffic volumes, presence or absence of crosswalks, treatment of pedestrians at signalized intersections, public spaces, and the orientation and proximity of buildings to the

street. The proposed Upper Westside project includes many smart growth principles in its design of the mixed use town center, where there is a tight street grid and buildings are oriented towards the street. These types of design principles can be further strengthened through strong policies in the specific plan itself and through objective design guidelines that ensure a pedestrian-oriented streetscape.

**Using Existing Assets:** It is important for urbanized areas to take advantage of existing public infrastructure and services and for local jurisdictions to ensure they can meet the needs of existing assets they plan for new growth and development that will create additional maintenance and operational costs. Most of the new growth projected in the MTP/SCS is in existing communities and aims to utilize and invest in existing infrastructure. The proposed Upper Westside project makes use of some existing infrastructure, but as a developing community in an area that is largely undeveloped, it will also require new roadways, utilities, and other infrastructure. The county should consider how phasing in of new development and the needs of newly added infrastructure fit within long term costs of upkeep. Further, to the extent feasible, new infrastructure is best planned with consideration of future reuse or adaptation in response to changing economic and environmental conditions.

The Upper West Side project is striving to follow many of the Blueprint design principles, but the project raises important policy questions for the region's implementation of the Blueprint. For example, the capacity for growth in existing entitled lands far exceeds expected demand over the next twenty years: collectively, the region's jurisdictions have entitled, or are in the process of entitling 2.5 times the region's projected need for the next 20 years. More than half of that capacity—387,000 units—is in greenfield areas that are on the edge of existing development.

Unincorporated Sacramento county has 100,000 of those new units of capacity in a dozen planned new growth areas (greenfields) that are either under construction, approved, or going through entitlement. How and when this regional capacity is phased and built out over time is critically important to the future economic and environmental health of the region. Dispersing growth incrementally over a larger number of developments and geographies without a phasing strategy creates challenges in meeting our shared goals of improving air quality, reducing greenhouse gas emissions, revitalizing our existing communities, and of funding the construction and maintenance of the public infrastructure needed to serve both existing and new communities.

Thank you for consideration of these comments. We look forward to working with the county on these issues as the Upper Westside Project moves forward.

Thank you,

James Corless
Executive Director

SMUD®

***Sent Via E-Mail***

November 4, 2020

Todd Smith
Interim Environmental Coordinator
Sacramento County
827 7th Street, Room 225
Sacramento, CA 95814
ceqa@saccounty.net

Subject: **Upper Westside Specific Plan / NOP / 2020100069**

Dear Mr. Smith:

The Sacramento Municipal Utility District (SMUD) appreciates the opportunity to provide comments on the Notice of Preparation (NOP) for the Upper Westside Specific Plan (Project, SCH 2020100069). SMUD is the primary energy provider for Sacramento County and the proposed Project area. SMUD's vision is to empower our customers with solutions and options that increase energy efficiency, protect the environment, reduce global warming, and lower the cost to serve our region. As a Responsible Agency, SMUD aims to ensure that the proposed Project limits the potential for significant environmental effects on SMUD facilities, employees, and customers.

It is our desire that the Project will acknowledge any impacts related to the following:

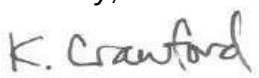
- Overhead and or underground transmission and distribution line easements. Please view the following links on smud.org for more information regarding transmission encroachment:
  - https://www.smud.org/en/Business-Solutions-and-Rebates/Design-and-Construction-Services
  - https://www.smud.org/en/Corporate/Do-Business-with-SMUD/Land-Use/Transmission-Right-of-Way
- Utility line routing
- Electrical load needs/requirements
- Energy Efficiency
- Climate Change
- Cumulative impacts related to the need for increased electrical delivery
- The potential need to relocate and or remove any SMUD infrastructure that may be affected in or around the project area

The information provided in the NOP states the Project will be analyzed for its compatibility with public utilities and to determine what may be required to extend service to the Project. It is SMUD's expectation the environmental impacts of any new onsite and offsite electric facilities needed to meet the electricity demands of the Upper Westside Specific Plan will be analyzed in the EIR.

SMUD would like to be involved with discussing the above areas of interest as well as discussing any other potential issues. We aim to be partners in the efficient and sustainable delivery of the proposed Project. Please ensure that the information included in this response is conveyed to the Project planners and the appropriate Project proponents.

Environmental leadership is a core value of SMUD, and we look forward to collaborating with you on this Project. Again, we appreciate the opportunity to provide input on this NOP. If you have any questions regarding this letter, please do not hesitate to contact me at 916.732.5063, or by email at Kim.Crawford@smud.org.

Sincerely,



Kim Crawford
Environmental Services Specialist
Sacramento Municipal Utility District
6201 S Street
Sacramento, CA 95817

cc: Entitlements

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Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
North Central Region
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Rancho Cordova, CA 95670-4599
916-358-2900
www.wildlife.ca.gov

***GAVIN NEWSOM, Governor***
***CHARLTON H. BONHAM, Director***

November 6, 2020

Todd Smith
Sacramento County Planning
827 7th Street, Suite 225
Sacramento, CA 95814
ceqa@saccounty.net

Subject: Upper Westside Specific Plan - Notice of Preparation
SCH# 2020100069

Dear Mr. Smith:

The California Department of Fish and Wildlife (CDFW) received and reviewed the Notice of Preparation (NOP) of an Environmental Impact Report (EIR) from Sacramento County for the Upper Westside Specific Plan (Project) in Sacramento County (the County) pursuant the California Environmental Quality Act (CEQA) statute and guidelines.[1] CDFW previously submitted comments in response to the County's request for comments on the Project's application to the County dated March 6, 2020.

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish, wildlife, plants and their habitats. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may need to exercise its own regulatory authority under the Fish and Game Code (Fish & G. Code).

**CDFW ROLE**

CDFW is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the State (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (*Id.*, § 1802.). Similarly, for purposes of CEQA, CDFW provides, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW may also act as a Responsible Agency under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise

1 CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

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regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the project proponent may seek related take authorization as provided by the Fish and Game Code.

## PROJECT DESCRIPTION SUMMARY

The Project is a Specific Plan that encompass approximately 2,066 acres in the unincorporated Natomas community of Sacramento County, approximately 3.5 miles from downtown Sacramento. The Project area is bounded by Interstate 80 to the south, the West Drainage Canal to the east, Fisherman's Lake Slough to the north, and Garden Highway to the west. The Project is located outside of the County's Urban Policy Area (UPA) and Urban Services Boundary (USB), but is bounded on three sides by the City of Sacramento, bordering the communities of North and South Natomas.

The Project's Preliminary Land Use Plan envisions a community with a 1,532± acre Development Area and a 534± acre Ag Buffer Area that is located west of the Development Area. Within the Development Area, the applicant has proposed an urban, commercial mixed-use town center district near the intersection of El Centro Road and West El Camino Avenue surrounded by neighborhoods. The Development Area includes 9,356± dwelling units and 3,096,245± square feet of commercial uses, with three K-8 school sites, one high school site, and several parks.

The Project description should include the whole action as defined in the CEQA Guidelines § 15378 and should include appropriate detailed exhibits disclosing the Project area including temporary impacted areas such as equipment stage area, spoils areas, adjacent infrastructure development, staging areas and access and haul roads if applicable.

As required by § 15126.6 of the CEQA Guidelines, the EIR should include appropriate range of reasonable and feasible alternatives that would attain most of the basic Project objectives and avoid or minimize significant impacts to resources under CDFW's jurisdiction.

## COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations presented below to assist the County in adequately identifying and/or mitigating the Project's significant, or potentially significant, impacts on biological resources. The comments and recommendations are also offered to enable CDFW to adequately review and comment on the proposed Project with respect to impacts on biological resources. CDFW recommends that the forthcoming EIR address the following:

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**Assessment of Biological Resources**

Section 15125(c) of the CEQA Guidelines states that knowledge of the regional setting of a project is critical to the assessment of environmental impacts and that special emphasis should be placed on environmental resources that are rare or unique to the region. To enable CDFW staff to adequately review and comment on the Project, the EIR should include a complete assessment of the flora and fauna within and adjacent to the Project footprint, with emphasis on identifying rare, threatened, endangered, and other sensitive species and their associated habitats. CDFW recommends that the EIR specifically include:

1. An assessment of all habitat types located within the Project footprint, and a map that identifies the location of each habitat type. CDFW recommends that floristic, alliance- and/or association-based mapping and assessment be completed following *The Manual of California Vegetation*, second edition (Sawyer et al. 2009). Adjoining habitat areas should also be included in this assessment where site activities could lead to direct or indirect impacts offsite. Habitat mapping at the alliance level will help establish baseline vegetation conditions.

2. A general biological inventory of the fish, amphibian, reptile, bird, and mammal species that are present or have the potential to be present within each habitat type onsite and within adjacent areas that could be affected by the Project. CDFW recommends that the California Natural Diversity Database (CNDDB), as well as previous studies performed in the area, be consulted to assess the potential presence of sensitive species and habitats. A nine United States Geologic Survey (USGS) 7.5-minute quadrangle search is recommended to determine what may occur in the region, larger if the Project area extends past one quad (see *Data Use Guidelines* on the Department webpage www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data). Please review the website for information on how to access the database to obtain current information on any previously reported sensitive species and habitat, including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code, in the vicinity of the Project. CDFW recommends that CNDDB Field Survey Forms be completed and submitted to CNDDB to document survey results. Online forms can be obtained and submitted at: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data.

   Please note that CDFW's CNDDB is not exhaustive in terms of the data it houses, nor is it an absence database. CDFW recommends that it be used as a starting point in gathering information about the *potential presence* of species within the general area of the Project site. Other sources for identification of species and habitats near or adjacent to the Project area should include, but may not be limited to, State and federal resource agency lists, California Wildlife Habitat Relationship (CWHR) System, California Native Plant Society (CNPS) Inventory, agency contacts, environmental documents for other projects in the vicinity, academics, and professional or scientific organizations.

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3. A complete, recent inventory of rare, threatened, endangered, and other sensitive species located within the Project footprint and within offsite areas with the potential to be affected, including California Species of Special Concern and California Fully Protected Species (Fish & G. Code § 3511). Species to be addressed should include all those which meet the CEQA definition (CEQA Guidelines § 15380). The inventory should address seasonal variations in use of the Project area and should not be limited to resident species. The EIR should include the results of focused species-specific surveys, completed by a qualified biologist and conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable. Species-specific surveys should be conducted in order to ascertain the presence of species with the potential to be impacted directly, indirectly, on or within a reasonable distance of the Project activities. CDFW recommends the lead agency rely on survey and monitoring protocols and guidelines available at: www.wildlife.ca.gov/Conservation/Survey-Protocols. Alternative survey protocols may be warranted; justification should be provided to substantiate why an alternative protocol is necessary. Acceptable species-specific survey procedures should be developed in consultation with CDFW and the U.S. Fish and Wildlife Service, where necessary. Some aspects of the Project may warrant periodically updated surveys for certain sensitive taxa, particularly if the Project is proposed to occur over a protracted time frame, or in phases, or if surveys are completed during periods of drought or deluge.

4. A thorough, recent (within the last two years), floristic-based assessment of special-status plants and natural communities, following CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (see www.wildlife.ca.gov/Conservation/Plants).

5. Information on the regional setting that is critical to an assessment of environmental impacts, with special emphasis on resources that are rare or unique to the region (CEQA Guidelines § 15125[c]).

**Analysis of Direct, Indirect, and Cumulative Impacts to Biological Resources**

The EIR should provide a thorough discussion of the Project's potential direct, indirect, and cumulative impacts on biological resources. To ensure that Project impacts on biological resources are fully analyzed, the following information should be included in the EIR:

1. The EIR should define the threshold of significance for each impact and describe the criteria used to determine whether the impacts are significant (CEQA Guidelines, § 15064, subd. (f)). The EIR must demonstrate that the significant environmental impacts of the Project were adequately investigated and discussed, and it must permit the significant effects of the Project to be considered in the full environmental context.

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2. A discussion of potential impacts from lighting, noise, human activity, and wildlife-human interactions created by Project activities especially those adjacent to natural areas, exotic and/or invasive species occurrences, and drainages. The EIR should address Project-related changes to drainage patterns and water quality within, upstream, and downstream of the Project site, including: volume, velocity, and frequency of existing and post-Project surface flows; polluted runoff; soil erosion and/or sedimentation in streams and water bodies; and post-Project outcome of runoff from the Project site. The EIR should address sources of wildlife mortality such as human introduction of domestic cats (as it relates to bird mortality), bird strikes with Project buildings, increased wildlife control, and vehicle strikes.

3. A discussion of potential indirect Project impacts on biological resources, including resources in areas adjacent to the Project footprint, such as nearby public lands (e.g. National Forests, State Parks, etc.), open space, adjacent natural habitats, riparian ecosystems, wildlife corridors, and any designated and/or proposed reserve or mitigation lands (e.g., preserved lands associated with a Conservation or Recovery Plan, or other conserved lands).

4. A cumulative effects analysis developed as described under CEQA Guidelines section 15130. The EIR should discuss the Project's cumulative impacts to natural resources and determine if that contribution would result in a significant impact. The EIR should include a list of present, past, and probable future projects producing related impacts to biological resources or shall include a summary of the projections contained in an adopted local, regional, or statewide plan, that consider conditions contributing to a cumulative effect. The cumulative analysis shall include impact analysis of vegetation and habitat reductions within the area and their potential cumulative effects. Please include all potential direct and indirect Project-related impacts to riparian areas, wetlands, wildlife corridors or wildlife movement areas, aquatic habitats, sensitive species and/or special-status species, open space, and adjacent natural habitats in the cumulative effects analysis.

**Mitigation Measures for Project Impacts to Biological Resources**

The EIR should include appropriate and adequate avoidance, minimization, and/or mitigation measures for all direct, indirect, and cumulative impacts that are expected to occur as a result of the construction and long-term operation and maintenance of the Project. CDFW also recommends that the environmental documentation provide scientifically supported discussion regarding adequate avoidance, minimization, and/or mitigation measures to address the Project's significant impacts upon fish and wildlife and their habitat. For individual projects, mitigation must be roughly proportional to the level of impacts, including cumulative impacts, in accordance with the provisions of CEQA (Guidelines § § 15126.4(a)(4)(B), 15064, 15065, and 16355). In order for mitigation measures to be effective, they must be specific, enforceable, and feasible actions that will improve environmental conditions. When proposing measures to avoid, minimize, or mitigate impacts, CDFW recommends consideration of the following:

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1. *Fully Protected Species*: Several Fully Protected Species (Fish & G. Code § 3511) have the potential to occur within or adjacent to the Project area, including, but not limited to: white-tailed kite (*Elanus leucurus*). Fully protected species may not be taken or possessed at any time. Project activities described in the EIR should be designed to completely avoid any fully protected species that have the potential to be present within or adjacent to the Project area. CDFW also recommends that the EIR fully analyze potential adverse impacts to fully protected species due to habitat modification, loss of foraging habitat, and/or interruption of migratory and breeding behaviors. CDFW recommends that the Lead Agency include in the analysis how appropriate avoidance, minimization and mitigation measures will reduce indirect impacts to fully protected species.

2. *Sensitive Plant Communities*: CDFW considers sensitive plant communities to be imperiled habitats having both local and regional significance. Plant communities, alliances, and associations with a statewide ranking of S-1, S-2, S-3, and S-4 should be considered sensitive and declining at the local and regional level. These ranks can be obtained by querying the CNDDB and are included in *The Manual of California Vegetation* (Sawyer et al. 2009). The EIR should include measures to fully avoid and otherwise protect sensitive plant communities from Project-related direct and indirect impacts.

3. *Mitigation*: CDFW considers adverse Project-related impacts to sensitive species and habitats to be significant to both local and regional ecosystems, and the EIR should include mitigation measures for adverse Project-related impacts to these resources. Mitigation measures should emphasize avoidance and reduction of Project impacts. For unavoidable impacts, onsite habitat restoration, enhancement, or permanent protection should be evaluated and discussed in detail. If onsite mitigation is not feasible or would not be biologically viable and therefore not adequately mitigate the loss of biological functions and values, offsite mitigation through habitat creation and/or acquisition and preservation in perpetuity should be addressed. Any mitigation proposed outside the Natomas Basin and within the jurisdiction of a different local government, should be supported by robust scientific reasoning and such a strategy should contemplate local degradation of Natomas Basin fish, wildlife, or plant resources and potential land use authority.

   The EIR should include measures to perpetually protect the targeted habitat values within mitigation areas from direct and indirect adverse impacts in order to meet mitigation objectives to offset Project-induced qualitative and quantitative losses of biological values. Specific issues that should be addressed include restrictions on access, proposed land dedications, long-term monitoring and management programs, control of illegal dumping, water pollution, increased human intrusion, etc.
4. *Habitat Revegetation/Restoration Plans*: Plans for restoration and revegetation should be prepared by persons with expertise in the regional ecosystems and native plant restoration techniques. Plans should identify the assumptions used to develop the proposed restoration strategy. Each plan should include, at a

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minimum: (a) the location of restoration sites and assessment of appropriate reference sites; (b) the plant species to be used, sources of local propagules, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) a local seed and cuttings and planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation site in perpetuity. Monitoring of restoration areas should extend across a sufficient time frame to ensure that the new habitat is established, self-sustaining, and capable of surviving drought.

Onsite vegetation mapping at the alliance and/or association level should be used to develop appropriate restoration goals and local plant palettes. Reference areas should be identified to help guide restoration efforts. Specific restoration plans should be developed for various Project components as appropriate. Restoration objectives should include protecting special habitat elements or re-creating them in areas affected by the Project. Examples may include retention of woody material, logs, snags, rocks, and brush piles. Fish and Game Code sections 1002, 1002.5 and 1003 authorize CDFW to issue permits for the take or possession of plants and wildlife for scientific, educational, and propagation purposes. Please see our website for more information on Scientific Collecting Permits at www.wildlife.ca.gov/Licensing/Scientific-Collecting#53949678-regulations-.

5. *Nesting Birds:* It is the Project proponent's responsibility to comply with all applicable laws related to nesting birds and birds of prey. Migratory nongame native bird species are protected by international treaty under the federal Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. 703 *et seq.*). CDFW implemented the MBTA by adopting the Fish and Game Code section 3513. Fish and Game Code sections 3503, 3503.5 and 3800 provide additional protection to nongame birds, birds of prey, their nests and eggs. Sections 3503, 3503.5, and 3513 of the Fish and Game Code afford protective measures as follows: section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the Fish and Game Code or any regulation made pursuant thereto; section 3503.5 states that is it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by the Fish and Game Code or any regulation adopted pursuant thereto; and section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

   Potential habitat for nesting birds and birds of prey is present within the Project area. The Project should disclose all potential activities that may incur a direct or

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indirect take to nongame nesting birds within the Project footprint and its vicinity. Appropriate avoidance, minimization, and/or mitigation measures to avoid take must be included in the EIR.

CDFW recommends that the EIR include specific avoidance and minimization measures to ensure that impacts to nesting birds or their nests do not occur. Project-specific avoidance and minimization measures may include, but not be limited to: Project phasing and timing, monitoring of Project-related noise (where applicable), sound walls, and buffers, where appropriate. The EIR should also include specific avoidance and minimization measures that will be implemented should a nest be located within the Project site. In addition to larger, protocol level survey efforts (e.g. Swainson's hawk surveys) and scientific assessments, CDFW recommends a final preconstruction survey be required no more than three (3) days prior to vegetation clearing or ground disturbance activities, as instances of nesting could be missed if surveys are conducted earlier.

6. *Moving out of Harm's Way:* The Project is anticipated to result in the clearing of habitats that support native species. To avoid direct mortality, the Lead Agency may condition the EIR to require that a qualified biologist with the proper permits be retained to be onsite prior to and during all ground- and habitat-disturbing activities. The qualified biologist with the proper permits may move out of harm's way special-status species or other wildlife of low or limited mobility that would otherwise be injured or killed from Project-related activities. Movement of wildlife out of harm's way should be limited to only those individuals that would otherwise be injured or killed, and individuals should be moved only as far as necessary to ensure their safety (i.e., CDFW does not recommend relocation to other areas). It should be noted that the temporary relocation of onsite wildlife does not constitute effective mitigation for habitat loss.

7. *Translocation of Species*: CDFW generally does not support the use of relocation, salvage, and/or transplantation as the sole mitigation for impacts to rare, threatened, or endangered species as these efforts are generally experimental in nature and largely unsuccessful.

The EIR should incorporate mitigation performance standards that would ensure that impacts are reduced to a less-than-significant level. Mitigation measures proposed in the EIR should be made a condition of approval of the Project. Please note that obtaining a permit from CDFW by itself with no other mitigation proposal may constitute mitigation deferral. CEQA Guidelines section 15126.4, subdivision (a)(1)(B) states that formulation of mitigation measures should not be deferred until some future time. To avoid deferring mitigation in this way, the EIR should describe avoidance, minimization and mitigation measures that would be implemented should the impact occur.

**California Endangered Species Act**

CDFW is responsible for ensuring appropriate conservation of fish and wildlife resources including threatened, endangered, and/or candidate plant and animal

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species, pursuant to CESA. CDFW recommends that a CESA Incidental Take Permit (ITP) be obtained if the Project has the potential to result in "take" (Fish & G. Code § 86 defines "take" as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") of state-listed CESA species, either through construction or over the life of the Project. CESA ITPs are issued to conserve, protect, enhance, and restore State-listed CESA species and their habitats.

The Project area has the following State-listed species that are known to be present:

- Swainson's hawk (*Buteo swainsoni*)
- Giant garter snake (*Thamnophis gigas*)

The Project area as shown in the NOP also may include habitat for these State and/or federally listed species: bank swallow (*Riparia riparia*), California tiger salamander (*Ambystoma californiense*), tricolored blackbird (*Agelaius tricolor*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphous*), vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), Bogg's Lake hedge-hyssop (*Gratiola heterosepala*), Sacramento Orcutt grass (*Orcuttia viscida*), and slender orcutt grass (*Orcuttia tenuis*).

The EIR should disclose the potential of the Project to take State-listed species and how the impacts will be avoided, minimized, and mitigated. Please note that mitigation measures that are adequate to reduce impacts to a less-than significant level to meet CEQA requirements may not be enough for the issuance of an ITP. To issue an ITP, CDFW must demonstrate that the impacts of the authorized take will be minimized and fully mitigated (Fish & G. Code §2081 (b)). To facilitate the issuance of an ITP, if applicable, CDFW recommends the EIR include measures to minimize and fully mitigate the impacts to any State-listed species the Project has potential to take. CDFW encourages early consultation with staff to determine appropriate measures to facilitate future permitting processes and to engage with the U.S. Fish and Wildlife Service to coordinate specific measures if both State and federally listed species may be present within the Project vicinity.

**Native Plant Protection Act**

The Native Plant Protection Act (NPPA) (Fish & G. Code §1900 *et seq*.) prohibits the take or possession of State-listed rare and endangered plants, including any part or product thereof, unless authorized by CDFW or in certain limited circumstances. Take of State-listed rare and/or endangered plants due to Project activities may only be permitted through an ITP or other authorization issued by CDFW pursuant to California Code of Regulations, Title 14, section 786.9 subdivision (b).

**Lake and Streambed Alteration (LSA) Program**

The EIR should identify all perennial, intermittent, and ephemeral rivers, streams, lakes, other hydrologically connected aquatic features (such as ditches), and any associated biological resources/habitats present within the entire Project footprint (including utilities, access and staging areas). The EIR should analyze all potential temporary, permanent,

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direct, indirect and/or cumulative impacts to the above-mentioned features and associated biological resources/habitats that may occur because of the Project. If it is determined that the Project will result in significant impacts to these resources, the EIR shall propose appropriate avoidance, minimization and/or mitigation measures to reduce impacts to a less-than-significant level.

Section 1602 of the Fish and Game Code requires an entity to notify CDFW prior to commencing any activity that may do one or more of the following: substantially divert or obstruct the natural flow of any river, stream or lake; substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or deposit debris, waste or other materials that could pass into any river, stream or lake. Please note that "any river, stream or lake" includes those that are episodic (i.e., those that are dry for periods of time) as well as those that are perennial (i.e., those that flow year-round). This includes ephemeral streams and watercourses with a subsurface flow. It may also apply to work undertaken within the flood plain of a body of water or some agricultural drainages.

If CDFW determines that the Project activities may substantially adversely affect an existing fish or wildlife resource, an LSA Agreement will be issued which will include reasonable measures necessary to protect the resource. CDFW's issuance of an LSA Agreement is a "project" subject to CEQA (see Pub. Resources Code 21065). To facilitate issuance of an LSA Agreement, the EIR should fully identify the potential impacts to the lake, stream, or riparian resources, and provide adequate avoidance, mitigation, and monitoring and reporting commitments. Early consultation with CDFW is recommended, since modification of the Project may avoid or reduce impacts to fish and wildlife resources. To obtain an LSA notification package, please go to https://www.wildlife.ca.gov/Conservation/LSA/Forms.

Please note that other agencies may use specific methods and definitions to determine impacts to areas subject to their authorities. These methods and definitions often do not include all needed information for CDFW to determine the extent of fish and wildlife resources affected by activities subject to Notification under Section 1602 of the Fish and Game Code. Therefore, CDFW does not recommend relying solely on methods developed specifically for delineating areas subject to other agencies' jurisdiction (such as United States Army Corps of Engineers) when mapping lakes, streams, wetlands, floodplains, riparian areas, etc. in preparation for submitting a Notification of an LSA.

CDFW relies on the lead agency environmental document analysis when acting as a responsible agency issuing an LSA Agreement. Addressing CDFW's comments to appropriately address Project impacts facilitates the issuance of an LSA Agreement and CDFW's associated CEQA compliance as a responsible agency.

The following information will be required for the processing of an LSA Notification and CDFW recommends incorporating this information into any forthcoming CEQA document(s) to avoid subsequent documentation and Project delays:

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1. Mapping and quantification of lakes, streams, and associated fish and wildlife habitat (e.g., riparian habitat, freshwater wetlands, etc.) that will be temporarily and/or permanently impacted by the Project, including impacts from access and staging areas. Please include an estimate of impact to each habitat type.

2. Discussion of specific avoidance, minimization, and mitigation measures to reduce Project impacts to fish and wildlife resources to a less-than-significant level. Please refer to section 15370 of the CEQA Guidelines.

Based on review of Project materials, aerial photography and observation of the site from public roadways, the Project site contains tributaries to lakes and streams within the Natomas Basin. CDFW recommends that the EIR fully identify the Project's potential impacts to lakes, streams, and/or its associated vegetation and wetlands.

**Regional Habitat Conservation Plans**

CEQA Guidelines section 15125(d) states that EIRs must discuss any inconsistencies between projects and applicable plans (including habitat conservation plans/natural community conservation plans). If the Project is contemplating the viability of offsite mitigation, the EIR should include a discussion of each Project alternative's consistency with any approved habitat conservation plan that overlaps with the Project's mitigation area or the Project itself. Such plans would include the Natomas Basin Habitat Conservation Plan (NBHCP), Metro Air Park Habitat Conservation Plan (MAP HCP) , Yolo Habitat Conservation Plan/Natural Community Conservation Plan, South Sacramento Habitat Conservation Plan (SSHCP), and the Placer County Conservation Program.

**Local Habitat Conservation Plans**

The Project area is within the NBHCP and is in close proximity to the MAP HCP. Both the NBHCP and MAP HCP are approaching their twentieth year of implementation, conserving to date more than 4000 acres of land in the Natomas Basin. These conserved lands provide tremendous benefit to wildlife in Sacramento and Sutter Counties, and the larger surrounding region. Additional development is authorized under both plans, conditioned on in-perpetuity conservation obligations, such as land acquisition and commitments to agriculture, not yet completed within the Natomas Basin. Therefore a robust analysis of whether, in what way, and to what extent the Project may affect future implementation and the continued viability of the NBHCP and MAP HCP in the Natomas Basin is essential to the County's informed review of the Project.

CDFW appreciates the Project proponent and the County's previous commitment to prepare a related effects analysis as part of the County's review of the Project. The analysis will provide critical information essential to a meaningful understanding of the Project's regional setting. That, in turn, will also help ensure the EIR's environmental analysis is robust and includes all the potentially significant effects on fish and wildlife that may be caused by the Project.

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Section 15125 of the CEQA guidelines states that special emphasis should be placed on environmental resources that are rare or unique to that region and would be affected by the project, while also discussing any inconsistencies between the proposed project and applicable general plans, specific plans and regional plans. To identify any identify any potential inconsistencies with the Natomas Basin plans and provide special emphasis on rare or unique resources in compliance with CEQA, CDFW recommends that the EIR address, specific to the effects analysis, the following:

- Persistence of NBHCP and MAP HCP Covered Species in the Natomas Basin
- Impacts to established reserve land managed by the Natomas Basin Conservancy (TNBC)
- Reduction of available reserve land in the Natomas Basin under the NBHCP and MAP HCP (with appropriate buffers and setbacks as detailed in the NBHCP)
- Reduction of ability for TNBC to establish or enhance Covered Species range and habitats in the southern Natomas Basin.
- Continued viability of the land uses in the Natomas Basin as detailed in the NBHCP and MAP HCP
- Financial impacts to TNBC and feepayers under the NBHCP and MAP HCP, including the recent action by TNBC Board of Directors and the Sacramento City Council to address related ongoing financial challenges of continuing to implement the required conservation strategy in the Natomas Basin, and
- Cumulative impact of the Project, in combination with other development in the Natomas Basin approved since 2003 that is outside of the City of Sacramento and Sutter County's permitted area under the NBHCP (e.g., levee improvements by the Sacramento Area Flood Control Agency and the Greenbriar project). A visual representation of the mounting pressure on the continued viability of the NBHCP is shown in Figure 1.

CDFW highlights that the County also has vested interest in the success of the MAP HCP. The MAP HCP and the related authorization under CESA serves as a regulatory platform for the Metro Air Park I-5 Interchange, the Amazon fulfilment center, and other large warehouse facilities all of which provide significant economic benefit to the County. The Project's potential effect on the continued success of the MAP HCP is an important consideration for the County as it considers the proposed Project, particularly with County interest in the build-out of Metro Air Park and the MAP HCP's implementation reliance on structure provided by the NBHCP.

**Joint Vision**

The 2002 Joint Vision Memorandum of Understanding (MOU) outlines a vision shared by the County and City for land use and revenue by the two agencies in the Natomas Basin. The MOU, importantly, recognizes the City as the agent of development in the Sacramento portion of the basin and the County as the agent of permanent open space, habitat, and farmland/ranchland preservation. The MOU, in this respect, defines a set of guiding principles for the County and City to jointly implement a number of goals, including proactively guiding future urban growth for more efficient land use, while

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securing permanent preservation of open space at a mitigation ratio of at least one-to-one. The Joint Vision MOU, importantly, also acknowledges and has served to bolster the coordinated effort by the NBHCP and MAP HCP permittees, and TNBC to minimize the effects of other projects on fish and wildlife resources in the basin. The County and City's Joint Vision MOU has been a cornerstone for land use planning in the Natomas Basin for nearly two decades.

The Joint Vision MOU executed by the County and City in 2002 also informed CDFW's approval of the NBHCP and issuance of the related CESA ITPs to the City, Sutter County, and TNBC in July 2003. The County and City's Joint Vision has also been a key benchmark for CDFW as it monitors the nearly two-decade implementation of the NBHCP by the permittees. The Projects marks an apparent departure by the County from the principles detailed in its shared vision with the City. The County's web page reads currently, for example, that the Joint Vision project has been withdrawn and individual landowners are moving forward with their own projects, including this Project and the Grand Park Specific Plan. It should also be noted that the County's web page does not appear to describe the status of the Joint Vision MOU (signed 2002, after a unanimous vote by the County Board of Supervisors). CDFW flags this issue and recommends that the County analyzes this deviation from the 2002 Joint Vision MOU. This is of particular importance because the County and City's Joint Vision has been critical to the integrity of the NBHCP and the successful management and conservation of the unique biological resources in the Natomas Basin.

**Swainson's Hawk**

The Natomas Basin is known for its importance to Swainson's hawk within the Sacramento Valley (NBHCP 2003). Over 100 documented nesting occurrences occur within 10 miles[2] of the Project area (The Natomas Basin Conservancy 2019 Implementation Annual Report). Therefore, high value foraging habitat present in a majority of the Project area could contribute to foraging ability for hundreds of Swainson's hawks in the Natomas Basin, as well as those using surrounding nests in Yolo and east and south Sacramento County, and Swainson's hawk migrating through the Project area (CDFW 2020). This highlights the Natomas Basin's unique contribution in providing valuable nesting and foraging habitat, both of which are essential for the species' life history. As such, a thorough evaluation in the EIR of the Project's impacts to both nesting and foraging habitat as independent factors will be crucial, considering the value of the Natomas Basin for the species. The EIR should cite survey methodology, specifically a full set of protocol surveys using the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Tech. Advis. Comm., 5/2000), empirical data, and discuss how proposed avoidance, minimization, and mitigation measures for the Project are informed

[2] 10 miles is typically understood as the maximum distance to which a Swainson's hawk will forage during the breeding season (SSHCP 2018)

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by that information. Having this information in the EIR facilitates more efficient and detailed review and feedback from CDFW.

Much of the Project area is mapped within the Swainson's Hawk Zone (SHZ), which the NBHCP describes as the area within one mile of the Sacramento River in the Natomas Basin. The SHZ was derived from the high density of Swainson's hawk nests within this area and scientific evidence for the value of the habitat (NBHCP 2003). The NBHCP recognizes the importance of the SHZ to this species and the viability of their plan which resulted in substantial effort from the City of Sacramento and Sutter County to replan development outside of this area. Replanning efforts in the SHZ have been vital to preserve the area's ecological value and the overall goals of the NBHCP, despite the associated economic and political opportunity costs. Although the County is not party to the NBHCP, CDFW recommends the County considers the Project's 1) biological impact in an ecologically valuable area and 2) the effect that Project development in the SHZ will have on the continued implementation and viability of the NBHCP, as well as the MAP HCP.

As such, robust analysis of the Project's potentially significant effects on Swainson's hawk will be a critical part of the development of the EIR. With the Project in the SHZ, there could be several potentially significant effects to the species, both in the project-specific and cumulative context. Creating a feasible mitigation approach should be an early and focal part of the EIR development given the high utilization of the area by the species.

While typical projects often focus on initial surveys, this Project is in a particularly unique area where extensive surveys and biological resource mapping has already been completed. The most recent surveys indicated that 14 Swainson's hawk nests are present within the Project area or within a 0.5-mile radius that Project activities may impact (TNBC 2019, CDFW 2020). Due to the density of known nest sites, CDFW recommends the EIR analyze the individual nesting and foraging behavior patterns associated with each known nest pair and propose avoidance, minimization and mitigation that specifically addresses those patterns, rather than simply acknowledging presence. CDFW also recommends the EIR analyze the Project's regional impacts to the species, both to the overall persistence of Swainson's hawk within the Natomas Basin and indirect impacts to individual Swainson's hawk that may depend on the Project area's foraging habitat. Data from such studies can more effectively inform a mitigation strategy that complies with CESA.

**Other Covered Species**

The Natomas Basin has significant biological resources, including habitat and documented occurrences for 22 Covered Species under the NBHCP and other sensitive species. While CDFW recognizes the need for focus on Swainson's hawk and giant garter snake, further detail on the other Covered Species is needed so that all impacts to fish, wildlife, and plant resources can be adequately assessed. Specific focus on the resources likely to be most impacted, including the 22 Covered Species, and robust analysis of these species can strengthen the Project's mitigation strategy.

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**ENVIRONMENTAL DATA**

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database, which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special-status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB). The CNNDB field survey form can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data. The completed form can be submitted online or mailed electronically to CNDDB at the following email address: CNDDB@wildlife.ca.gov.

**FILING FEES**

The Project, as proposed, would have an effect on fish and wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code § 711.4; Pub. Resources Code, § 21089.)

**CONCLUSION**

Pursuant to Public Resources Code sections 21092 and 21092.2, CDFW requests written notification of proposed actions and pending decisions regarding the Project. Written notifications shall be directed to: California Department of Fish and Wildlife North Central Region, 1701 Nimbus Road, Rancho Cordova, CA 95670.

CDFW personnel are available for consultation regarding biological resources and strategies to minimize impacts.

If you have any questions regarding the comments provided in this letter or wish to schedule a meeting and/or site visit, please contact Dylan Wood, Environmental Scientist, at 916-358-2384 or dylan.a.wood@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Kelley Barker
778EDA8AE45F4C9...

Kelley Barker
Environmental Program Manager

ec: Tanya Sheya, Senior Environmental Scientist (Supervisory)
Dylan Wood, Environmental Scientist
CEQACommentLetters@wildlife.ca.gov
*Department of Fish and Wildlife*

Office of Planning and Research, State Clearinghouse, Sacramento

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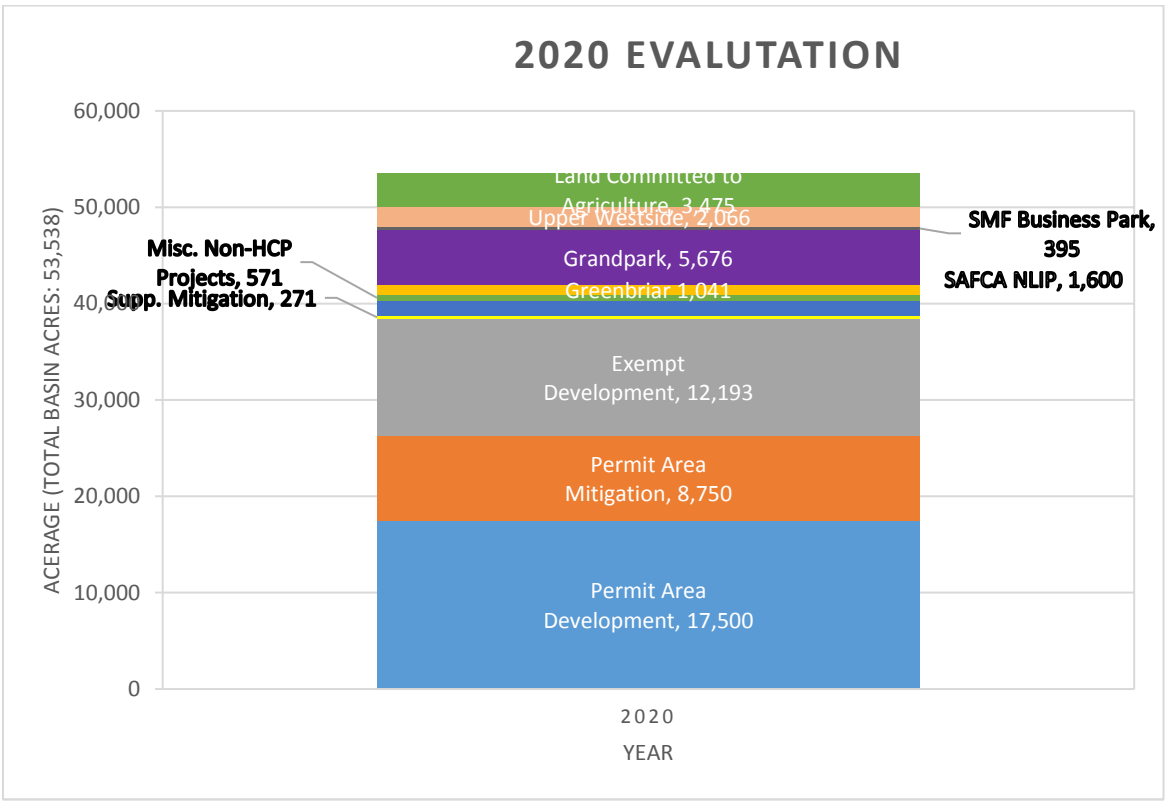
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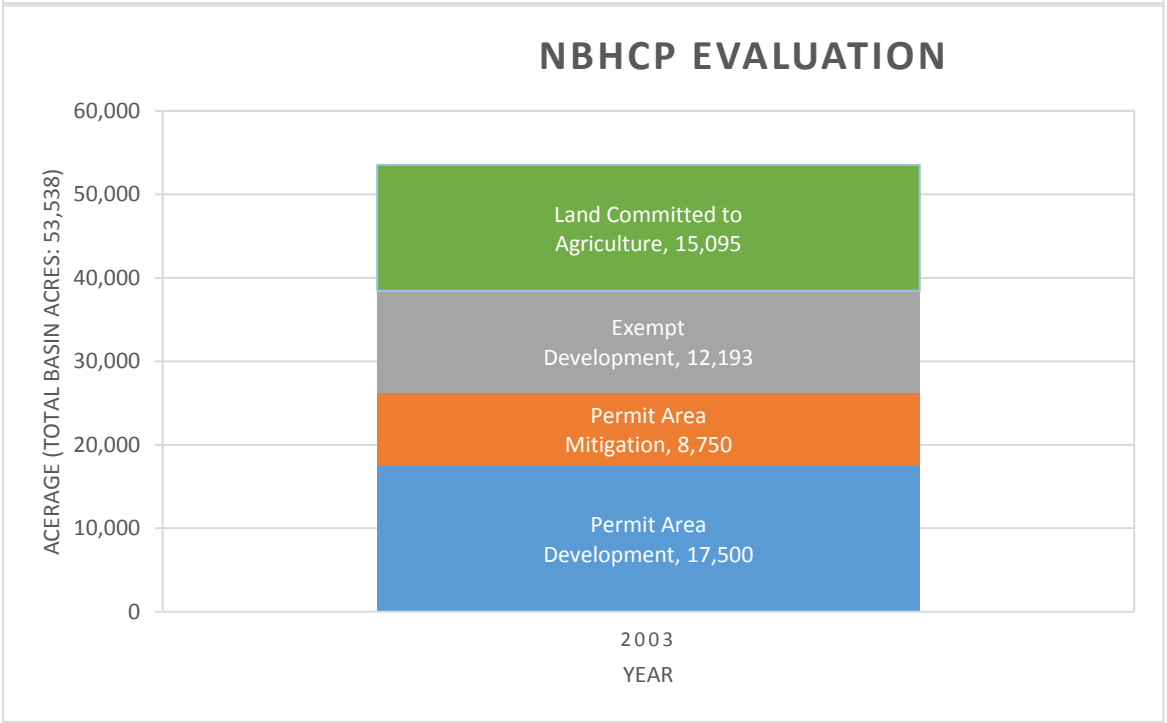
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**Figure 1. Comparison of proposed land uses in the Natomas Basin (2020 & NBHCP signing in 2003)**



November 6. 2020

Paul D Thayer
6645 Garden Hwy
Sacramento CA 95837
thayerpa@aol.com
916 955 3571

Subject: Notice of Preparation for the Upper Westside Specific Plan

To Whom It May Concern;

I request that the Environmental Impact Report for the Upper Westside Specific Plan carefully consider the Agricultural designation for the area along the Garden Highway. Designation as Open Space with agriculture as an allowable use would better protect this area.

Once the development contemplated in the Plan is carried out, the feasibility of agriculture in this area will be questionable. The proximity of residential development will cause conflicts with agricultural activities such as night time operations, applications of pesticides and herbicides and other aspects of agricultural operations The result will be that the land owners will ask for changes to the agricultural designation, most likely in favor of further development. The intent of the Plan and mitigation for loss of agricultural and open space lands, likely to be required by the environmental review, will be frustrated.

Designation as open space with agriculture as a permitted use, would require that the developers of the Plan purchase and record easements to preserve these designations. This would prevent loss of these lands from the intended purpose and would compensate landowners for the loss of future development opportunities. The future feasibility of agriculture would not be relevant because of the open space designation.

Also recommended would be to implement these requirements by recording agreements for permanent land use restrictions. The agreements would be with third party organizations whose purpose is environmental protection or open space protection and management. This further prevents future changes to the protective designations. The Coastal Commission utilizes this method and could provide language for the plan requirement, development conditions, and agreements.

Thank you for your consideration of this request. I would be happy to discuss this further with County staff or the EIR preparers.

Yours truly

Paul D. Thayer

SACRAMENTO METROPOLITAN
AIR QUALITY
MANAGEMENT DISTRICT

November 6, 2020

Sent via Email

Todd Smith, Acting Environmental Coordinator
Office of Planning and Environmental Review
827 7th Street, Room 225, Sacramento, CA 95814
CEQA@saccounty.net

**RE: Notice of Preparation of a Draft Environmental Impact Report for the Upper Westside Specific Plan (PLNP2018-00284)**

Dear Mr. Smith,

Thank you for providing the Sacramento Metropolitan Air Quality Management District (Sac Metro Air District) with an opportunity to review the Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the Upper Westside Specific Plan. The Upper Westside Specific Plan would encompass approximately 2,066 acres in the unincorporated Natomas community of Sacramento County, approximately 3.5 miles from downtown Sacramento. It would be located outside of the County's Urban Policy Area (UPA) and Urban Services Boundary (USB). Please accept the following comments to ensure that air quality and climate change impacts are adequately addressed.

**Guidance on California Environmental Quality Act Analysis and Disclosure**
Please reference Sac Metro Air District's guidance on analyzing and disclosing project impacts under the California Environmental Quality Act (CEQA), The Guide to Air Quality Assessment in Sacramento County (CEQA Guide), in preparing the DEIR. Our specific recommendations follow.

Because this project is a specific plan, we recommend referring to Chapter 9 of our CEQA Guide (Program-Level Analysis of General Plans and Area Plans) to guide air quality and climate change analysis, including both construction and operational criteria pollutant and greenhouse gas (GHG) emissions. For full public disclosure, all emissions projections, including those from vehicle miles traveled (VMT), should be disclosed alongside any model runs.

Chapter 9 of the CEQA Guide underscores the importance of analyzing the proposed land use's consistency with Sacramento Area Council of Governments' (SACOG's) Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS). The motor vehicle emissions budget in the Sac Metro Air District's Sacramento Regional Ozone Attainment Plan is based on the MTP/SCS land use assumptions and travel demand modeling. The MTP/SCS is also an essential component implementing Senate Bill 375 (SB 375, Steinberg, 2008). To demonstrate consistency with the MTP/SCS, the DEIR should analyze the project's consistency the MTP/SCS population and employment projections, jobs-housing match, and associated VMT per capita, in addition to other criteria.

The NOP states that project objectives include satisfying "County policies, regulations, and expectations, as defined in the General Plan, including Policies LU-114, LU-119, and LU-120." These policies are essentially supportive of SB 375 goals. The DEIR should analyze consistency with the General Plan, particularly these policies, and include a discussion of how implementation of these policies affects project air quality and climate change impacts.

**Operational Air Quality Mitigation Plan**
Due to this project's location outside of the UPA and USB, the DEIR should include an Air Quality Mitigation Plan (AQMP) with measures to reduce operational criteria pollutant emissions by 35% or more. We recommend using the Sac Metro Air District's Recommended Guidance for Land Use Emission Reductions when developing the AQMP. Please consult with Sac Metro Air District staff to review the AQMP for technical adequacy prior to inclusion in the final EIR. Please note that many of the measures in this guidance can also be used to achieve GHG emissions reductions.

**Greenhouse Gas Analysis and Mitigation**
Because Sacramento County is still in the process of updating its GHG thresholds, and its Climate Action Plan (CAP) is under development, the DEIR should use Sac Metro Air District's GHG thresholds to analyze its effect on climate change and mitigate GHG emissions. We recommend mitigation measures from CEQA Guide Chapter 6, on GHG emissions and Chapter 9, on Program Level Analysis. Please note that many of the GHG mitigation measures also correspond to the land use and other mitigation measures in the Sac Metro Air District's Recommended Guidance for Land Use Emission Reductions. The DEIR's AQMP measures can be used as mitigation for both criteria pollutant and GHG emissions.

**Climate Change Impacts, Adaptation and Resilience**
The DEIR should include an analysis of the project's impacts on climate adaptation and resilience in the context of the climate impacts that studies show the Sacramento County will likely face in 2040, 2050 and beyond.

As weather patterns change due to climate change, more intense atmospheric river storm events in the winter could deliver high volumes of rainfall within a short time frame, challenging levees and local stormwater systems and creeks, increasing risk of localized flooding in and surrounding the project area.

The DEIR should analyze the project's impacts on the urban heat island effect. The urban heat island effect results from the conversion of undeveloped land to urbanized land. According to the Sac Metro Air District's May 2020 Urban Heat Island Mitigation Project (UHI Project), the heat island effect already presents a serious challenge for our region, with urbanized areas some 3 to 9 degrees Fahrenheit warmer than surrounding areas.

During extreme heat and extended heat waves, these higher temperatures can lead to heat stress, heatstroke, and even heat mortality, especially for the elderly, the young, unhoused populations, and those with preexisting health conditions. Extreme heat also damages transportation infrastructure, for example by damaging the structural integrity of roads and reducing pavement lifespan. Higher ambient temperatures increase the formation of ground

level ozone through the increased use of air conditioners for cooling. Ground level ozone is a respiratory system irritant and a pollutant for which the Sacramento region has still not achieved the federal and state health-based standards.

Converting undeveloped land to urban uses results in a loss of carbon sequestration potential, releasing more greenhouse gases into the atmosphere.

The DEIR should assess the potential of cool roofs, cool pavement, and tree canopy to mitigate the project's impacts on the urban heat island effect.

**Vehicle Miles Traveled Analysis**
According to California's 2017 Climate Change Scoping Plan, the requirements of SB 375 do not provide enough VMT reductions to meet the 2050 GHG reduction targets, so land use and transportation projects that are consistent with SB 375 plans will still need additional GHG reductions to be consistent with state climate change goals.

To adequately assess and mitigate for the project's climate change impacts, the DEIR must provide a VMT analysis consistent with SB 743 (Steinberg, 2013), and apply all necessary mitigation to reduce project VMT. Particularly due to its location outside of the UPA and USB, this project is unlikely to meet the screening thresholds in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR Technical Advisory) that would allow it to bypass a full VMT analysis pursuant to SB 743. The Sac Metro Air District's GHG thresholds reference SB 743's VMT criteria, and Sacramento County has recently adopted its own VMT thresholds for CEQA analysis pursuant to SB 743.

The DEIR should provide a meticulous assessment of VMT impacts resulting from the project's operations, consistent with methods referenced in the OPR Technical Advisory. In particular, the DEIR should analyze the project's effect on jobs-housing match in its vicinity, and how that in turn affects VMT; the project's impacts on transit use, walking and biking, and associated VMT; and public health outcomes.

Locating housing near transit, existing development and job centers can help increase active transportation as people choose to walk, bike, or use transit for commuting, grocery trips, errands, entertainment, and other trips. Active transportation can result in improved health outcomes through decreasing obesity, diabetes, and other chronic illnesses, as well as health benefits associated with improved air quality.

**Friant Ranch**
In December 2018, the California Supreme Court issued a decision in the Sierra Club v. County of Fresno case regarding the "Friant Ranch" project ((2018) 6 Cal. 5th 502). The Court determined that CEQA air quality analyses should include a reasonable effort to connect a project's air quality impacts to likely health consequences or explain in meaningful detail why it may be unreasonable to do so.

The Sac Metro Air District recommends the County analyze the project's criteria pollutant health effects considering the Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District. The guidance and health screening tools can be

obtained on the Sac Metro Air District's CEQA Guidance & Tools webpage in the Friant Guidance section: http://www.airquality.org/Residents/CEQA-Land-Use-Planning/CEQA-Guidance-Tools.

**Conclusion**
All projects are subject to the Sac Metro Air District rules and regulations at the time of construction and are required to implement our Basic Construction Emission Control Practices (BCECP). Please visit our website to find a list of the most common rules that apply at the construction phase of projects, and a copy of our BCECP.

Thank you for your consideration. If you have questions, please contact me at rdubose@airquality.org.

Sincerely,

RDuBose

Rachel DuBose
Air Quality Planner / Analyst

c: Paul Philley, AICP, Sac Metro Air District

## Taylor. Todd

**Subject:** Comment to EIR -- Upper Westside Plan

**From:** Sui Lim <suilim@winfirst.com>
**Sent:** Friday, November 6, 2020 8:37 AM
**To:** PER-CEQA <CEQA@saccounty.net>
**Cc:** 'Sui Lim' <suilim@winfirst.com>; Supervisor Serna <SupervisorSerna@saccounty.net>
**Subject:** Comment to EIR -- Upper Westside Plan

**EXTERNAL EMAIL:** If unknown sender, do not click links/attachments.

Hello,

Submitting comments to the EIR for the Upper Westside Plan.

Requesting the following items to be included in the study:

- Impact and affect to the levee system all along Garden Highway
- Infrastructure of water and sewer and their ability to support the proposed plan
- Infrastructure of roads and freeways/highways and their ability to support the proposed plan
- Impact of traffic/congestion, etc.
- Amount of greenhouse gas emission (California is aiming towards a zero emission in about 20 years)
- Impact to wildlife in the area (cranes, egrets, ducks, geese, hawks, owls, falcons, rabbits, pelicans, river otters, etc.), as they should be left undisturbed

Not sure if the study can include, but estimated costs and how to fund these costs would be a critical element.

Let me know if you have any questions.

Thanks!

Sui Lim
(916) 606-9371

## Taylor. Todd

**Subject:** NOP of the EIR for the Upper Westside Specific Plan

**From:** Stewart, Adam M <adam_stewart@fws.gov>
**Sent:** Friday, November 6, 2020 4:14 PM
**To:** Smith. Todd <smithtodd@saccounty.net>
**Cc:** Cheryle Hodge <CHodge@cityofsacramento.org>; John Roberts (jroberts@natomasbasin.org) <jroberts@natomasbasin.org>; Doug Libby <dglibby@co.sutter.ca.us>; Mankowski, Anne <anne_mankowski@fws.gov>; Turner, Kim S <kim_s_turner@fws.gov>; Tattersall, Eric <eric_tattersall@fws.gov>; Wood, Dylan@Wildlife <Dylan.A.Wood@wildlife.ca.gov>
**Subject:** NOP of the EIR for the Upper Westside Specific Plan

**EXTERNAL EMAIL:** If unknown sender, do not click links/attachments.

Hi, Todd.

Due to our high volume of workload we have not been able to sufficiently review the Notice of Preparation of the Environmental Impact Report (EIR) for the Upper Westside Specific Plan (SCH#2020100069), pursuant to the California Environmental Quality Act (CEQA). At this time we have not met with the project proponents but plan to do so in the future. We can offer the following general comments at this time and will continue to work closely with Sacramento County as the Upper Westside project moves forward.

We concur with the California Department of Fish and Wildlife's (CDFW) November 6, 2020, comments regarding the potential impact of the Upper Westside project on the existing Natomas Basin Habitat Conservation Plan (NBHCP) and the Metro Air Park Habitat Conservation Plan (MAP HCP), captured in the following (indented) text from their correspondence:
CDFW stated that

> "Both the NBHCP and MAP HCP are approaching their twentieth year of implementation, conserving to date more than 4,000 acres of land in the Natomas Basin. These conserved lands provide tremendous benefit to wildlife in Sacramento and Sutter Counties, and the larger surrounding region. Additional development is authorized under both plans, conditioned on in-perpetuity conservation obligations, such as land acquisition and commitments to agriculture, not yet completed within the Natomas Basin. Therefore a robust analysis of whether, in what way, and to what extent the Project may affect future implementation and the continued viability of the NBHCP and MAP HCP in the Natomas Basin is essential to the County's informed review of the Project.
>
> CDFW appreciates the Project proponent and the County's previous commitment to prepare a related effects analysis as part of the County's review of the Project. The analysis will provide critical information essential to a meaningful understanding of the Project's regional setting. That, in turn, will also help ensure the EIR's environmental analysis is robust and includes all the potentially significant effects on fish and wildlife that may be caused by the Project.
>
> Section 15125 of the CEQA guidelines states that special emphasis should be placed on environmental resources that are rare or unique to that region and would be affected by the project, while also discussing any inconsistencies between the proposed project and applicable general plans, specific plans and regional plans. To identify any potential inconsistencies with the Natomas Basin plans and provide

special emphasis on rare or unique resources in compliance with CEQA, CDFW recommends that the EIR address, specific to the effects analysis, the following:

- Persistence of NBHCP and MAP HCP Covered Species in the Natomas Basin
- Impacts to established reserve land managed by the Natomas Basin Conservancy (TNBC)
- Reduction of available reserve land in the Natomas Basin under the NBHCP and MAP HCP (with appropriate buffers and setbacks as detailed in the NBHCP)
- Reduction of ability for TNBC to establish or enhance Covered Species range and habitats in the southern Natomas Basin
- Continued viability of the land uses in the Natomas Basin as detailed in the NBHCP and MAP HCP
- Financial impacts to TNBC and feepayers under the NBHCP and MAP HCP, including the recent action by TNBC Board of Directors and the Sacramento City Council to address related ongoing financial challenges of continuing to implement the required conservation strategy in the Natomas Basin, and
- Cumulative impact of the Project, in combination with other development in the Natomas Basin approved since 2003 that is outside of the City of Sacramento and Sutter County's permitted area under the NBHCP (e.g., levee improvements by the Sacramento Area Flood Control Agency and the Greenbriar project). A visual representation of the mounting pressure on the continued viability of the NBHCP is shown in Figure 1 *(within CDFW's comment letter)*.

CDFW highlights that the County also has vested interest in the success of the MAP HCP. The MAP HCP and the related authorization under CESA served as a regulatory platform for the Metro Air Park I-5 Interchange, the Amazon fulfilment center, and other large warehouse facilities all of which provide significant economic benefit to the County. The Project's potential effect on the continued success of the MAP HCP is an important consideration for the County as it considers the proposed Project, particularly with County interest in the build-out of Metro Air Park and the MAP HCP's implementation reliance on structure provided by the NBHCP."

In addition, the FWS believes that the effects analysis prepared by the project proponent should be reviewed and approved by the FWS and CDFW. During this review process, the FWS will work closely with the project proponent, Sacramento County, CDFW, the NBHCP permittees (Sutter County, the City of Sacramento, and the Natomas Basin Habitat Conservancy), and the MAP HCP permittees (Metro Air Park Property Owners Association) to ensure that the effects analysis provided by the project proponents adequately addresses our concerns regarding the ability of the NBHCP and the MAP HCP to be successfully implemented in the future.

Thank you for the opportunity to comment. If you have any questions, please feel free to contact me.

Adam Stewart
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
2800 Cottage Way, Room W-2605
Sacramento, CA 95825
916-414-6654

"In an effort to slow the spread of the coronavirus (COVID-19), staff in the Sacramento Fish and Wildlife Office have implemented an aggressive telework schedule. At this time, we are responding to requests for information via email or phone as often as possible as we do not have the in-office capacity to support regular mail service. We appreciate your understanding."

Regional Transit

Sacramento Regional Transit District
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November 9, 2020

Todd Smith
Acting Environmental Coordinator
County of Sacramento, Office of Planning and Environmental Review
827 7th Street, Room 225
Sacramento, CA 95814

PROJECT TITLE: Upper Westside Specific Plan
TYPE OF DOCUMENT: Notice of Preparation for Draft Environmental Impact Report

Dear Mr. Smith,

Thank you for the opportunity to review the Notice of Preparation (NOP) for the Draft Environmental Impact Report (DEIR) for the Upper Westside Specific Plan. As described in the NOP, the specific plan area encompasses approximately 2,066 acres in the unincorporated Natomas community of Sacramento County, approximately 3.5 miles from downtown Sacramento.

Sacramento Regional Transit District (SacRT) has been meeting with the County of Sacramento, the Applicant (Upper Westside, LLC), and the Applicant's Planning/Engineering team (Wood Rodgers, Inc.) to discuss the specific plan's development, and have a plan in place so that the community will be efficiently and safely served by transit in a cost-effective matter.

**PROJECT OBJECTIVES:**

3. *Provide a comprehensively planned, high quality, large-scale, residential-based community in northwestern Sacramento County, with a balanced mix of uses, employment opportunities, a wide variety of housing types, park and open space, and supporting public and quasi-public uses.*

SacRT is in support of this objective, and recognizes that the project plans for this community will likely generate transit demand, which SacRT is prepared to consider implementing in a cost-effective manner. SacRT also recognizes the benefit of serving a community with a balance of mixed-uses, new employment opportunities, and new residents.

*8. Provide a safe and efficient circulation system that interconnects land uses and promotes pedestrian and bicycle circulation and transit options that will encourage non-vehicular trips, thereby reducing VMTs.*

SacRT supports this objective to reduce VMT's by planning for a safe and efficient circulation system, with the proper transit infrastructure in order to do so. SacRT also recognizes the importance of promoting safe pedestrian and bicycle circulation so individuals can move within the community safely.

*11. Plans for enough units to provide housing choices in varying densities to respond to a range of market segments, including opportunities for rental units and affordable housing, and significant commercial uses, consistent with the General Plan and Housing Element.*

SacRT similarly recognizes the importance of providing a variety of housing choices in varying densities, as higher density housing is supportive of transit.

Additionally, SacRT agrees that this project is meeting the SACOG Blueprint, with the inclusion of each of the seven identified SACOG Blueprint principles.

**EIR FOCUS:**

*Transportation –*

SacRT is prepared to review the Transportation Analysis, and will continue to work with County staff and the other project proponents to assist with any data requests. SacRT is eager to collaborate with the County and others who are developing the EIR in order to provide accurate, transit-related information, and details about existing and planned service and infrastructure.

**Proposed Land Use Diagram Exhibit & Preliminary Land Use Plan Exhibit:**
SacRT is concerned about the K-8 school, located on the west side of the project area. SacRT has considered a potential fixed-route design to serve this community once developed; however, the location of this K-8 school is far from SacRT's theoretical bus route. SacRT would like to request the school be moved closer to West El Camino, in order to shorten the walking distance between future bus stops and the school. SacRT has received repeated complaints from parents concerning long walking distances from bus stops to schools, and they often request for bus routes to be closer to the school. SacRT understands that the County and proponents have been working with the Natomas Unified School District regarding the placement of schools in this plan; however, SacRT would like some additional consideration to this request.

**Proposed Transportation Plan Exhibit**
SacRT is in agreement with the Upper Westside Proposed Transportation Plan Amendment, as it is provides an additional thoroughfare, and other additional arterial

and collector streets, which would be necessary in order to provide efficient fixed-route service.

Thank you for the opportunity to comment. Please send any subsequent documents and notices that pertain to this project as they become available. If you have further questions regarding these requests, please contact me at 916.556.0518 or spoe@sacrt.com.

Sincerely,

Sarah Poe
Planner

c: James Drake, Principal Planner
James Boyle, Planning Director

City of SACRAMENTO
Community Development

November 20, 2020

Todd Smith, Acting Environmental Coordinator
Office of Planning and Environmental Review
827 7th Street, Room 225
Sacramento, CA 95814

Subject: **COMMENTS ON THE NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR UPPER WESTSIDE SPECIFIC PLAN (PLNP2018-00284).**

Dear Mr. Smith,

On October 5, 2020, the City of Sacramento Community Development Department received the Revised Notice of Preparation (NOP) for the Upper Westside Plan (UWSP). The proposed UWSP would include development of approximately 1,532± acres within a 2,066 acres project area located north and west of Interstate 80 and north Specific and east of Garden Highway. The proposal includes the addition of 9,356 dwelling units (58,671 population) and 3,096,245± square feet of commercial uses into the unincorporated Natomas area immediately adjacent to the City's North Natomas Community Plan Area. The project plan includes development consisting of residential, neighborhood mixed-use, neighborhood commercial, community mixed-use, office mixed-use and health & hospitality mixed-use. The plan includes three K-8 school sites, one high school site, several parks, and a 10.0± acre urban farm site on property owned by the Los Rios Community College District that is envisioned to be part of a 16.0± vocational training campus.

The City of Sacramento has previously provided initial comments regarding the proposed development in the project area and has been in contact with County staff since the application was initiated with the County on February 26, 2019. The City's comments below are preliminary in nature and respond specifically to the information presented and scope of analysis proposed. The Planning Division of the Community Development Department presents the comments below as single letter representing multiple City departments.

300 Richards Blvd., 3rd Floor
Sacramento, CA 95811

Help Line: 916-264-5011
CityofSacramento.org/cdd

City of SACRAMENTO
Community Development

**Memorandum of Understanding between City & County**

On December 10, 2002, the City & County entered into a Memorandum of Understanding (MOU) (City Resolution 2002-830 and County Resolution 2002-1566) regarding Principles of Land Use and Revenue Sharing for the Natomas Area. The MOU specifically calls for any future urbanization efforts in the Natomas Joint Vision Area (NJVA) to be processed through the City, with the County remaining a steward of agricultural lands and open spaces.

The City is proposing that the NJVA be identified as an Area of Concern as part of the City's update to the General Plan currently in process. The designation formally represents the City's interest for development in the area and would be an initial step towards a possible Sphere of Influence (SOI) amendment. While no formal application for an SOI amendment has been filed with the Local Agency Formation Commission (LAFCo) by the City, it is the City's intent to fully adhere to the MOU and carry forth the vision found within its mutually affirmed policies.

**Economic**

Locating retail, hospitality, and other commercial uses adjacent to the City boundary may cause secondary physical and economic impacts within the City. In reviewing the plan, it seems nearly all of proposed retail is concentrated on either side of a westerly extension of El Camino west of I-80, and thus be largely regional in nature with freeway access and not neighborhood serving. The 2002 City/County MOU recognized that the City and County have mutual economic interests in the future of NJVA and a revenue sharing framework was outlined as a component of the MOU. As the MOU pointed out, cities and counties are dependent upon tax revenues generated by continued commercial and industrial growth. The tax system creates intense competition between jurisdictions and can lead to economic development at the expense of good land use planning. The City requests that the County address these issues now while the EIR is being prepared especially in light of the entitlements that are being sought by project proponents.

300 Richards Blvd., 3rd Floor
Sacramento, CA 95811

Help Line: 916-264-5011
CityofSacramento.org/cdd

City of SACRAMENTO
Community Development

**Growth Inducement**

CEQA recognizes that the extension of urban infrastructure to a site or area may lead to future development in nearby areas that, as a result of the infrastructure extension, may now feasibly extend and connect, thus leading to additional new development. The proposed UWSP project would remove barriers to development and bring development to an area that has not been included in the long-range plans approved by the County or the City. The project is not anticipated in the Region's Sustainable Communities Strategy. In addition to analyzing the effects of the project itself, the EIR should carefully evaluate these growth inducing effects. For example, the project would require at least the extension of urban utilities to the site, which lacks sufficient water, wastewater, storm water and energy infrastructure to support the proposed development. CEQA recognizes that the extension of urban infrastructure to a site or area may lead to future development in nearby areas that, as a result of the infrastructure extension, may now feasibly extend and connect, thus leading to additional new development. This should be analyzed in the EIR.

**Habitat Conservation Plan**

While the County is not a party to the Natomas Basin Habitat Conservation Plan (NBHCP), activities that could affect the success of the conservation strategy established in the NBHCP should be considered in the EIR. In the Natomas Basin, any future development not covered by an existing Habitat Conservation Plan (HCP) must obtain take authorization under the Endangered Species Act (ESA). The NBHCP along with the Metro Airpark HCP require that a total of 8,750 acres of mitigation be located within Natomas Basin and the mitigation must adhere to specific requirements of the HCP. How will the County ensure that the required mitigation acreage of 8,750 aces will in fact be able to occur within the Natomas Basin if the County allows both Upper Westside and the Grandpark projects to develop in the future? The HCP provides a conservation strategy for the protection of 22 covered species. The implementation of the NBHCP has been underway for over 20 years. While the County is considering significant land use development proposals, how will the County ensure that the requirements of the NBHCP (and Metro Air Park HCP) including the respective conservation strategies will be met by the HCP parties? The City of Sacramento requests that the EIR include an analysis of:

a. Location and quality of proposed mitigation sites (including those within the Natomas Basin), including an analysis of the effect of market competition and price increases resulting from the UWSP project and its effect on the HCP conservation strategy;

b. Hydrological connectivity to existing preserves in the Basin;

c. Effects of a reduction in the inventory (supply) of land available for mitigation, while also increasing the demand for mitigation land, driving up the price of mitigation for the existing permit holders;

d. Appropriate mitigation ratio assuming development of the plan, which would appear to substantially change the assumptions that supported a 0.5:1 ratio for the Metro Air Park HCP and the NBHCP, and a 1:1 ratio for Greenbriar;

e. The Natomas Joint Vision Area is approximately 18,424 acres in size. This unincorporated area is located within Sacramento County and makes up a portion of the Natomas Basin. The County approved-Metro Air Park area and Sacramento County Airport-owned lands together represent approximately 7,983 acres. With the two pending development proposals under consideration by the County, a total of 15,766 acres of the 18,424 NJVA would be allocated for urban development if the County were to approve the proposed development. Both the EIR's for UWSP and Grandpark need to address how and where HCP parties with authorized development are to find land for mitigation.

**Agricultural, Prime Farmland and Open Space**

The Sacramento County General Plan land use designation for a majority of the project area is Agricultural Cropland. This designation represents agricultural lands most suitable for intensive agricultural activities, including row crops, tree crops, irrigated grains, and dairies. One single-family dwelling unit per 40 acres is also considered suitable in this designation.

The UWSP includes preservation of 636.2± acres as Agricultural Cropland, Agricultural Residential, and Open Space. Continued planning and coordination regarding preservation of these uses within the UWSP area will be crucial during the environmental review and overall master planning processes. The Natomas Basin HCP requires that 50% of habitat mitigation lands remain in rice cultivation for the Giant Garter Snake. As such, the HCP requires that 4,375 acres remain in rice cultivation in perpetuity in the Natomas Basin. Continued agricultural uses, farmland and open space are a critical component to the success of the HCP's conservation strategy. The EIR should include an analysis that not only addresses impacts to agricultural lands but also how this potential loss impacts the ability for the NBHCP requirements to be met by the City of Sacramento, Sutter County and the other parties.

**Transportation**

Initial comments from the City's Public Works Department were transmitted via email on April 17, 2020 (attached) with regards to scope of improvements and coordination with the City. Staff recognizes the ongoing technical coordination with County staff and consultants and wishes to continue technical assistance throughout the analysis and formal review of the UWSP.

The City continues to be concerned about the proposed approach in the EIR where the project's fair share funding would be identified to widen impacted roadways within City limits and the assumption it would be the City's responsibility and a City project to implement those roadway widenings. How substantial roadway widening projects would be implemented is unclear as the City should not be assumed to have any matching funds. Also, generally speaking, the City's current focus is on reducing the number of lanes on City roadways to align with Climate Change goals and provide bike lanes/buffered bike lanes. The City has reduced the number of vehicular travel lanes in several recent Complete Street projects within City Limits including Freeport Boulevard, Franklin Boulevard, Riverside Boulevard, and numerous lettered and numbered street in the Central Business District.

The City is also concerned about how the UWSP and Grandpark would redistribute growth away from the City. Where would this growth be coming from? Does this growth create a better and more efficient VMT outcome for the City and the Region? We request that the EIR model scenarios to see how the projects may impact the City of Sacramento's VMT relative to the regional average.

City of SACRAMENTO
Community Development

**Sewer System**

The City of Sacramento believes the impacts from additional sewer flows to the Sacramento Regional County Sewer Interceptor should be analyzed to ensure there is adequate sewer capacity in the interceptor to accommodate the build-out of the existing Natomas area and the Natomas Joint Vision area (including this plan and other proposed master development plans).

**Drainage - Long term maintenance & funding**

The EIR should review long term maintenance mechanisms and associated funding that are established for the drainage facilities including flood control basins, water quality treatment, hydro-modification basins, and low impact development measures.

**Flood Control and Flood Plain Management**

How will flood control and flood plain management be addressed on- and off-site? Remaining levee improvements & phased development should be identified. This development may put people and infrastructure at risk of flooding. Will the County have any milestones for allowing development as the remaining levee work (by the Corps) is completed in Natomas Basin? The EIR should include an analysis of flood protection, resources that would be needed in response to a major flood, and any potential impacts to the Natomas Basin Plan or the City's flood fight plan resources.

**Storm Drainage**

What is the plan for storm drainage on and off-site? There is no capacity in the current Natomas Drainage System for storm drainage from this or other developments.

**Water Supply**

The Project area is currently served by the Natomas Central Mutual Water Company (NCMWC) with agricultural water drawn from the Sacramento River from existing pump stations located outside the 2,066± acre Project area to the northwest. Additionally, the Project area is located within the City of Sacramento's American River

Place of Use. The NOP identified the following three alternatives to provide needed domestic water to serve the proposed UWSP area:

1. *Alternative No. 1 – NCMWC via City of Sacramento. NCMWC has water rights that could be utilized if converted from agricultural use to municipal and industrial use. NCMWC water would be conveyed via the Sacramento River to the City's intake system at the Matsui Waterfront Park or other location for treatment. Treated water would then be conveyed via existing City infrastructure to the Project.*

2. *Alternative No. 2 – NCMWC with Onsite Treatment. Similar to Alternative No. 1, NCMWC water rights would be converted. NCMWC water would be conveyed via existing and proposed facilities to the Project area for treatment. This alternative would require a new domestic water treatment plant.*

3. *Alternative No. 3 – Utilize Place of Use Water. Utilize excess water rights held by the City of Sacramento. Delivery of City treated water to the Project would be by existing City infrastructure. The anticipated Project water use is approximately 3% of the City's unused available water supply.*

The EIR should include an analysis that addresses what the delivery system will be engineered for: size of mains, distribution, volume, and future capacity. How will the system be pressurized and what will be the storage capacity and type in ground, above ground or combination. How will the water supply be protected? What reassurances does the City have the delivery system will not contaminate the City's existing water supply

The UWSP would need a retailer to deliver the treated water. The NOP noted several options that include City of Sacramento, Sacramento County Water Agency or the creation of an independent water district or annexing to an existing water district. It is clear from the NOP that water supply, treatment and delivery is highly dependent on the City of Sacramento.

The only option that does not heavily rely on the City is another entity obtaining new domestic water rights, construction of an on-site treatment plant and all the conveying the water via new infrastructure that does not tie into the City system. According to Senate Bill 610, a water supply assessment is required for proposed

residential developments with more than 500 units. In addition, SB 221 requires written verification of sufficient water supply before a project is approved.

**Fire Protection**

The City of Sacramento currently provides emergency medical care, fire prevention inspections, rescue, and fire protection services to the Natomas Fire Protection District (NFPD) under contract with the County Board of Supervisors (acting as the governing body for the dependent special district). The City of Sacramento and the Natomas Fire Protection District initially entered into an agreement in August 1984 (City Agreement 84-037) for the City to provide fire protection services within the District. The contractual arrangement has been mutually beneficial and has proven to be an efficient and effective way to provide fire protection and emergency medical services within the District. At present, the land uses within the Natomas Fire Protection District are predominantly agricultural.

Some residential development has occurred along the Garden Highway, as well as agricultural uses with related single-family residential land uses. Non-residential developments within the District include the Sacramento International Airport, Metro Air Park, Northgate I-80 Business Park (aka: The Pan), and Camino Norte an area on the east side of El Centro Road. New development in the Natomas Joint Vision Area will result in an increase in service demand for Fire and Emergency Medical Services (EMS). How will the project proponent mitigate the service demand impacts and the City's ability to maintain current levels of service? The 2002 MOU identified the City as the appropriate entity for planning new growth in the NJVA and can better provide a full range of municipal services. The City has been providing municipal services for over 100 years and is already providing fire protection services to the NJVA area. The EIR should include an analysis that address fire protection services and facilities.

**Law Enforcement**

Police protection services in the City of Sacramento are provided by the City of Sacramento Police Department (SPD). Additionally, the CHP responds to all incidents on the state highways, state-owned buildings, and state property within the City. Given the geographical location which is adjacent to the City but isolated from the County unincorporated developed areas receiving services, the SPD has concerns regarding the impacts to City law enforcement. The EIR should provide

an evaluation of how and when services and facilities will be provided so that impacts to the City of Sacramento will not occur.

**Parks & Recreation**

1. Consistency with the City of Sacramento's level of service for the adjacent planning areas, at 3.5 acres of neighborhood/community parks per 1,000, and 8 acres of regional park acres per 1,000.
2. Will detention basins to be considered for joint use as a park(s)?
3. Parks located in areas around residential land uses that would be within a 10-minute walkshed should have limited barriers to access.
4. The parks that are located on the western boundary should be located close to the agricultural properties with trail connections to the open space, greenbelt.
5. Project design should incorporate connections to the existing off-street trails and pedestrian/bicycles paths that connect to the North and South Natomas parks and parkways.
6. A community center and library should be provided for in this new plan area. Until library and recreational facilities are constructed and operational in the project area, what service impacts will be borne by the City and how will these services be funded?
7. The proposed Urban Farms should operate as a private facility.

**Schools**

The NOP identifies three K through 8 school sites, one high school site, and one community college/vocational school in the Plan Area within specifically designated areas. The Natomas Unified School District (NUSD) boundaries include the UWSP area in addition to the City of Sacramento (Natomas Communities). What schools would serve the residents that may be located outside of the UWSP development plan area including those that may serve the area while the schools are built?

City of SACRAMENTO
Community Development

Thank you for the opportunity to comment and we ask that the NOP comments be included in the EIR, and corresponding responses in the analysis. If you have follow-up questions or seek clarifications on any of the above issues, please contact me at chodge@cityofsacramento.org or 916-808-5971.

Sincerely,

Cheryle L. Hodge

Cheryle L. Hodge
New Growth Manager, Community Development Department

Cc: Howard Chan, City Manager
Michael Jasso, Assistant City Manager
Hector Barron, Assistant City Manager
Tom Pace, Director, Community Development Department
Greg Sandlund, Acting Planning Director
Ryan Moore, Director, Dept. of Public Works
Bill Busath, Director, Dept. of Utilities
Melissa Anguiano, Economic Development Manager
Gary Loesch, Fire Chief

**From:** Cheryle Hodge
**Sent:** Friday, April 17, 2020 11:45:19 AM
**To:** Taylor. Todd <taylorto@saccounty.net>
**Subject:** Upper Westside

Todd,

Per my previous email, I indicated that we will need more time to provide comprehensive comments as our General Plan Update evaluation progresses. However, I do want to pass along the very preliminary feedback that I received from Dept. of Public Works staff:

*The implementation of the Upper Westside Development Project (Project) will significantly change the traffic patterns on West El Camino Avenue. The daily traffic volumes will more than double on West El Camino Avenue between I-80 WB Ramps and I-80 EB Ramps per the information provided in "Upper Westside – Traffic Conceptual Feasibility Analysis" (Wood Rodgers, March 6, 2020). West El Camino roadway and the interchange with I-80 will operate unacceptably.*

*Sacramento County must coordinate with Caltrans and City of Sacramento to design and build appropriate improvements to the offsite facilities. For I-80 and West El Camino interchange a new Project Study Report (PSR) should be prepared as soon as the Project EIR Transportation section is completed, and future traffic volumes confirmed. Based on the preliminary forecasts provided in "Upper Westside – Traffic Conceptual Feasibility Analysis", a 6+ lane overpass will be necessary to accommodate the Project generated traffic volumes.*

*City of Sacramento neighborhoods and planned development consistent with the City of Sacramento 2035 General Plan zoning were never anticipated to generate the traffic volumes of such magnitude east of I-80 and West El Camino interchange. City has always anticipated this interchange to be a 4-lane facility.*

Let me know if you have any questions. Hope you have a great weekend.

Cheryle Hodge, LEED Green Associate
Principal Planner/New Growth Manager
300 Richards Blvd. 3rd Floor
Sacramento, CA 95811
(916) 808-5971

City of SACRAMENTO
Community Development

*E-mail correspondence with the City of Sacramento (and attachments, if any) may be subject to the California Public Records Act, and as such may therefore be subject to public disclosure unless otherwise exempt under the Act.*

# DEPARTMENT OF AIRPORTS

*Inter-Department Correspondence*

December 15, 2020

TO: Todd Smith
Acting Environmental Coordinator
Office of Planning and Environmental Review

FROM: Orlando Olivas
Assistant Airport Planner, Planning and Environment (916.874.0767)
Department of Airports

SUBJECT: Control No: PLNP2018-00284
Assessor's Parcel No: 274-0260-001, 005, 006, 007, 008, 009, 013, 014, 015, 024, 030, 032, 034, 036, 037, 038, 039, 042, 043, 044, 045, 046; 274-0220-053, 054, 058, 059; 274-0250-002, 003, 004, 005, 006, 008, 009, 010, 011, 012, 013, 014, 015, 016, 021, 024, 034, 035, 039, 040, 041, 042, 043; 274-0690-003, 004; 225-0210-001, 002, 003, 004, 005, 006, 007, 008, 009, 010, 016, 017, 018, 020, 021, 022, 023, 024, 025, 026, 027, 028, 029, 037, 039, 040, 041; 225-0110-019, 020, 024, 025, 026, 027, 028, 032, 033, 036, 037, 038, 052, 053, 054; 225-0190-008, 011, 014, 015, 019, 020, 021, 022; 274-0010-043, 049, 050, 055, 056, 057, 069, 071, 079, 081; 225-0122-001, 002; 225-1020-003, 004, 005, 008, 009, 010, 011, 012; 225-0220-020, 021, 035, 039, 048, 051, 054, 055, 056, 057, 060, 061, 062, 075, 076, 077, 078, 079, 103, 113, 115, 116; 225-0121-001, 002, 003, 004, 005; 225-0131-001, 002, 003, 004, 005, 006, 007, 008, 009; 225-0132-002, 003, 004, 005, and 008.
Project Name: Upper Westside Specific Plan
Project Description: The project proposes a new Specific Plan on approximately 2,083 acres in the unincorporated Natomas community. Necessary entitlements include multiple General Plan Amendments, including moving the UPA and USB.

Thank you for the opportunity to review and comment on this project. Sacramento County Board of Supervisor's resolution 2006-1379, adopted April 19, 2006, established the Sacramento International Airport, Airport Planning Policy Area (APPA) and associated land use conditions that were subsequently incorporated as Policies NO-3 and NO-4 in the Sacramento County 2030 General Plan Land Use Element, adopted in 2011. Those conditions read:

NO-3. New residential development within the 60 CNEL noise contours adopted by the County for planning purposes at any airport or Helipad within Sacramento County shall be prohibited. This policy is not applicable to Executive Airport.

NO-4. New residential development within adopted Airport Policy Area boundaries, but outside the 60 CNEL, shall be subject to the following conditions:

A. Provide minimum noise insulation to 45 dB CNEL within new residential dwellings, including detached single family dwellings, with windows closed in any habitable room.

B. Notification in the Public Report prepared by the California Department of Real Estate disclosing the fact to prospective buyers that the parcel is located within an Airport Policy Area.

C. An Avigation Easement prepared by the Sacramento County Counsel's Office granted to the County of Sacramento, recorded with the Sacramento County Recorder, and filed with Department of Airports. Such Avigation Easement shall acknowledge the property location within an Airport Planning Policy Area and shall grant the right of flight and unobstructed passage of all aircraft into and out of the subject Airport.

*Exceptions: New residential accessory dwellings on parcels zoned Agricultural, Agricultural-Residential, Interim Agricultural, Interim General Agricultural, or Interim Limited Agricultural and between the 60 and 65 CNEL contours, shall be permitted within adopted Airport Policy Area boundaries, but would be subject to the conditions listed above.*

The proposed Project's existing land use is zoned as Agricultural Cropland, Agricultural-Residential, Commercial and Office, and Recreation. The proposed Project lies within the Sacramento International Airport, Airport Planning Policy Area. Since the applicant seeks to develop multi-family dwelling units on these parcels, policy NO-4 applies for residential land use.

Department of Airports staff is available to assist with the preparation and submission of the easement required by the condition. The applicant is requested to contact Assistant Airport Planner, Orlando Olivas via e-mail at olivaso@saccounty.net for more information.

Thank you again for the opportunity to review and comment on this planned project.

Sincerely,

J. Glen Rickelton

J. Glen Rickelton
Airport Manager, Planning and Environment
Department of Airports

SACRAMENTO LOCAL AGENCY FORMATION COMMISSION
1112 I Street, Suite 100 •Sacramento, CA 95814• (916) 874-6458• Fax (916) 874-2939
www.saclafco.org

June 25, 2021

TO: Mr. Todd Smith, Environmental Coordinator
Department of Community Development Planning & Environmental Review Division
827 7th Street, Room 220, Sacramento, CA 95814

SUBJECT: Notice of Preparation for the Upper Westside Specific Plan
(PLNP2018-00284)

Thank you for providing the Sacramento Local Agency Formation Commission (LAFCo) this opportunity to review and comment regarding the Notice of Preparation (NOP) for the Upper Westside Specific Plan Environmental Impact Report (Upper Westside EIR.) Kindly accept these somewhat tardy comments, in the cooperative intent with which they are provided.

As described in the NOP, implementation of the proposal may result in a land–use project consisting of a 1,532± acre Development Area and a 534± acre Agricultural Buffer Area, proposed to be located west of the Development Area, providing a transition area towards the Garden Highway/Sacramento River corridor. Within the Development Area, the applicant has proposed an urban, commercial mixed-use district near the intersection of El Centro Road and West El Camino Avenue, surrounded by residential neighborhoods. The Development Area proposes 9,356± dwelling units and 3,096,245± square feet of commercial uses, with three K-8 school sites, one high school site, and several parks.

To permit the proposed Upper Westside project, a number of discretionary entitlements would be necessary from the County of Sacramento, or potential other land use authority. Also, LAFCo proceedings may be necessary to be considered by Sacramento LAFCo, including various Sphere of Influence Amendments (SOIA), annexations or detachments to existing service providers and/or the potential creation of additional public service providers. Please note that much of the project site is presently unserved, and is not located within the Spheres of Influence of existing service providers, including the City of Sacramento, Sacramento Regional County Sanitation District (Regional San), the Sacramento Area Sewer District (SASD), and various County Service Areas. The current Sphere of Influence boundaries for existing municipal service providers are largely conterminous with the Sacramento County General Plan Urban Services Boundary (USB). As the proposed project contemplates amending the various service boundaries to include the project area, it will be necessary to first amend any affected agencies' Sphere of Influence as well. (Note: Sacramento LAFCo local Policies, Procedures and Guidelines establish that a Sphere of Influence will not generally be amended concurrently with an action of an (annexation) application, [IV.A.1.])

The potential for amending affected agency Spheres of Influence raises some potential process issues with LAFCo statute and the Commission's adopted Policies:

LAFCo's adopted policy is that LAFCo is the appropriate CEQA lead agency for the evaluation of Sphere amendments. In cases where the Sphere amendment(s) is/are part(s) of a larger project, such as the Upper Westside Specific Plan, LAFCo may consider entering into a Memorandum of Understanding (MOU) to establish LAFCo as a co-lead agency in concert with the land use agency. We respectfully request that the County consider such an approach, subject to the discretion of the Commission, for this project. It is also respectfully requested that favorable consideration be given to preparation of an

Executive Summary specific to those concerns presented by LAFCo, in order to inform potential future Commission proceedings.

We appreciate that the NOP appears to reference many of the statutory responsibilities and concerns of Sacramento LAFCo. Following is a discussion of project description, EIR analysis and environmental issue areas of concern to the Commission. It may be that construction and implementation of the project will have no adverse effect for one or more of these environmental issues. If so, we request that the environmental documentation clearly state that such resource is not present in the project area and that no impact would result.

## PROJECT DESCRIPTION

The project description needs to explicitly include all required LAFCo actions and entitlements, including formation of new services providers such as a County Service Area (CSA) or Community Services District (CSD), and/or Sphere amendments and annexation of the project site to various existing service providers and any potential for detachments from any special districts now providing services to the project area. The project description needs to include a discussion regarding the role and sequence of LAFCo in the decision-making process; and LAFCo's role as both lead agency (for any proposed SOIA), and a responsible agency for any related reorganization proceedings, as an approving agency.

## ENVIRONMENTAL ISSUES

The EIR should address the following issues of statutory concern to LAFCo in order to permit LAFCo to use the environmental documentation during potential proceedings involving the Commission's consideration of the proposed project.

### *Public Services*

The evaluation of public services should meet LAFCo requirements. To meet this standard, the evaluation should focus on the following issues, including whether any physical facilities would need to be constructed to serve the project, including those outside of the project site, whose construction potentially could have environmental effects. If so, the secondary effects of constructing and operating such facilities should be evaluated. These would include the offsite water and wastewater lines identified in the Notice of Preparation. Secondly, the evaluation should assess whether service providers have (1) the service capability and capacity to serve the project area, and (2) whether they can provide services to the project area without adversely affecting existing service levels elsewhere in their service areas.

The analysis may benefit from consideration of the required service provider Municipal Service Review (MSR) for any proposed SOIA; or Plan for Services (PFS) for any Reorganization, regarding the means and capacity, financing and timely provision of services with no adverse impact to existing ratepayers, for fire/life-safety services, Municipal and Industrial (M&I) sustainable water supplies/treatment/distribution and wastewater collection and treatment, as well as other public services and utilities.

The evaluation should assess whether new service providers would perform any services that are now being provided by another service provider in the project area, and whether substitution of the new

provider for the existing provider would have any adverse effects on the existing provider's ability to maintain services elsewhere in its service area.

## *Natural Resources - Agricultural Lands*

The evaluation of agricultural resources should provide information to allow LAFCo to make findings with respect to LAFCo policies and standards. To permit LAFCo to complete this evaluation, the analysis should include a discussion of any current agricultural uses and activities within and adjacent to the project area, including the presence of any lands protected by Williamson Act contracts or within a Farmland Security Zone. The evaluation should also discuss the characteristics of soils found within the area (NRCS land use capability classification and storie index rating [from soil survey], and Farmland Mapping and Monitoring Program classification [from Department of Conservation Important Farmlands Map]) to determine the presence or absence of "prime agricultural land" as defined by Government Code §56064. Areas of prime agricultural land should be displayed on a map. In addition to soils information, if agricultural uses are present, for each use or operation the EIR should determine if the use supports, at a minimum, one Animal Unit (AU)/acre or has returned, or would return if planted with fruit or nut bearing trees, an agricultural value of at least $400/acre for 3 of the last 5 years. Describe the location and determine the acreage of such areas. (See GC §56064) If there are lands protected by Williamson Act contracts or within a Farmland Security Zone, determine the status, location, and acreage of such lands (renewal, non-renewal), and if non-renewal, the expiration date of the contract(s). If the project would result in the loss of prime agricultural land or protected agricultural lands, evaluate the trend of agricultural land loss countywide and in adjacent areas of Yolo County, and what portion of the overall inventory and loss that this project represents. The EIR should propose mitigation to reduce any potential impacts to important agricultural resources to a less-than-significant level.

LAFCo is required to make findings regarding five tests of "prime agricultural land" as defined by GC §56064. The EIR needs to provide information regarding such lands to permit LAFCo to make these findings as an approving agency.

The EIR should assess the interface between planned urban uses and existing and ongoing agricultural uses. Specifically, the analysis should determine the types of crops typically grown in interface areas and the types of pesticides/biocides and other chemicals used on identified crops. For each identified chemical, the EIR should determine any setback required by the State and the Sacramento County Agricultural Commissioner between the application site and sensitive uses such as residences and schools. Any low sensitivity land use buffers necessary to permit continued farming operations should be identified.

## *Natural Resources - Open Space*

The analysis should include an evaluation of any open space resources as defined by GC §65560 that are located within or adjacent to the project area. Such resources should be depicted on a map. If the project would result in the loss of open space resources, the EIR needs to evaluate the trend of open space loss countywide, and what portion of the overall inventory and loss that this project represents. The EIR should propose mitigation to reduce any potential impacts to open space resources to a less-than-significant level.

### *Population, Employment and Housing*

The analysis of these issues should be added to the scope of the EIR. The evaluation should discuss the presence and potential loss of affordable housing within the project area and, if there would be any loss, what affect the loss would have on a countywide basis. LAFCo is required to ensure that there be no net loss of targeted housing resources on a countywide basis. While such resources are may not be located within the Specific Plan study area, the EIR sections discussing Population and Housing should explicitly state this fact and determine that there would be no impact. If targeted housing resources are located, or planned for the Specific Plan area, the EIR should evaluate whether the project would maintain such resources or continue to allow their potential development. If not, the EIR should explain how this loss of affordable housing would affect the County's provision of targeted housing types, and propose mitigation to ensure that the County meets its state allocation for affordable housing.

### *Environmental Justice*

State law requires LAFCo to consider the extent to which the project will promote environmental justice. "Environmental justice" means the fair treatment of people of all races, cultures, and incomes with respect to the location of public facilities and the provision of public services. The EIR should provide sufficient evidence to permit LAFCo to make a determination regarding this issue.

## OTHER ENVIRONMENTAL ISSUES

The EIR should address the following issues of concern to LAFCo to permit the Commission to use the environmental documentation in LAFCo's consideration of the proposed project:

***Air Quality – Air Pollutant Attainment Plans*** – The air quality analysis should evaluate whether the proposed project is consistent with the land use assumptions used in adopted regional air pollutant attainment and maintenance plans. If the project is inconsistent with adopted plans, mitigation should be identified to both reduce air emissions and amend attainment and maintenance plans to include the project.

***Biological Resources/Habitat Preservation*** – *Existing Natomas Area Habitat Conservation Plans* – The assessment of biological resources should evaluate the cumulative effects of the proposed project, together with all other constructed and approved projects within the Natomas Basin. Additionally, the biological resource evaluation should include an evaluation of the consistency with, and any impacts to, existing Natomas Area habitat conservation plans and other resource planning documents (such as the NBHCP and the MAPHCP), and provide mitigation for any identified adverse effects consistent with the requirements of State and Federal regulatory authorities for impacts to special status species and sensitive habitats.

***Hazardous Materials*** – The evaluation of hazardous materials should include a characterization of past and ongoing agricultural chemical application, and the potential for hazardous levels of residual chemicals to be present in onsite soils. Should hazardous levels of residual chemicals be identified, mitigation should be developed to reduce risks below State and federal thresholds.

***Hydrology and Water Quality/Floodplain Areas*** – The scope of the analysis of hydrology and water quality/stormwater quality should include an evaluation of the County's and the project's compliance with the requirements of the Central Valley Flood Protection Plan, and with the regulations of all other applicable Federal, State, and regional agencies.

***Land Use*** – The analysis of the project's consistency with adopted plans to avoid or reduce environmental effects should be expanded to include as appropriate air pollutant attainment plans, flood protection plans, transportation planning documents, and relevant City of Sacramento planning documents and requirements. The analysis of topics to be evaluated within Land Use should include a consistency evaluation with the adopted SACOG Blueprint.

***Climate Change*** - The analysis should include an evaluation of the project's consistency with all applicable adopted and pending Climate Action Plan(s) and any ensuing Greenhouse Gas Emissions Reduction Plan(s).

***Transportation*** – The analysis of transportation effects should include an evaluation of the consistency of the proposed project with the adopted Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS).

***Alternatives*** – The range of alternatives assessed in the EIR should include an alternative that would amend the Sphere of Influence of the City of Sacramento and annex the project site to the City. LAFCo requests an evaluation of this alternative consistent with LAFCo policy to favor the most efficient and comprehensive service provider to the proposed project. As set forth in the NOP, the project anticipates that the City may furnish a water supply to the project as well as potentially treating and distributing potable water. Additionally, according to the NOP, the City currently provides fire protection services to the site via a contract with the Natomas Fire Protection District.

We look forward to working with your office in the course of the project and environmental review, and related LAFCo concerns. Please feel free to contact this office if there are any questions regarding these comments.

Sincerely,

**SACRAMENTO LOCAL AGENCY FORMATION COMMISSION**

Donald J. Lockhart, AICP
Executive Officer

CC: Commissioners
LAFCo Counsel
City of Sacramento

# APPENDIX PD-1

## PROPOSED GENERAL PLAN TEXT AMENDMENTS

Example of General Plan Consistency Analysis from Upper Westside

| | |
|---|---|
| Agricultural | AG-1. The County shall protect prime, statewide importance, unique and local importance farmlands located outside of the USB from urban encroachment, consistent with General Plan policies authorizing amendment of the Land Use Diagram in the interest of the public health, safety, and welfare of the residents of Sacramento County (see LU-114, LU-119 – LU- 128). |
| Agricultural | AG-5. Projects resulting in the conversion of more than fifty (50) acres of farmland shall be mitigated within Sacramento County, except as specified in the paragraph below, based on a 1:1 ratio, for the loss of the following farmland categories through the specific planning process or individual project entitlement requests to provide in-kind or similar resource value protection (such as easements for agricultural purposes):<br>• prime, statewide importance, unique, local importance, and grazing farmlands located outside the USB;<br>• prime, statewide importance, unique, and local importance farmlands located inside the USB.<br>The Board of Supervisors retains the authority to ~~override~~ set aside the in- County mitigation requirement for ~~impacts~~ ~~to~~ Unique, Local, and Grazing farmlands, but not with respect to Prime and Statewide farmlands.<br>However, if that land is also required to provide mitigation for impacts to special-status species ~~pursuant to Sacramento County endorsed or approved Habitat Conservation Plan (HCP)~~, then the Board of Supervisors may consider, on a case by case basis, the mitigation land ~~provided~~ required to mitigate for impacts to special-status species ~~in accordance with the HCP~~ as meeting the requirements of this section including land outside of Sacramento County.<br>Note: This policy is not tied to any maps contained in the Agricultural Element. Instead, the most current Important Farmland map from the Department of Conservation should be used to calculate mitigation. |
| Conservation | CO-60. Mitigation should be directed to lands identified on the Open Space Vision Diagram and associated component maps (please refer to the Open Space Element), consistent with LU-114. |
| Land Use | LU-15. Planning and development of new growth areas should be consistent with Sacramento County- adopted Habitat Conservation Plans and/or other efforts to preserve and protect natural resources. |

# APPENDIX AQ-1

## AIR QUALITY AND GREENHOUSE GAS IMPACT ANALYSIS

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

June 5, 2024

Julie Newton
Environmental Coordinator, Sacramento County
Planning and Environmental Review
827 7th street, Room 225
Sacramento, CA 95814

newtonj@saccounty.gov

Subject: **Upper Westside Specific Plan Project**

Dear Mrs. Newton,

Thank you for providing the March 2024 Air Quality and Greenhouse Gas Impact Analysis and the March 2022 Air Quality Mitigation Plan (AQMP) for the Upper Westside Specific Plan Project.

By way of this letter, District staff are verifying that we have reviewed the Upper Westside Air Quality and Greenhouse Gas Impact Analysis and find that it consistent with the District's CEQA guidance on greenhouse gas and air quality plans. The District also finds that the AQMP will, through on-site and off-site measures, achieve a 35 percent reduction in ozone precursors generated by mobile sources over the baseline project conditions.

Please contact me at rmuzzy@airquality.org or (279) 207-1139 if you have any questions regarding this verification of technical adequacy.

Sincerely,

Rich Muzzy

Rich Muzzy
Associate Air Quality Planner/Analyst

cc: Paul Philley, AICP, Program Supervisor

# Air Quality and Greenhouse Gas Impact Analysis

## Upper Westside Specific Plan Project

Prepared for:
Upper Westside LLC

**June 2024**

Prepared by

RANEY PLANNING & MANAGEMENT, INC. 20 years
1501 Sports Drive, Suite A, Sacramento, CA 95834

# Upper Westside Specific Plan Project Air Quality and Greenhouse Gas Impact Analysis

**Prepared By**

Raney Planning and Management, Inc.
1501 Sports Drive, Suite A
Sacramento, CA 95834
(916) 372-6100

Contact:
Rod Stinson
Vice President

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## 1. INTRODUCTION

This Air Quality and Greenhouse Gas Impact Analysis identifies and analyzes the potential environmental impacts from the Upper Westside Specific Plan Project (proposed project) related to air quality and greenhouse gas (GHG) emissions. The information and analysis in this document are organized in accordance with the checklist in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. The analysis includes a discussion of the existing air quality and GHG setting, the existing regulatory setting, as well as potential air quality and GHG impacts resulting from implementation of the project. In addition, the analysis includes mitigation measures warranted to reduce or eliminate any identified significant impacts. This analysis is based on the Sacramento Metropolitan Air Quality Management District (SMAQMD) CEQA Guide[1] and technical analysis performed by Raney Planning and Management, Inc. All modeling results are included as an appendix to this document.

## 2. PROJECT LOCATION

The proposed project is located northwest of Interstate 80 (I-80), north and east of the Sacramento River and the Sacramento County limits, west of the Witter Canal, and south of Fisherman's Lake/Slough. The 2,066-acre site is outside of the Urban Policy Area and Urban Services Boundary in the Natomas New Growth Area, and is predominantly agricultural land with existing commercial uses, including a truck stop, restaurants, gas stations, and hotels located west of the I-80 off-/on-ramp (see Figure 1 and Figure 2).

Surrounding existing land uses include the Sacramento River to the south and west; agricultural land to the west; I-80, multi-family residences, and a business park to the east; and single-family residences to the east, west, north, and south.

The Sacramento County General Plan designates the site as Agricultural Cropland, Agricultural Residential, Commercial/Office, and Recreation and the site is zoned Agricultural, Agricultural Residential, General Commercial, and Highway Travel Commercial.

## 3. PROJECT SUMMARY

The proposed project would create a Specific Plan for the Upper Westside planning area, which would include 9,231 residential dwelling units, 130.5 acres of commercial uses, 147.1 acres of schools, 73.2 acres of parks, 49.8 acres of open space, 83.9 acres of agricultural residences, and 407.6 acres of agricultural cropland (see Figure 3). The project would also include roadway improvements, including the expansion of El Centro Road and the development of additional roadways throughout the project site.

The project would require County approval of the following entitlements:

1. **Amend the Urban Services Boundary** to include the Upper Westside Development Area.
2. **Amend the Urban Policy Area (UPA)** to include the Upper Westside Plan Development Area.
   **Amend the General Plan Land Use Element and Land Use Diagram** to change the land use designations for the Upper Westside Development Area (1,532 acres) from Agricultural Cropland (1,825.8± acres), Agriculture Residential (97.0± acres), Recreation (55.3±), and Commercial and Offices (49.5± acres) to Low Density Residential (805.4±

[1] Sacramento Metropolitan Air Quality Management District. *CEQA Guide*. April 2020.

**Figure 1**
**Regional Project Location**

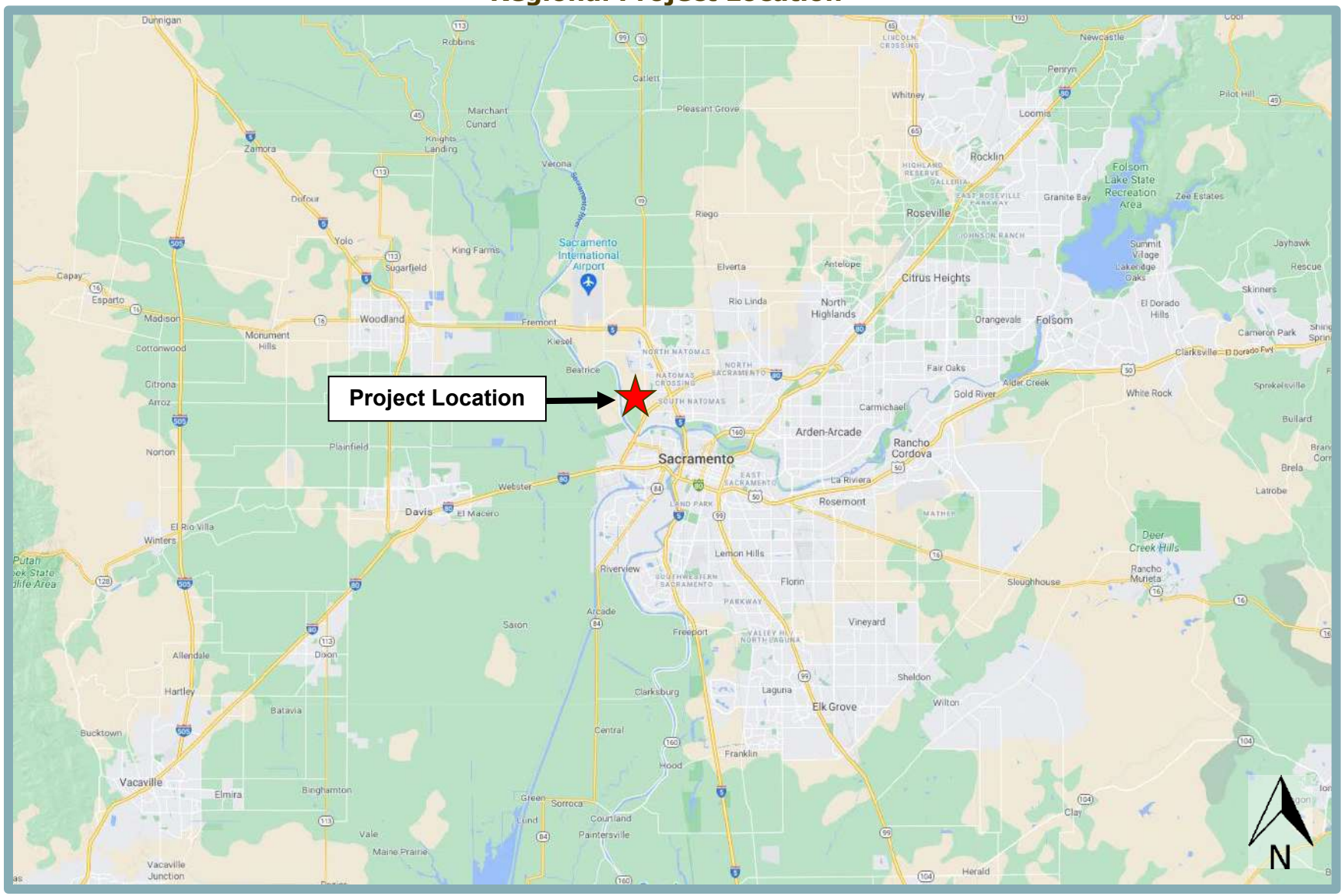


**Figure 2**
**Project Site**

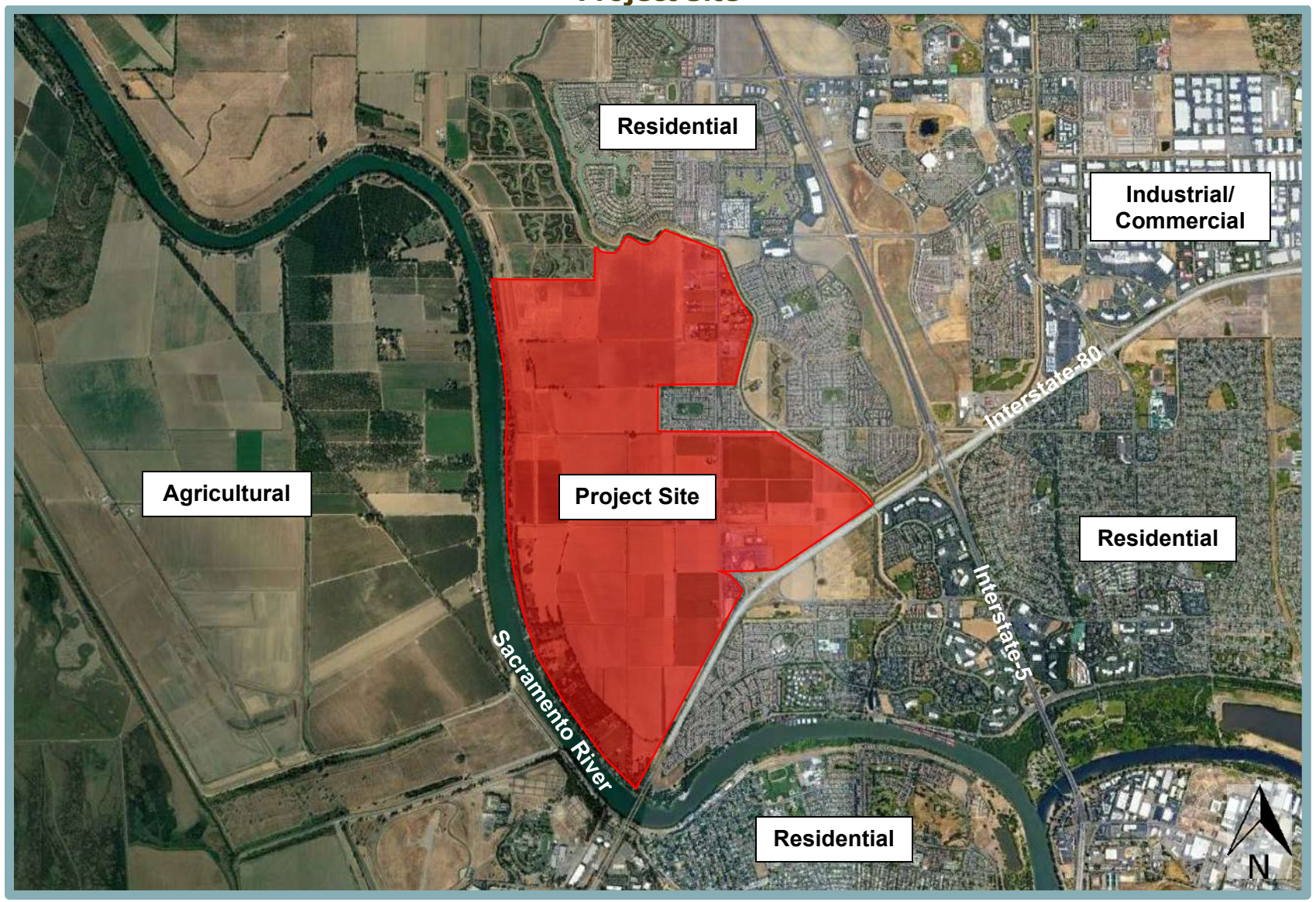
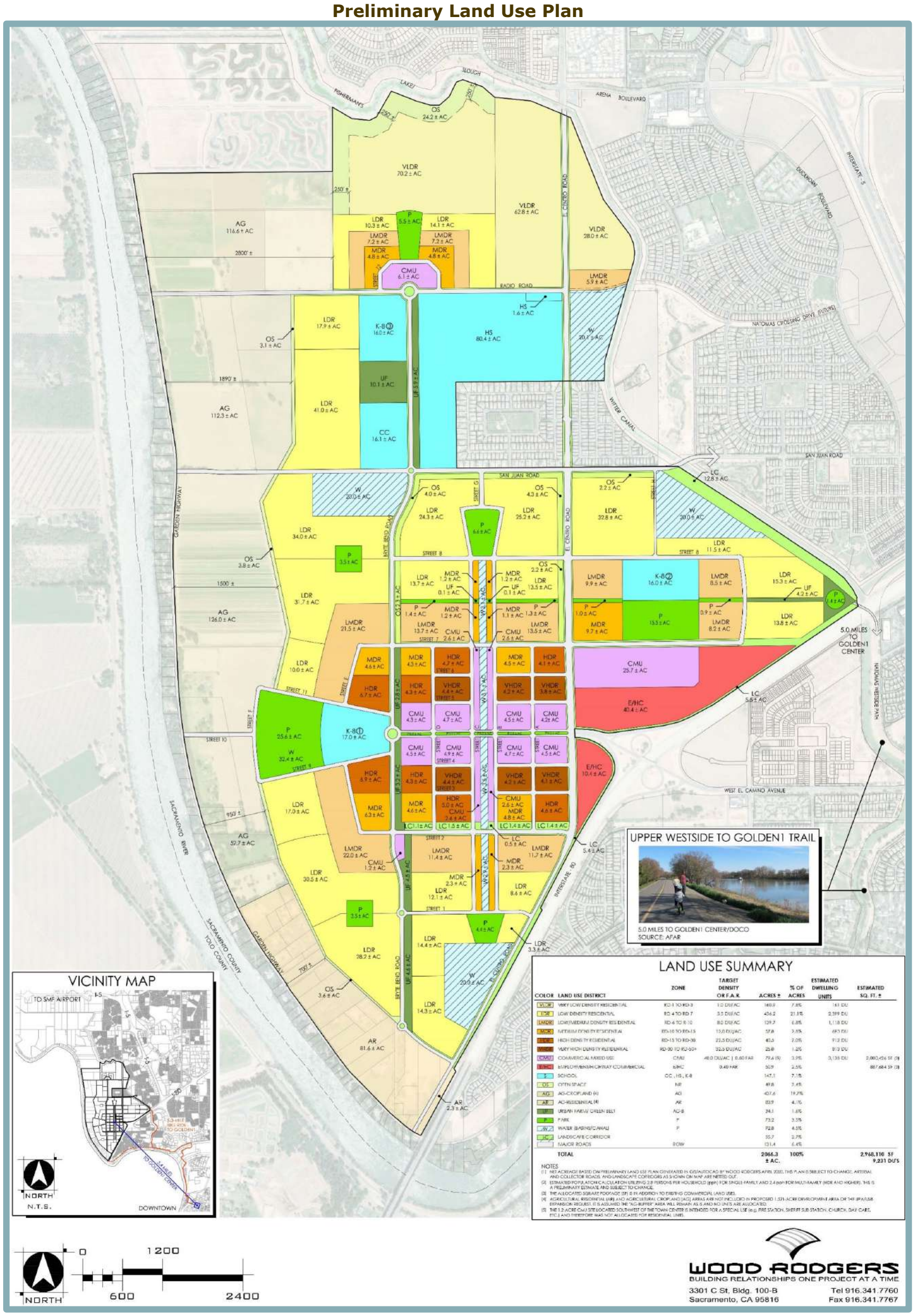


**Figure 3**
**Preliminary Land Use Plan**



acres), Medium Density Residential (41.4± acres), High Density Residential (25.4± acres), Commercial and Office (52.2± acres), Mixed Use (81.5± acres), Public/Quasi-Public (149.0± acres), Recreation (288.5± acres), Agricultural Cropland (407.6± acres) and Agricultural Residential (83.9± acres). The General Plan designations on parcels within the Ag Buffer area (534 acres) are proposed to remain unchanged (see Figure 4).

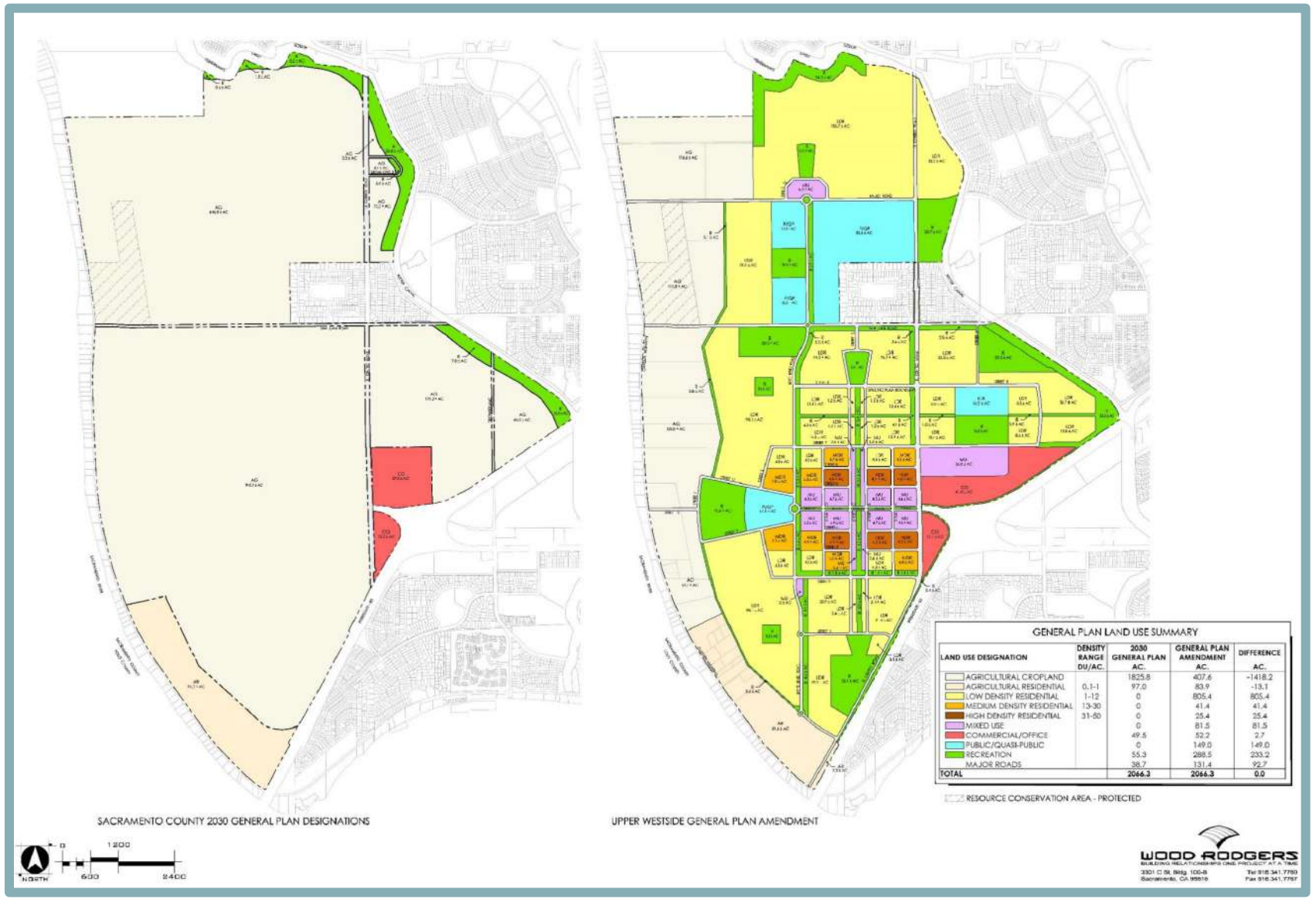
3. **Amend the General Plan Transportation Plan Diagram** to include the roadway system as designated for the Upper Westside Plan Area by the Specific Plan document.
4. **Amend the General Plan Bicycle Master Plan Diagram** to include the bikeway system as designated for the Upper Westside Plan Area by the Specific Plan document.
5. **Amend General Plan Text** to modify several policies within various elements of the General Plan.
6. **Amend the Zoning Diagram** to change the Zoning Designations for the Participating Properties (292± acres) within the Development Area of the Upper Westside Plan Area from AG-40 to Special Planning Area (SPA) (see Figure 5).
7. **Adopt the Upper Westside Specific Plan** document to establish land use, zoning, and development standards for the parcels located within the Development Area. The Specific Plan document will discuss and provide direction for the Very Low Density Residential VLDR (160.9± acres), Low Density Residential LDR (436.2± acres), Low Medium Density Residential LMDR (139.7± acres), Medium Density Residential MDR (57.8± acres), High Density Residential HDR (40.5± acres), Very High Density Residential (25.0± acres), Commercial Mixed Use CMU (79.6± acres), and Employment/Highway Commercial E/HC-SP (50.9± acres).
8. **Adopt an Urban Services Plan** for the Upper Westside Plan Development Area.
9. **Adopt an Affordable Housing Strategy** for the Upper Westside Plan Development Area.
10. **Adopt a Water Supply Master Plan** for the Upper Westside Plan Development Area.
11. **Approve a Water Supply Assessment (WSA)** for the Upper Westside Plan Development Area.
12. **Adopt a Public Facilities Financing Plan** for the Upper Westside Plan Development Area.
13. **Adopt a Reimbursement Fee** so that non-participating property owners within the Development Area can reimburse the sponsoring/participating property owners for the cost to prepare and process a Specific Plan and EIR for the Upper Westside Plan Area.
14. **Adopt a Development Agreement** for the sponsoring/participating property owners, controlling 295± acres, located within the Upper Westside Plan Development Area.

In addition to the above entitlements, separate Service District Annexation requests for the Upper Westside Plan Area are proposed to include:

- Annexation to County Service Area 10 (CSA-10) or the creation of a new CSA.
- Annexation to Sacramento Regional County Sanitation District (Regional San).
- Annexation to Sacramento Area Sewer District (SASD).

The following analysis assesses air quality impacts resulting from construction and operations of the proposed project.

## Figure 4
## General Plan Amendment Exhibit




| LAND USE DESIGNATION | DENSITY RANGE DU/AC. | 2030 GENERAL PLAN AC. | GENERAL PLAN AMENDMENT AC. | DIFFERENCE AC. |
|---|---|---|---|---|
| AGRICULTURAL CROPLAND | | 1825.8 | 407.6 | -1418.2 |
| AGRICULTURAL RESIDENTIAL | 0.1-1 | 97.0 | 83.9 | -13.1 |
| LOW DENSITY RESIDENTIAL | 1-12 | 0 | 805.4 | 805.4 |
| MEDIUM DENSITY RESIDENTIAL | 13-30 | 0 | 41.4 | 41.4 |
| HIGH DENSITY RESIDENTIAL | 31-50 | 0 | 25.4 | 25.4 |
| MIXED USE | | 0 | 81.5 | 81.5 |
| COMMERCIAL/OFFICE | | 49.5 | 52.2 | 2.7 |
| PUBLIC/QUASI-PUBLIC | | 0 | 149.0 | 149.0 |
| RECREATION | | 55.3 | 288.5 | 233.2 |
| MAJOR ROADS | | 38.7 | 131.4 | 92.7 |
| TOTAL | | 2066.3 | 2066.3 | 0.0 |

**Figure 5**
**Rezone Exhibit**



# 4. EXISTING ENVIRONMENTAL SETTING

The following information provides an overview of the existing environmental setting in relation to air quality within the proposed project area. Air basin characteristics, ambient air quality standards (AAQS), attainment status and regional air quality plans, local air quality monitoring, odors, sensitive receptors and GHGs are discussed.

## Air Basin Characteristics

The project site is located within the Sacramento Valley Air Basin (SVAB) and is within the jurisdictional boundaries of the SMAQMD. The SVAB is in the northern half of California's Great Valley and is bordered on three sides by mountain ranges. Air flows into the SVAB through the Carquinez Strait, moves across the Delta and carries pollutants from the heavily populated San Francisco Bay Area into the SVAB. The prevailing winds are moderate in strength and vary from moist clean breezes from the south to dry land flows from the north.

Most precipitation in the SVAB results from air masses moving in from the Pacific Ocean during the winter months. Storms usually move through the area from the west or northwest. During the winter rainy season (November through February) over half the total annual precipitation falls while the average winter temperature is a moderate 49 degrees Fahrenheit. During the summer, daytime temperatures can exceed 100 degrees Fahrenheit. Dense fog occurs mostly in mid-winter and rarely in the summer. Daytime temperatures from April through October average between 60- and 80-degrees Fahrenheit with low humidity. The inland location and surrounding mountains shelter the valley from much of the ocean breeze that keeps the coastal regions moderate in temperature. The only breech in the mountain barrier is the Carquinez Strait, which exposes the midsection of the valley to the coastal air mass.

## Ambient Air Quality Standards

Both the U.S. Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) have established AAQS for common pollutants. The federal standards are divided into primary standards, which are designed to protect the public health, and secondary standards, which are designed to protect the public welfare. The AAQS for each contaminant represent safe levels that avoid specific adverse health effects. Pollutants for which AAQS have been established are called "criteria" pollutants. Table 1 identifies the major pollutants, characteristics, health effects and typical sources. The national and California AAQS (NAAQS and CAAQS, respectively) are summarized in Table 2. The NAAQS and CAAQS were developed independently with differing purposes and methods. As a result, the federal and State standards differ in some cases. In general, the State of California standards are more stringent than the federal standards, particularly for ozone and particulate matter (PM).

A description of each criteria pollutant and its potential health effects is provided below.

### Ozone

Ozone is a reactive gas consisting of three oxygen atoms. In the troposphere, ozone is a product of the photochemical process involving the sun's energy, and is a secondary pollutant formed as a result of a complex chemical reaction between reactive organic gases (ROG) and oxides of nitrogen ($NO_X$) emissions in the presence of sunlight. As such, unlike other pollutants, ozone is not released directly into the atmosphere from any sources. In the stratosphere, ozone exists naturally and shields Earth from harmful incoming ultraviolet radiation. The primary source of ozone precursors is mobile sources, including cars, trucks, buses, construction equipment, and agricultural equipment. Ground-level ozone reaches the highest level during the afternoon and early evening hours. High levels occur most often during the summer months.

**Table 1**
**Summary of Criteria Pollutants**

| Pollutant | Characteristics | Health Effects | Major Sources |
|---|---|---|---|
| Ozone | A highly reactive gas produced by the photochemical process involving a chemical reaction between the sun's energy and other pollutant emissions. Often called photochemical smog. | • Eye irritation<br>• Wheezing, chest pain, dry throat, headache, or nausea<br>• Aggravated respiratory disease such as emphysema, bronchitis, and asthma | Combustion sources such as factories, automobiles, and evaporation of solvents and fuels. |
| Carbon Monoxide | An odorless, colorless, highly toxic gas that is formed by the incomplete combustion of fuels. | • Impairment of oxygen transport in the bloodstream<br>• Impaired vision, reduced alertness, chest pain, and headaches<br>• Can be fatal in the case of very high concentrations | Automobile exhaust, combustion of fuels, and combustion of wood in woodstoves and fireplaces. |
| Nitrogen Dioxide | A reddish-brown gas that discolors the air and is formed during combustion of fossil fuels under high temperature and pressure. | • Lung irrigation and damage<br>• Increased risk of acute and chronic respiratory disease | Automobile and diesel truck exhaust, industrial processes, and fossil-fueled power plants. |
| Sulfur Dioxide | A colorless, irritating gas with a rotten egg odor formed by combustion of sulfur-containing fossil fuels. | • Aggravation of chronic obstruction lung disease<br>• Increased risk of acute and chronic respiratory disease | Diesel vehicle exhaust, oil-powered power plants, and industrial processes. |
| Particulate Matter ($PM_{10}$ and $PM_{2.5}$) | A complex mixture of extremely small particles and liquid droplets that can easily pass through the throat and nose and enter the lungs. | • Aggravation of chronic respiratory disease<br>• Heart and lung disease<br>• Coughing<br>• Bronchitis<br>• Chronic respiratory disease in children<br>• Irregular heartbeat<br>• Nonfatal heart attacks | Combustion sources such as automobiles, power generation, industrial processes, and wood burning. Also from unpaved roads, farming activities, and fugitive windblown dust. |
| Lead | A metal found naturally in the environment as well as in manufactured products. | • Loss of appetite, weakness, apathy, and miscarriage<br>• Lesions of the neuromuscular system, circulatory system, brain, and gastrointestinal tract | Industrial sources and combustion of leaded aviation gasoline. |

***Sources:***

- ***California Air Resources Board. California Ambient Air Quality Standards (CAAQS). Available at: http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm. Accessed August 2021.***
- ***Sacramento Metropolitan, El Dorado, Feather River, Placer, and Yolo-Solano Air Districts: Sacramento Region Spare the Air. Air Quality Information for the Sacramento Region. Available at: http://www.sparetheair.com/health.cfm?page=healthoverall. Accessed August 2021.***
- ***California Air Resources Board. Glossary of Air Pollution Terms. Available at: http://www.arb.ca.gov/html/gloss.htm. Accessed August 2021.***

**Table 2**
**Ambient Air Quality Standards**

| Pollutant | Averaging Time | CAAQS | NAAQS | |
|---|---|---|---|---|
| | | | Primary | Secondary |
| **Ozone** | 1 Hour | 0.09 ppm | - | Same as primary |
| | 8 Hour | 0.070 ppm | 0.070 ppm | |
| **Carbon Monoxide** | 8 Hour | 9 ppm | 9 ppm | - |
| | 1 Hour | 20 ppm | 35 ppm | |
| **Nitrogen Dioxide** | Annual Mean | 0.030 ppm | 53 ppb | Same as primary |
| | 1 Hour | 0.18 ppm | 100 ppb | - |
| **Sulfur Dioxide** | 24 Hour | 0.04 ppm | - | - |
| | 3 Hour | - | - | 0.5 ppm |
| | 1 Hour | 0.25 ppm | 75 ppb | - |
| **Respirable Particulate Matter ($PM_{10}$)** | Annual Mean | 20 ug/$m^3$ | - | Same as primary |
| | 24 Hour | 50 ug/$m^3$ | 150 ug/$m^3$ | |
| **Fine Particulate Matter ($PM_{2.5}$)** | Annual Mean | 12 ug/$m^3$ | 12 ug/$m^3$ | 15 ug/$m^3$ |
| | 24 Hour | - | 35 ug/$m^3$ | Same as primary |
| **Lead** | 30 Day Average | 1.5 ug/$m^3$ | - | - |
| | Calendar Quarter | - | 1.5 ug/$m^3$ | Same as primary |
| **Sulfates** | 24 Hour | 25 ug/$m^3$ | - | - |
| **Hydrogen Sulfide[1]** | 1 Hour | 0.03 ppm | - | - |
| **Vinyl Chloride[1]** | 24 Hour | 0.010 ppm | - | - |
| **Visibility Reducing Particles[2]** | 8 Hour | see note below | - | - |

Notes:
ppm = parts per million; ppb = parts per billion; µg/$m^3$ = micrograms per cubic meter

1 The emission of hydrogen sulfide is associated with geothermal activity, oil and gas production, refineries, sewage treatment, and confined animal feeding operations. Vinyl chloride is associated with the production of plastic products. The proposed project does not have the potential to generate hydrogen sulfide or vinyl chloride and, thus, such pollutants are not discussed further in this analysis.

2 Statewide Visibility Reducing Particle Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

***Source: California Air Resources Board. Ambient Air Quality Standards. May 4, 2016. Available at: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf. Accessed August 2021.***

Ground-level ozone is a strong irritant that could cause constriction of the airways, forcing the respiratory system to work harder in order to provide oxygen. Ozone at the Earth's surface causes numerous adverse health effects and is a major component of smog. High concentrations of ground level ozone can adversely affect the human respiratory system and aggravate cardiovascular disease and many respiratory ailments.

## Reactive Organic Gas

ROG refers to a group of reactive chemical gas composed of hydrocarbon compounds, typically found in paints and solvents, that contributes to the formation of smog and ozone by involvement in atmospheric chemical reactions. Because ROG is the umbrella term used to identify several types of ozone precursors, and ozone has its own health standard, a separate health standard does not exist for ROG. However, some compounds that make up ROG are toxic, such as the carcinogen benzene.



### Oxides of Nitrogen

$NO_X$ are a family of gaseous nitrogen compounds and are precursors to the formation of ozone and particulate matter. The major component of $NO_X$, nitrogen dioxide ($NO_2$), is a reddish-brown gas that discolors the air and is toxic at high concentrations. $NO_X$ results primarily from the combustion of fossil fuels under high temperature and pressure. On-road and off-road motor vehicles and fuel combustion are the major sources of $NO_X$. $NO_X$ reacts with ROG to form smog, which could result in adverse impacts to human health, damage the environment, and cause poor visibility. Additionally, $NO_X$ emissions are a major component of acid rain. Health effects related to $NO_X$ include lung irritation and lung damage and can cause increased risk of acute and chronic respiratory disease.

## Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless, poisonous gas produced by incomplete burning of carbon-based fuels such as gasoline, oil, and wood. When CO enters the body, the CO combines with chemicals in the body, which prevents blood from carrying oxygen to cells, tissues, and organs. Symptoms of exposure to CO can include problems with vision, reduced alertness, and general reduction in mental and physical functions. Exposure to CO can result in chest pain, headaches, reduced mental alertness, and death at high concentrations.

## Sulfur Dioxide

Sulfur Dioxide ($SO_2$) is a colorless, irritating gas with a rotten egg odor formed primarily by the combustion of sulfur-containing fossil fuels from mobile sources, such as locomotives, ships, and off-road diesel equipment. $SO_2$ is also emitted from several industrial processes, such as petroleum refining and metal processing. Similar to airborne $NO_X$, suspended sulfur oxide particles contribute to poor visibility. The sulfur oxide particles are also a component of particulate matter that is 10 micrometers in diameter and smaller ($PM_{10}$). Exposure to $SO_2$ can result in aggravation of chronic obstruction lung disease and increased risk of acute and chronic respiratory disease

## Particulate Matter

Particulate matter, also known as particle pollution or PM, is a complex mixture of extremely small particles and liquid droplets. Particle pollution is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. The size of particles is directly linked to their potential for causing health impacts. The USEPA is concerned about $PM_{10}$ because those are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, the particles could affect the heart and lungs and cause serious health effects. USEPA groups particle pollution into three categories based on their size and where they are deposited:

- "Inhalable coarse particles ($PM_{2.5-10}$)," which are found near roadways and dusty industries, are between 2.5 and 10 micrometers in diameter. $PM_{2.5-10}$ is deposited in the thoracic region of the lungs.
- "Fine particles ($PM_{2.5}$)," which are found in smoke and haze, are 2.5 micrometers in diameter and smaller. $PM_{2.5}$ particles could be directly emitted from sources such as forest fires, or could form when gases emitted from power plants, industries, and automobiles react in the air. They penetrate deeply into the thoracic and alveolar regions of the lungs.
- “Ultrafine particles (UFP),” are very, very small particles (less than 0.1 micrometers in diameter) largely resulting from the combustion of fossil fuels, meat, wood, and other hydrocarbons. While UFP mass is a small portion of $PM_{2.5}$, their high surface area, deep lung penetration, and transfer into the bloodstream could result in disproportionate health

impacts relative to their mass. UFP is not currently regulated separately, but is analyzed as part of $PM_{2.5}$.

$PM_{10}$, $PM_{2.5}$, and UFP include primary pollutants, which are emitted directly to the atmosphere and secondary pollutants, which are formed in the atmosphere by chemical reactions among precursors. Generally speaking, $PM_{2.5}$ and UFP are emitted by combustion sources like vehicles, power generation, industrial processes, and wood burning, while $PM_{10}$ sources include the same sources plus roads and farming activities. Fugitive windblown dust and other area sources also represent a source of airborne dust. Long-term PM pollution, especially fine particles, could result in significant health problems including, but not limited to, the following: increased respiratory symptoms, such as irritation of the airways, coughing or difficulty breathing; decreased lung function; aggravated asthma; development of chronic respiratory disease in children; development of chronic bronchitis or obstructive lung disease; irregular heartbeat; heart attacks; and increased blood pressure.

### Visibility Reducing Particles

Visibility Reducing Particles are a mixture of suspended particulate matter consisting of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. The standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

## Lead

Lead is a relatively soft and chemically resistant metal that is a natural constituent of air, water, and the biosphere. Lead is neither created nor destroyed in the environment, and, thus, essentially persists forever. Lead forms compounds with both organic and inorganic substances. As an air pollutant, lead is present in small particles. Sources of lead emissions in California include a variety of industrial activities. Gasoline-powered automobile engines were a major source of airborne lead through the use of leaded fuels. The use of leaded fuel has been mostly phased out, with the result that ambient concentrations of lead have dropped dramatically. However, because lead was emitted in large amounts from vehicles when leaded gasoline was used, lead is present in many soils (especially urban soils) as a result of airborne dispersion and could become re-suspended into the air.

Because lead is only slowly excreted by the human body, exposures to small amounts of lead from a variety of sources could accumulate to harmful levels. Effects from inhalation of lead above the level of the ambient air quality standard may include impaired blood formation and nerve conduction. Lead can adversely affect the nervous, reproductive, digestive, immune, and blood-forming systems. Symptoms could include fatigue, anxiety, short-term memory loss, depression, weakness in the extremities, and learning disabilities in children. Lead also causes cancer.

## Sulfates

Sulfates are the fully oxidized ionic form of sulfur and are colorless gases. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. The sulfur is oxidized to $SO_2$ during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of $SO_2$ to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features.

The sulfates standard established by CARB is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventilatory function, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease. Sulfates are particularly effective in degrading visibility, and, because they are usually acidic, can harm ecosystems and damage materials and property. The SVAB is in attainment for the sulfate CAAQS.

## Toxic Air Contaminants

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are also a category of environmental concern. TACs are present in many types of emissions with varying degrees of toxicity. Public exposure to TACs can result from emissions from normal operations, as well as accidental releases. Common stationary sources of TACs include gasoline stations, dry cleaners, and diesel backup generators, which are subject to SMAQMD stationary source permit requirements. The other, often more significant, common source type is on-road motor vehicles, such as cars and trucks, on freeways and roads, and off-road sources such as construction equipment, ships, and trains.

Fossil fueled combustion engines, including those used in cars, trucks, and some pieces of construction equipment, release at least 40 different TACs. In terms of health risks, the most volatile contaminants are diesel particulate matter (DPM), benzene, formaldehyde, 1,3-butadiene, toluene, xylenes, and acetaldehyde. Gasoline vapors contain several TACs, including benzene, toluene, and xylenes. Diesel engines emit a complex mixture of air pollutants, including both gaseous and solid material. The solid material in diesel exhaust, DPM, is composed of carbon particles and numerous organic compounds, including over 40 known cancer-causing organic substances. Examples of such chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene. Diesel exhaust also contains gaseous pollutants, including volatile organic compounds and $NO_X$. Due to the published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects, the CARB has identified DPM from diesel-fueled engines as a TAC. Although a variety of TACs are emitted by fossil fueled combustion engines, the cancer risk due to DPM exposure represents a more significant risk than the other TACs discussed above.[2]

More than 90 percent of DPM is less than one micrometer in diameter, and, thus, DPM is a subset of $PM_{2.5}$. As a California statewide average, DPM comprises about eight percent of $PM_{2.5}$ in outdoor air, although DPM levels vary regionally due to the non-uniform distribution of sources throughout the State. Most major sources of diesel emissions, such as ships, trains, and trucks, operate in and around ports, rail yards, and heavily-traveled roadways. Such areas are often located near highly populated areas. Thus, elevated DPM levels are mainly an urban problem, with large numbers of people exposed to higher DPM concentrations, resulting in greater health consequences compared to rural areas.

Due to the high levels of diesel activity, high volume freeways, stationary diesel engines, rail yards and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. Construction-related activities also have the potential to generate concentrations of DPM from on-road haul trucks and off-road equipment exhaust emissions.

[2] California Air Resources Board. *Reducing Toxic Air Pollutants in California's Communities*. February 6, 2002.

The size of diesel particulates that are of the greatest health concern are fine particles (i.e., $PM_{2.5}$) and UFPs. UFPs have a small diameter (on the order of 0.1 micrometers).[3] The small diameter of UFPs imparts the particulates with unique attributes, such as high surface areas and the ability to penetrate deeply into lungs. Once UFPs have been deposited in lungs, the small diameter allows the UFPs to be transferred to the bloodstream. The high surface area of the UFPs also allows for a greater adsorption of other chemicals, which are transported along with the UFPs into the bloodstream of the inhaler, where the chemicals can eventually reach critical organs.[4] The penetration capability of UFPs may contribute to adverse health effects related to heart, lung, and other organ health.[5] UFPs are a subset of DPM and activities that create large amounts of DPM, such as the operations involving heavy diesel-powered engines, also release UFPs.

Health risks from TACs are a function of both the concentration of emissions and the duration of exposure, which typically are associated with long-term exposure and the associated risk of contracting cancer. Health effects of exposure to TACs other than cancer include birth defects, neurological damage, and death. Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level. The identification, regulation, and monitoring of TACs is relatively new compared to criteria air pollutants that have established AAQS. TACs are regulated or evaluated on the basis of risk to human health rather than comparison to an AAQS or emission-based threshold.

## Attainment Status and Regional Air Quality Plans

The Federal Clean Air Act (FCAA) and the California Clean Air Act (CCAA) require all areas of California to be classified as attainment, nonattainment, or unclassified as to their status with regard to the NAAQS and/or CAAQS. The FCAA and CCAA require that the CARB, based on air quality monitoring data, designate portions of the State where the federal or State AAQS are not met as "nonattainment areas." Because of the differences between the national and State standards, the designation of nonattainment areas is different under the federal and State legislation. The FCAA requires areas violating the NAAQS to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The CCAA requires local air pollution control districts to prepare air quality attainment plans. These plans must provide for district-wide emission reductions of five percent per year averaged over consecutive three-year periods or, provide for adoption of "all feasible measures on an expeditious schedule."

As presented in Table 3, under the CCAA, Sacramento County has been designated nonattainment for the State one-hour ozone, State and federal eight-hour ozone, State $PM_{10}$, and Federal $PM_{2.5}$ standards. The County is designated attainment or unclassified for all other AAQS. Due to the nonattainment designations, the SMAQMD, along with the other air districts in the SVAB region, is required to develop plans to attain the federal and State standards for ozone and particulate matter. The air quality plans include emissions inventories to measure the sources of air pollutants, to evaluate how well different control measures have worked, and show how air pollution would be reduced. In addition, the plans include the estimated future levels of pollution to ensure that the area would meet air quality goals. Each of the attainment plans currently in effect are discussed in further detail in the Regulatory Context section of this document.

[3] South Coast Air Quality Management District. *Final 2012 Air Quality Management Plan*. December 2012.
[4] Health Effects Institute. *Understanding the Health Effects of Ambient Ultrafine Particles*. January 2013.
[5] South Coast Air Quality Management District. *Final 2012 Air Quality Management Plan*. December 2012.

**Table 3**
**Sacramento County Attainment Status Designations**

| Pollutant | Averaging Time | California Standards | Federal Standards |
|---|---|---|---|
| **Ozone** | 1 Hour | **Nonattainment** | Attainment |
| | 8 Hour | **Nonattainment** | **Nonattainment** |
| **Carbon Monoxide** | 8 Hour | Attainment | Attainment |
| | 1 Hour | Attainment | Attainment |
| **Nitrogen Dioxide** | Annual Mean | Attainment | Unclassifiable/ Attainment |
| | 1 Hour | Attainment | Unclassifiable/ Attainment |
| **Sulfur Dioxide** | 24 Hour | Attainment | - |
| | 1 Hour | Attainment | Attainment |
| **Respirable Particulate Matter ($PM_{10}$)** | Annual Mean | **Nonattainment** | - |
| | 24 Hour | **Nonattainment** | Attainment |
| **Fine Particulate Matter ($PM_{2.5}$)** | Annual Mean | Attainment | Attainment |
| | 24 Hour | - | **Nonattainment** |
| **Lead** | Rolling 3-Month Average | Attainment | Attainment |
| **Sulfates** | 24 Hour | Attainment | - |

***Source: Sacramento Metropolitan Air Quality Management District. Air Quality Pollutants and Standards. Available at: http://www.airquality.org/air-quality-health/air-quality-pollutants-and-standards. Accessed August 2021.***

## Local Air Quality Monitoring

Air quality is monitored by CARB at various locations to determine which air quality standards are being violated, and to direct emission reduction efforts, such as developing attainment plans and rules, incentive programs, etc. The nearest local air quality monitoring station to the project site is the Woodland-Gibson Road station, located in Woodland, CA, approximately ten miles west of the project site. Data for $NO_2$ was not available for the Woodland-Gibson Road monitoring site; thus, such data was obtained from the next nearest site, the Davis-UCD Campus monitoring site. Table 4 shows historical occurrences of pollutant levels exceeding the State and federal AAQS for the three-year period from 2018 to 2020.

**Table 4**
**Air Quality Data Summary (2018-2020)**

| Pollutant | Standard | Days Standard Was Exceeded | | |
|---|---|---|---|---|
| | | 2018 | 2019 | 2020 |
| 1-Hour Ozone | State | 1 | 0 | 1 |
| | Federal | 0 | 0 | 0 |
| 8-Hour Ozone | State | 2 | 0 | 2 |
| | Federal | 0 | 0 | 0 |
| 24-Hour $PM_{2.5}$ | Federal | 12.3 | * | * |
| 24-Hour $PM_{10}$ | State | 24.5 | * | * |
| | Federal | 6.1 | 0 | * |
| 1-Hour Nitrogen Dioxide | State | 0 | 0 | 0 |
| | Federal | 0 | 0 | 0 |

Note: * indicates that sufficient data was not available to determine the value.

***Source: California Air Resources Board. Aerometric Data Analysis and Management (iADAM) System. Available at http://www.arb.ca.gov/adam/welcome.html. Accessed September 2021.***

## Odors

While offensive odors rarely cause physical harm, they can be unpleasant, leading to considerable annoyance and distress among the public and can generate citizen complaints to local governments and air districts. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative or formulaic methodologies to determine the presence of a significant odor impact do not exist. Adverse effects of odors on residential areas and other sensitive receptors warrant the closest scrutiny; but consideration should also be given to other land use types where people congregate, such as recreational facilities, worksites, and commercial areas. The potential for an odor impact is dependent on a number of variables including the nature of the odor source, distance between a receptor and an odor source, and local meteorological conditions.

One of the most important factors influencing the potential for an odor impact to occur is the distance between the odor source and receptors, also referred to as a buffer zone or setback. The greater the distance between an odor source and receptor, the less concentrated the odor emission would be when reaching the receptor.

Meteorological conditions also affect the dispersion of odor emissions, which determines the exposure concentration of odiferous compounds at receptors. The predominant wind direction in an area influences which receptors are exposed to the odiferous compounds generated by a nearby source. Receptors located upwind from a large odor source may not be affected due to the produced odiferous compounds being dispersed away from the receptors. Wind speed also influences the degree to which odor emissions are dispersed away from any area.

Odiferous compounds could be generated from a variety of source types including both construction and operational activities. Examples of common land use types that typically generate significant odor impacts include, but are not limited to wastewater treatment plants; sanitary landfills; composting/green waste facilities; recycling facilities; petroleum refineries; chemical manufacturing plants; painting/coating operations; rendering plants; and food packaging plants. The project site is not located in the vicinity of any land use types that are known to generate significant odor impacts.

## Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, day care centers, playgrounds, and medical facilities. The northeastern and southeastern boundaries of the project site are characterized by residential land uses. Thus, in the project vicinity, the nearest sensitive receptors are primarily residences, as well as public schools, including Witter Ranch Elementary, Two Rivers Elementary, and Merryhill Preschool. The closest receptors are the residences located approximately 50 feet away, on the eastern side of the project site.

## Greenhouse Gas Emissions

GHGs are gases that absorb and emit radiation within the thermal infrared range, trapping heat in the earth's atmosphere. Some GHGs occur naturally and are emitted into the atmosphere through both natural processes and human activities. Other GHGs are created and emitted solely through human activities. The principal GHGs that enter the atmosphere due to human activities are carbon dioxide ($CO_2$), methane ($CH_4$), nitrous oxide ($N_2O$), and fluorinated carbons. Other common GHGs include water vapor, ozone, and aerosols. The increase in atmospheric

concentrations of GHG due to human activities has resulted in more heat being held within the atmosphere, which is the accepted explanation for global climate change.

The primary GHG emitted by human activities is $CO_2$, with the next largest components being $CH_4$ and $N_2O$. A wide variety of human activities result in the emission of $CO_2$. Some of the largest sources of $CO_2$ include the burning of fossil fuels for transportation, electricity production, and industrial processes, including plastic and cement production. The primary sources of $CH_4$ emissions include domestic livestock sources, decomposition of wastes in landfills, releases from natural gas systems, coal mine seepage, and manure management. The main human activities producing $N_2O$ are agricultural soil management, fuel combustion in motor vehicles, nitric acid production, manure management, and stationary fuel combustion. Emissions of GHG by economic sector indicate that energy-related activities account for the majority of U.S. emissions. The transportation sector is the largest single-source of GHG emissions, and electricity production is the second largest source, followed by industrial activities. The agricultural, commercial, and residential sectors account for the remainder of GHG emission sources.[6]

Emissions of GHG are partially offset by uptake of carbon and sequestration in trees, agricultural soils, landfilled yard trimmings and food scraps, and absorption of $CO_2$ by the earth's oceans. Additional emission reduction measures for GHG could include, but are not limited to, compliance with local, State, or federal plans or strategies for GHG reductions, on-site and off-site mitigation, and project design features. Attainment concentration standards for GHGs have not been established by the federal or State government.

## Global Warming Potential

Global Warming Potential (GWP) is one type of simplified index (based upon radiative properties) that can be used to estimate the potential future impacts of emissions of various gases. According to the USEPA, the GWP of a gas, or aerosol, to trap heat in the atmosphere is the "cumulative radiative forcing effects of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas." The reference gas for comparison is $CO_2$. GWP is based on a number of factors, including the heat-absorbing ability of each gas relative to that of $CO_2$, as well as the decay rate of each gas relative to that of $CO_2$. Each gas's GWP is determined by comparing the radiative forcing associated with emissions of that gas versus the radiative forcing associated with emissions of the same mass of $CO_2$, for which the GWP is set at one. Methane gas, for example, is estimated by the USEPA to have a comparative global warming potential 25 times greater than that of $CO_2$, as shown in Table 5.

As shown in the table, at the extreme end of the scale, sulfur hexafluoride is estimated to have a comparative GWP 22,800 times that of $CO_2$. The "specified time horizon" is related to the atmospheric lifetimes of such GHGs, which are estimated by the USEPA to vary from 50 to 200 years for $CO_2$, to 50,000 years for tetrafluoromethane. Longer atmospheric lifetimes allow GHG to buildup in the atmosphere; therefore, longer lifetimes correlate with the GWP of a gas. The common indicator for GHG is expressed in terms of metric tons of $CO_2$ equivalents ($MTCO_2e$), which is calculated based on the GWP for each pollutant.

[6] U.S. Environmental Protection Agency. *Sources of Greenhouse Gas Emissions*. Available at: https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions. Accessed May 2021.

**Table 5**
**GWPs and Atmospheric Lifetimes of Select GHGs**

| Gas | Atmospheric Lifetime (years) | GWP (100-year time horizon) |
|---|---|---|
| Carbon Dioxide ($CO_2$) | See footnote[1] | 1 |
| Methane ($CH_4$) | 12 | 25 |
| Nitrous Oxide ($N_2O$) | 114 | 298 |
| Hydrofluorocarbon (HFC)-23 | 270 | 14,800 |
| HFC-134a | 14 | 1,430 |
| HFC-152a | 1.4 | 124 |
| PFC: Tetrafluoromethane ($CF_4$) | 50,000 | 7,390 |
| PFC: Hexafluoroethane ($C_2F_6$) | 10,000 | 12,200 |
| Sulfur Hexafluoride ($SF_6$) | 3,200 | 22,800 |

[1] For a given amount of carbon dioxide emitted, some fraction of the atmospheric increase in concentration is quickly absorbed by the oceans and terrestrial vegetation, some fraction of the atmospheric increase will only slowly decrease over a number of years, and a small portion of the increase will remain for many centuries or more.

***Source: USEPA. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019 [Table 1-2]. April 14, 2021.***

## Effects of Global Climate Change

Uncertainties exist as to exactly what the climate changes will be in various areas of the Earth. According to the Intergovernmental Panel on Climate Change's Working Group I Report, *Climate Change 2021: The Physical Science Basins,*[7] climate change impacts to North America may include:

- Increase in hot extremes;
- Change in heavy precipitation;
- Sea level rise;
- Ocean acidification;
- Strong declines in glaciers, permafrost, and snow cover;
- Increase in tropical cyclones, severe storms, and dust storms; and
- Agricultural and ecological droughts.

In the Sacramento region, specifically, global climate change hazards include extreme heat and flooding. California's Fourth Climate Change Assessment predicts that the Sacramento Valley region is expected to see an average daily temperature maximum increase of 10 degrees Fahrenheit by the end of the century. Additionally, Midtown Sacramento is anticipated to experience up to 40 days per year of extreme heat (>103.9 F), as compared to the approximately four days per year that occur now.[8] Such extreme heat events pose a public health hazard. In addition to extreme heat, the Sacramento region is anticipated to experience more extreme floods, greater floodplain vulnerability, and higher Delta water levels.[9] Although average annual

[7] Intergovernmental Panel on Climate Change. *Climate Change 2021 The Physical Science Basin, Summary for Policymakers*. August 7, 2021.

[8] Governor's Office of Planning and Research, California Energy Commission, and California Natural Resources Agency. *California's Fourth Climate Change Assessment, Sacramento Valley Region Report* [page 18]. August 2018.

[9] *Ibid.*

precipitation is not anticipated to substantially change in the next 50 to 75 years, precipitation will likely be delivered in more intense storms and over the course of a shorter wet season.[10]

# 5. REGULATORY CONTEXT

Air quality and GHG emissions are monitored and regulated through the efforts of various international, federal, State, and local government agencies. Agencies work jointly and individually to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for regulating and improving the air quality within the project area and monitoring or reducing GHG emissions are discussed below.

## Federal Regulations Related to Air Quality

The following discussion provides a summary of the federal regulations relevant to air quality, organized by pollutant type.

### Criteria Pollutants

The FCAA, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The USEPA is responsible for implementing most aspects of the FCAA, including setting NAAQS for major air pollutants; setting hazardous air pollutant standards; approving state attainment plans; setting motor vehicle emission standards; issuing stationary source emission standards and permits; and establishing acid rain control measures, stratospheric ozone protection measures, and enforcement provisions. Under the FCAA, NAAQS are established for the following criteria pollutants: ozone, CO, $NO_2$, $SO_2$, $PM_{10}$, $PM_{2.5}$, and lead.

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The NAAQS (other than for ozone, $NO_2$, $SO_2$, $PM_{10}$, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for ozone, $NO_2$, $SO_2$, $PM_{10}$, $PM_{2.5}$ are based on statistical calculations over one- to three-year periods, depending on the pollutant. The FCAA requires the USEPA to reassess the NAAQS at least every five years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a state implementation plan that demonstrates how those areas will attain the standards within mandated time frames.

### Hazardous Air Pollutants/Toxic Air Contaminants

The 1977 FCAA amendments required the USEPA to identify national emission standards for hazardous air pollutants to protect public health and welfare. Hazardous air pollutants include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 FCAA Amendments, which expanded the control program for hazardous air pollutants, 189 substances and chemical families were identified as hazardous air pollutants.

## Federal Regulations Related to GHG Emissions

The following are the federal regulations relevant to GHG emissions.

[10] Cal-Adapt. *Local Climate Change Snapshot for Sacramento, California*, Available at: https://cal-adapt.org/tools/local-climate-change-snapshot. Accessed March 2022.

## Federal Vehicle Standards

In 2007, in response to the *Massachusetts v. EPA* U.S. Supreme Court ruling, the Bush Administration issued Executive Order (EO) 13432 directing the USEPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the National Highway Transportation Safety Administration (NHTSA) issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011; and, in 2010, the USEPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012 through 2016 (75 FR 25324–25728).

In 2010, President Obama issued a memorandum directing the Department of Transportation, Department of Energy, USEPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the USEPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017 through 2025 light-duty vehicles. The proposed standards were projected to achieve emission rates as low as 163 grams per mile of $CO_2$ by model year 2025 on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if the foregoing emissions level was achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017 through 2021 (77 FR 62624–63200), and NHTSA intended to set standards for model years 2022 through 2025 in future rulemaking.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the USEPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014 through 2018. The standards for $CO_2$ emissions and fuel consumption are tailored to three main vehicle categories: combination tractors; heavy-duty pickup trucks and vans; and vocational vehicles. According to the USEPA, this regulatory program reduced GHG emissions and fuel consumption for the affected vehicles by six to 23 percent over the 2010 baselines (76 FR 57106–57513).

In August 2016, the USEPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program applied to vehicles with model years 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types of sizes of buses and work trucks. The final standards were expected to lower $CO_2$ emissions by approximately 1.1 billion MT, and reduce oil consumption by up to two billion barrels over the lifetime of the vehicles sold under the program.

In August 2018, the USEPA and NHTSA proposed to amend certain Corporate Average Fuel Economy and GHG standards for passenger cars and light trucks and establish new, less-stringent standards for model years 2021 through 2026 (see 40 CFR Part 85, Part 86 and Part 600; and 49 CFR Part 523, Part 531, Part 533, Part 536, and Part 537). Compared to maintaining the post-2020 standards that were previously in place, the 2018 proposal would increase U.S. fuel consumption by approximately 0.5 million barrels per day, and would impact the global climate by 3/1000$^{th}$ of 1°C by 2100. California and other states stated their intent to challenge federal actions that would delay or eliminate GHG reduction measures, and committed to cooperating with other countries to implement global climate change initiatives.

On September 27, 2019, the USEPA and NHTSA published the *Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program* (84 FR 51,310), which became effective November 26, 2019. The Part One Rule revokes California's authority to set its own GHG

emissions standards and set zero-emission-vehicle mandates in California. On March 31, 2020, the USEPA and NHTSA issued the Part Two Rule, which sets $CO_2$ emissions standards and corporate average fuel economy standards for passenger vehicles and light-duty trucks for model years 2021 through 2026. On January 20, 2021, President Joe Biden issued an EO on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, which includes review of the Part One Rule by April 2021 and review of the Part Two Rule by July 2021. In response to the Part One Rule, in December 2021, the U.S. Department of Transportation withdrew its portions of the "SAFE I" rule. As a result, states are now allowed to issue their own GHG emissions standards and zero-emissions vehicle mandates.[11] In addition, the Part Two Rule was adopted to revise the existing national GHG emission standards for passenger cars and light trucks through model year 2026. These standards are the strongest vehicle emissions standards ever established for the light-duty vehicle sector, and will result in avoiding more than three billion tons of GHG emissions through 2050.[12]

## State Regulations Related to Air Quality

The following discussion summarizes applicable State regulations related to air quality, organized by pollutant type. Only the most prominent and applicable California air quality-related legislation is included below; however, an exhaustive list and extensive details of California air quality legislation can be found at the CARB website (http://www.arb.ca.gov/html/lawsregs.htm).

### Criteria Air Pollutants

The FCAA delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for ensuring implementation of the CCAA of 1988, responding to the FCAA, and regulating emissions from motor vehicles and consumer products.

CARB has established CAAQS, which are generally more restrictive than the NAAQS. The CAAQS describe adverse conditions; that is, pollution levels must be below these standards before a basin can attain the standard. Air quality is considered “in attainment” if pollutant levels are continuously below the CAAQS and do not violate the standards more than once each year. The CAAQS for ozone, CO, $SO_2$ (one-hour and 24-hour), $NO_2$, $PM_{10}$, $PM_{2.5}$, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. The NAAQS and CAAQS are presented in Table 2.

### Hazardous Air Pollutants/Toxic Air Contaminants

The State Air Toxics Program was established in 1983 under Assembly Bill (AB) 1807 (Tanner), and involved definition of a list of TACs. The California TAC list identifies more than 700 pollutants, of which carcinogenic and noncarcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code. The State list of TACs includes the federally-designated hazardous air pollutants. In 1987, the Legislature enacted the Air Toxics “Hot Spots” Information and Assessment Act of 1987 (AB 2588) to address public concern over

[11] National Highway Traffic Safety Administration. *In Removing Major Roadblock to State Action on Emissions Standards, U.S. Department of Transportation Advances Biden-Harris Administration’s Climate and Jobs Goals.* Available at: https://www.nhtsa.gov/press-releases/cafe-preemption-final-rule. Accessed March 2022.

[12] U.S. Environmental Protection Agency. *Final Rule to Revise Existing National GHG Emissions Standards for Passenger Cars and Light Trucks Through Model Year 2026*. Available at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-revise-existing-national-ghg-emissions. Accessed March 2022.

the release of TACs into the atmosphere. AB 2588 law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hot spots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over five years. TAC emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment, and, if specific thresholds are exceeded, the facility operator is required to communicate the results to the public in the form of notices and public meetings.

## CARB Air Quality and Land Use Handbook

CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB Handbook) addresses the importance of considering health risk issues when siting sensitive land uses, including residential development, in the vicinity of intensive air pollutant emission sources including freeways or high-traffic roads, distribution centers, ports, petroleum refineries, chrome plating operations, dry cleaners, and gasoline dispensing facilities (GDF).[13] The CARB Handbook draws upon studies evaluating the health effects of traffic traveling on major interstate highways in metropolitan California centers within Los Angeles (Interstate-405 and Interstate-710), the San Francisco Bay, and San Diego areas. The recommendations identified by CARB, including siting residential uses a minimum distance of 500 feet from freeways or other high-traffic roadways, are consistent with those adopted by the State of California for location of new schools. Specifically, the CARB Handbook recommends, "Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day".[14] Additionally, the CARB Handbook recommends avoiding locating sensitive receptors within 50 feet away from a "typical" GDF. "Typical" is defined as a GDF with a throughput of less than 3.6 million gallons of gasoline per year.

Importantly, the Introduction chapter of the CARB Handbook clarifies that the guidelines are strictly advisory, recognizing that: "[l]and use decisions are a local government responsibility. The CARB Handbook is advisory and these recommendations do not establish regulatory standards of any kind." CARB recognizes that there may be land use objectives as well as meteorological and other site-specific conditions that need to be considered by a governmental jurisdiction relative to the general recommended setbacks, specifically stating, "[t]hese recommendations are advisory. Land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues".[15]

## Diesel Particulate Matter

In 2000, CARB approved a comprehensive diesel risk reduction plan to reduce diesel emissions, including DPM, from new and existing diesel-fueled vehicles and engines. The regulation is anticipated to result in an 80 percent decrease in statewide diesel health risk by 2020 compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment program. The aforementioned regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel-powered equipment. Several Airborne Toxic Control Measures (ATCMs) exist that reduce diesel emissions, including In-Use Off-Road Diesel-Fueled Fleets (13 California

[13] California Air Resources Board. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005.
[14] *Ibid.*
[15] *Ibid.*

Code of Regulations [CCR] 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

### Heavy-Duty Diesel Truck and Bus Regulation

CARB adopted the final Heavy-Duty Truck and Bus Regulation, Title 13, Division 3, Chapter 1, Section 2025, on December 31, 2014, to reduce DPM (black carbon) and $NO_X$ emissions from heavy-duty diesel vehicles. The rule requires DPM filters be applied to newer heavier trucks and buses by January 1, 2012, with older vehicles required to comply by January 1, 2015. The rule requires nearly all diesel trucks and buses to be compliant with the 2010 model year engine requirement by January 1, 2023. CARB also adopted an ATCM to limit idling of diesel-fueled commercial vehicles on December 12, 2013. The rule requires diesel-fueled vehicles with gross vehicle weights greater than 10,000 pounds to idle no more than five minutes at any location (13 CCR 2485).

## California Health and Safety Code Section 41700

Section 41700 of the Health and Safety Code states that a person must not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any of those persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property. Section 41700 also applies to sources of objectionable odors.

## Heavy-Duty Vehicle Idling Emission Reduction Program

On October 20, 2005, CARB approved a regulatory measure to reduce emissions of toxics and criteria pollutants by limiting idling of new and in-use sleeper berth equipped diesel trucks.16 The regulation established new engine and in-use truck requirements and emission performance requirements for technologies used as alternatives to idling the truck's main engine. For example, the regulation requires 2008 and newer model year heavy-duty diesel engines to be equipped with a non-programmable engine shutdown system that automatically shuts down the engine after five minutes of idling, or optionally meet a stringent $NO_X$ emission standard. The regulation also requires operators of both in-state and out-of-state registered sleeper berth equipped trucks to manually shut down their engine when idling more than five minutes at any location within California. Emission producing alternative technologies such as diesel-fueled auxiliary power systems and fuel-fired heaters are also required to meet emission performance requirements that ensure emissions are not exceeding the emissions of a truck engine operating at idle.

## In-Use Off-Road Diesel Vehicle Regulation

On July 26, 2007, CARB adopted a regulation to reduce DPM and $NO_X$ emissions from in-use (existing), off-road, heavy-duty diesel vehicles in California.[17] Such vehicles are used in construction, mining, and industrial operations. The regulation is designed to reduce harmful emissions from vehicles by subjecting fleet owners to retrofit or accelerated replacement/repower requirements, imposing idling limitations on owners, operators, renters, or lessees of off-road diesel vehicles. The idling limits require operators of applicable off-road vehicles (self-propelled diesel-fueled vehicles 25 horsepower and up that were not designed to be driven on-road) to limit idling to less than five minutes. The idling requirements are specified in Title 13 of the CCR.

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16 California Air Resources Board. *Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling*. October 24, 2013. Available at: http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm. Accessed August 2021.

17 California Air Resources Board. *In-Use Off-Road Diesel Vehicle Regulation*. December 10, 2014. Available at: http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm. Accessed August 2021.



## State Regulations Related to GHG Emissions

The statewide GHG emissions regulatory framework is summarized below. The following text describes EOs, legislation, regulations, and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues. The following discussion does not include an exhaustive list of applicable regulations; rather, only the most prominent and applicable California legislation related to GHG emissions and climate change is included below.

## State Climate Change Targets

California has taken a number of actions to address climate change, including EOs, legislation, and CARB plans and requirements, which are summarized below.

### EO S-3-05

EO S-3-05 (June 2005) established California's GHG emissions reduction targets and laid out responsibilities among the State agencies for implementing the EO and for reporting on progress toward the targets. The EO established the following targets:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

EO S-3-05 also directed the California EPA to report biannually on progress made toward meeting the GHG targets and the impacts to California due to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. The Climate Action Team was formed, which subsequently issued reports from 2006 to 2010.

### AB 32

In furtherance of the goals established in EO S-3-05, the Legislature enacted AB 32 (Núñez and Pavley). The bill is referred to as the California Global Warming Solutions Act of 2006 (September 27, 2006). AB 32 provided initial direction on creating a comprehensive, multi-year program to limit California's GHG emissions at 1990 levels by 2020 and initiate the transformations required to achieve the State's long-range climate objectives. AB 32 also required that the CARB prepare a "scoping plan" for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020. The CARB's Scoping Plan is described in further detail below.

### CARB's 2007 Statewide Limit on GHG Emissions

In 2007, in accordance with California Health and Safety Code Section 38550, CARB approved a statewide limit on GHG emissions by 2020, consistent with the determined 1990 baseline (427 million metric tons [MMT] $CO_2e$).

### EO B-18-12

EO B-18-12 (April 2012) directed State agencies, departments, and other entities under the governor's executive authority to take action to reduce entity-wide GHG emissions by at least 10 percent by 2015 and 20 percent by 2020, as measured against a 2010 baseline. EO B-18-12 also established goals for existing State buildings for reducing grid-based energy purchases and water use.

### EO B-30-15

EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under EO S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing GHG

emissions to 40 percent below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80 percent below 1990 levels by 2050 as set forth in EO S-3-05. To facilitate achieving this goal, EO B-30-15 called for an update to the CARB's *Climate Change Scoping Plan: A Framework for Change* (Scoping Plan) to express the 2030 target in terms of MMT $CO_2e$. The CARB's Scoping Plan is discussed in further detail below. The EO also called for State agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets.

## Senate Bill (SB) 32 and AB 197

SB 32 and AB 197 (enacted in 2016) are companion bills. SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40 percent below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, to provide ongoing oversight over implementation of the State's climate policies. AB 197 also added two members of the Legislature to the Board as non-voting members; requires CARB to make available and update (at least annually via the CARB's website) emissions data for GHGs, criteria air pollutants, and TACs from reporting facilities; and requires CARB to identify specific information for GHG emissions reduction measures when updating the Scoping Plan.

## CARB's Climate Change Scoping Plan

One specific requirement of AB 32 is for CARB to prepare a scoping plan for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020 (Health and Safety Code Section 38561[a]), and to update the Scoping Plan at least once every five years. In 2008, CARB approved the first Scoping Plan. The Scoping Plan included a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the State's long-range climate objectives. The key elements of the Scoping Plan include the following:

1. Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
2. Achieving a statewide renewable energy mix of 33 percent;
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions;
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets;
5. Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard (LCFS) (17 CCR, Section 95480 et seq.); and
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

The Scoping Plan also identified local governments as essential partners in achieving California's goals to reduce GHG emissions because they have broad influence and, in some cases, exclusive authority over activities that contribute to significant direct and indirect GHG emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations. Specifically, the Scoping Plan encouraged local governments to adopt a

reduction goal for municipal operations and for community emissions to reduce GHGs by approximately 15 percent from then levels (2008) by 2020. Many local governments developed community-scale local GHG reduction plans based on this Scoping Plan recommendation.

In 2014, CARB approved the first update to the Scoping Plan. The *First Update to the Climate Change Scoping Plan: Building on the Framework* (First Update) defined the State's GHG emission reduction priorities for the next five years and laid the groundwork to start the transition to the post-2020 goals set forth in EO S-3-05 and EO B-16-2012. The First Update concluded that California is on track to meet the 2020 target but recommended a 2030 mid-term GHG reduction target be established to ensure a continuation of action to reduce emissions. The First Update recommended a mix of technologies in key economic sectors to reduce emissions through 2050, including energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies. As part of the First Update, CARB recalculated the State's 1990 emissions level using more recent GWPs identified by the Intergovernmental Panel on Climate Change, from 427 MMT $CO_2e$ to 431 MMT $CO_2e$.

In 2015, as directed by EO B-30-15, CARB began working on an update to the Scoping Plan to incorporate the 2030 target of 40 percent below 1990 levels by 2030 to keep California on a trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80 percent below 1990 levels by 2050, as set forth in EO S-3-05. Governor Jerry Brown called on California to pursue a new and ambitious set of strategies, in line with the five climate change pillars from his inaugural address, to reduce GHG emissions and prepare for the unavoidable impacts of climate change. In summer 2016, the Legislature affirmed the importance of addressing climate change through passage of SB 32 (Pavley, Chapter 249, Statutes of 2016).

In December 2017, the Scoping Plan was once again updated. The 2017 Scoping Plan built upon the successful framework established in the initial Scoping Plan and First Update, while identifying new, technologically feasible and cost-effective strategies that would serve as the framework to achieve the 2030 GHG target as established by SB 32 and define the State's climate change priorities to 2030 and beyond. For local governments, the 2017 Scoping Plan replaced the initial Scoping Plan's 15 percent reduction goal with a recommendation to aim for a communitywide goal of no more than six $MTCO_2e$ per capita by 2030, and no more than two $MTCO_2e$ per capita by 2050, which are consistent with the State's long-term goals. The 2017 Scoping Plan recognized the benefits of local government GHG planning (e.g., through Climate Action Plans [CAPs]) and provided more information regarding tools to support those efforts. The 2017 Scoping Plan also recognized the CEQA streamlining provisions for project-level review where a legally adequate CAP exists.

When discussing project-level GHG emissions reduction actions and thresholds in the context of CEQA, the 2017 Scoping Plan stated that "achieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development" for project-level CEQA analysis, but also recognized that such a standard may not be appropriate or feasible for every development project. The 2017 Scoping Plan further provided that "the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA."

The most recent update to the Scoping Plan, the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan Update) was adopted by the CARB in December 2022. The 2022

Scoping Plan Update builds upon previous efforts to reduce GHG emissions and is designed to continue to shift the California economy away from dependence on fossil fuels. The 2022 Scoping Plan Update, the most comprehensive and far-reaching Scoping Plan developed to date, identifies a technologically feasible and cost-effective path to achieve carbon neutrality by 2045 while also assessing the progress California is making toward reducing its GHG emissions by at least 40 percent below 1990 levels by 2030, as called for in SB 32 and laid out in the 2017 Scoping Plan. The 2030 target is an interim but important stepping stone along the critical path to the broader goal of deep decarbonization by 2045. The relatively longer path assessed in the Scoping Plan incorporates, coordinates, and leverages many existing and ongoing efforts to reduce GHGs and air pollution, while identifying new clean technologies and energy. Given the focus on carbon neutrality, the Scoping Plan also includes discussion for the first time of the Natural and Working Lands (NWL) sectors as both sources of emissions and carbon sinks.

The 2022 Scoping Plan Update lays out a path to achieve targets for carbon neutrality and reduce GHG emissions by 85 percent below 1990 levels by 2045, as directed by AB 1279. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

### CARB's Regulations for the Mandatory Reporting of GHG Emissions

CARB's Regulation for the Mandatory Reporting of GHG Emissions (17 CCR 95100–95157) incorporated by reference certain requirements that the USEPA promulgated in its Final Rule on Mandatory Reporting of GHGs (40 Code of Federal Regulations [CFR] Part 98). Specifically, Section 95100(c) of the Mandatory Reporting Regulation incorporated those requirements that the USEPA promulgated in the Federal Register on October 30, 2009; July 12, 2010; September 22, 2010; October 28, 2010; November 30, 2010; December 17, 2010; and April 25, 2011. In general, entities subject to the Mandatory Reporting Regulation that emit more than 10,000 $MTCO_2e$ per year are required to report annual GHGs through the California Electronic GHG Reporting Tool. Certain sectors, such as refineries and cement plants, are required to report regardless of emission levels. Entities that emit more than the 25,000 $MTCO_2e$ per year threshold are required to have their GHG emission report verified by a CARB-accredited third party.

### SB 605 and SB 1383

SB 605 (2014) required CARB to complete a comprehensive strategy to reduce emissions of SLCPs in the State, and SB 1383 (2016) required CARB to approve and implement that strategy by January 1, 2018. SB 1383 also establishes specific targets for the reduction of SLCPs (40 percent below 2013 levels by 2030 for $CH_4$ and HFCs, and 50 percent below 2013 levels by 2030 for anthropogenic black carbon), and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, CARB adopted its SLCP Reduction Strategy in March 2017. The SLCP Reduction Strategy establishes a framework for the statewide reduction of emissions of black carbon, $CH_4$, and fluorinated gases.

### EO B-55-18

EO B-55-18 (September 2018) establishes a statewide policy for California to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net-negative emissions thereafter. The goal is an addition to the existing statewide targets of reducing the State's GHG emissions. CARB intends to work with relevant State agencies to ensure that future scoping plan updates identify and recommend measures to achieve the carbon neutrality goal.



## Mobile Sources

The following regulations relate to the control of GHG emissions from mobile sources. Mobile sources include both on-road vehicles and off-road equipment.

### AB 1493

AB 1493 (Pavley) (July 2002) was enacted in response to the transportation sector accounting for more than half of California's $CO_2$ emissions. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the State board to be vehicles that are primarily used for non-commercial personal transportation in the State. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009–2012) standards would result in a reduction of approximately 22 percent of GHG emissions compared to the emissions from the 2002 fleet, and the mid-term (2013–2016) standards would result in a reduction of approximately 30 percent. However, as previously described within the Federal Vehicle Standards section, the USEPA's SAFE Vehicles Rule Part One, adopted in November 2019, revokes California's authority to set GHG emissions standards. As the USEPA rule is the subject of pending legal challenges and President Biden issued an EO to review Part One and Part Two, the analysis within this document uses the best available information at this time, as set forth in CARB's Emission Factor Database (EMFAC).

### EO S-1-07

EO S-1-07 (January 2007, implementing regulation adopted in April 2009) set a declining LCFS for GHG emissions measured in $CO_2e$ grams per unit of fuel energy sold in California. The target of the LCFS is to reduce the carbon intensity of California passenger vehicle fuels by at least 10 percent by 2020 (17 CCR 95480 et seq.). Carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered.

### SB 375

SB 375 (Steinberg) (September 2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 requires CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035, and to update those targets every eight years. SB 375 requires the State's 18 regional metropolitan planning organizations to prepare a sustainable communities strategy as part of their Regional Transportation Plans that will achieve the GHG reduction targets set by CARB. If a metropolitan planning organization is unable to devise a sustainable communities strategy to achieve the GHG reduction target, the metropolitan planning organization must prepare an alternative planning strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

Pursuant to California Government Code Section 65080(b)(2)(K), a sustainable communities strategy does not (1) regulate the use of land, (2) supersede the land use authority of cities and counties, or (3) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with the sustainable community strategy. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the State-mandated housing element process.

### Advanced Clean Cars Program and Zero-Emissions Vehicle Program

The Advanced Clean Cars program (January 2012) is an emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars. To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. By 2025, implementation of the rule is anticipated to reduce emissions of smog-forming pollution from cars by 75 percent compared to the average new car sold in 2015. To reduce GHG emissions, CARB, in conjunction with the USEPA and NHTSA, adopted GHG standards for model year 2017 to 2025 vehicles; the standards were estimated to reduce GHG emissions by 34 percent by 2025. The zero-emissions vehicle program acts as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of zero-emissions vehicles and plug-in hybrid electric vehicles in the 2018 to 2025 model years. However, implementation of the Advanced Clean Cars program is contingent upon the outcome of the ongoing SAFE Vehicles Rule litigation.

### EO B-16-12

EO B-16-12 (March 2012) required that State entities under the governor's direction and control support and facilitate the rapid commercialization of zero-emissions vehicles. The order directed CARB, California Energy Commission (CEC), California Public Utilities Commission (CPUC), and other relevant agencies to work with the Plug-In Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve goals by 2015, 2020, and 2025. On a statewide basis, EO B-16-12 established a target reduction of GHG emissions from the transportation sector equaling 80 percent less than 1990 levels by 2050. EO B-16-12 did not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare.

### AB 1236

AB 1236 (October 2015) (Chiu) required a city, county, or city and county to approve an application for the installation of electric-vehicle charging stations, as defined, through the issuance of specified permits unless the city or county makes specified written findings based on substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the public health or safety, and a feasible method to satisfactorily mitigate or avoid the specific, adverse impact does not exist. The bill provided for appeal of that decision to the planning commission, as specified. AB 1236 required electric-vehicle charging stations to meet specified standards. The bill required a city, county, or city and county with a population of 200,000 or more residents to adopt an ordinance, by September 30, 2016, that created an expedited and streamlined permitting process for electric-vehicle charging stations. The bill also required a city, county, or city and county with a population of less than 200,000 residents to adopt the ordinance by September 30, 2017.

## Water

The following regulations relate to the conservation of water, which reduces GHG emissions related to electricity demands from the treatment and transportation of water.

### EO B-29-15

In response to a drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25 percent relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives subsequently

became permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the State. In response to EO B-29-15, the California Department of Water Resources modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency, and broadens the applicability of the ordinance to include new development projects with smaller landscape areas.

### EO B-37-16

Issued in May 2016, EO B-37-16 directed the State Water Resources Control Board (SWRCB) to adjust emergency water conservation regulations through the end of January 2017 to reflect differing water supply conditions across the State. The SWRCB also developed a proposal to achieve a mandatory reduction of potable urban water usage that builds off the mandatory 25 percent reduction called for in EO B-29-15. The SWRCB and Department of Water Resources were directed to develop new, permanent water use targets that build upon the existing State law requirements that the State achieve 20 percent reduction in urban water usage by 2020. EO B-37-16 also specifies that the SWRCB permanently prohibit water-wasting practices such as hosing off sidewalks, driveways, and other hardscapes; washing automobiles with hoses not equipped with a shut-off nozzle; using non-recirculated water in a fountain or other decorative water feature; watering lawns in a manner that causes runoff, or within 48 hours after measurable precipitation; and irrigating ornamental turf on public street medians.

### EO B-40-17

EO B-40-17 (April 2017) lifted the drought emergency in all California counties except Fresno, Kings, Tulare, and Tuolumne. It also rescinded EO B-29-15, but expressly stated that EO B-37-16 remains in effect and directed the SWRCB to continue development of permanent prohibitions on wasteful water use.

## Solid Waste

The following regulations relate to the generation of solid waste and means to reduce GHG emissions from solid waste produced within the State.

### AB 939 and AB 341

In 1989, AB 939, known as the Integrated Waste Management Act (California Public Resources Code [PRC] Sections 40000 et seq.), was passed because of the observed increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25 percent by 1995 and 50 percent by 2000.

AB 341 (Chapter 476, Statutes of 2011 [Chesbro]) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that the policy goal of the State is that not less than 75 percent of solid waste generated be source-reduced, recycled, or composted by 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery to develop strategies to achieve the State's policy goal.

## Other State Actions

The following State regulations are broadly related to GHG emissions.

## SB 97

SB 97 (Dutton) (August 2007) directed the Governor's Office of Planning and Research to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, the Governor's Office of Planning and Research issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities. The advisory further recommended that the lead agency determine the significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. The California Natural Resource Agency (CNRA) adopted the CEQA Guidelines amendments in December 2009, and the amended CEQA Guidelines became effective in March 2010.

Under the amended CEQA Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis, or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR 15064.4[a]). The CEQA Guidelines require a lead agency to consider the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]). The CEQA Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures. The adopted amendments do not establish a GHG emission threshold, instead allowing a lead agency to develop, adopt, and apply the lead agency's own thresholds of significance or those developed by other agencies or experts. CNRA acknowledges that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions.

With respect to GHG emissions, the CEQA Guidelines state that lead agencies should "make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions (14 CCR 15064.4[a]). The CEQA Guidelines note that an agency may identify emissions by either selecting a "model or methodology" to quantify the emissions or by relying on "qualitative analysis or other performance based standards" (14 CCR 15064.4[a]). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment: (1) the extent to which a project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]).

## EO S-13-08

EO S-13-08 (November 2008) is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. Therefore, the EO directs State agencies to take specified actions to assess and plan for such impacts. The final 2009 California Climate Adaptation Strategy report was issued in December 2009, and an update, *Safeguarding California: Reducing Climate Risk*, followed in July 2014. To assess the State's vulnerability, the report summarizes key climate change impacts to the State for the following areas: agriculture, biodiversity and habitat, emergency management, energy, forestry, ocean and coastal ecosystems and resources, public health, transportation, and water. Issuance of the *Safeguarding California: Implementation Action Plans* followed in March 2016. In January 2018, the CNRA

released the *Safeguarding California Plan: 2018 Update,* which communicates current and needed actions that the State government should take to build climate change resiliency.

## Local Regulations

The most prominent local regulations related to air quality and GHG emissions are established by the SMAQMD and Sacramento County, as discussed in further detail below.

## Sacramento Metropolitan Air Quality Management District

The SMAQMD regulates many sources of pollutants in the ambient air as well as GHG emissions, and is responsible for implementing certain programs and regulations for controlling air pollutant and GHG emissions to improve air quality in order to attain federal and State AAQS and reduce GHG emissions in compliance with State goals.

### Air Quality Attainment Plan

As a part of the SVAB federal ozone nonattainment area, the SMAQMD works with the other local air districts within the Sacramento area to develop a regional air quality management plan under the FCAA requirement. The regional air quality management plan is called the SIP which describes and demonstrates how Sacramento County, as well as the Sacramento nonattainment area, would attain the required federal ozone standard by the proposed attainment deadline. In accordance with the requirements of the FCAA, the SMAQMD, along with the other air districts in the region, prepared the *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (Ozone Attainment Plan) in December 2008. The CARB determined that the Ozone Attainment Plan met federal Clean Air Act requirements and approved the Plan on March 26, 2009 as a revision to the SIP. An update to the plan, *2017 Revisions to the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (2017 Ozone Attainment Plan), was prepared and adopted by CARB on November 16, 2017. An additional update to the plan was prepared and adopted by CARB on October 15, 2018, and known as the *2018 Updates to the California State Implementation Plan.*

The Ozone Attainment Plan, and subsequent updates, demonstrate how existing and new control strategies would provide the necessary future emission reductions to meet the FCAA requirements, including the NAAQS. It should be noted that in addition to strengthening the 8-hour ozone NAAQS, the USEPA also strengthened the secondary 8-hour ozone NAAQS, making the secondary standard identical to the primary standard. On October 26, 2015, the USEPA released a final implementation rule for the revised NAAQS for ozone to address the requirements for reasonable further progress, modeling and attainment demonstrations, and reasonably available control measures (RACM) and reasonably available control technology (RACT). The USEPA published designations for areas in attainment/unclassifiable for the 2015 ozone standards. The USEPA identified the entire Sacramento County as nonattainment for the 2015 ozone standards.[18] More specifically, Sacramento County is part of the Ozone Sacramento Federal Nonattainment Area (SFNA) which includes Feather River Air Quality Management District (FRAQMD), El Dorado Air Quality Management District (EDAQMD), Yolo Solano Air Quality Management District (YSAQMD) and Placer County Air District (PCAPCD). The attainment deadline for the SFNA is July 2025.

[18] U.S. Environmental Protection Agency. *Nonattainment and Unclassifiable Area Designations for the 2015 Ozone Standards*. April 30, 2018.

## Sacramento County General Plan

The Sacramento County General Plan includes several goals and policies related to air quality and GHG emissions.[19] The applicable policies are listed below:

### Air Quality Element

Policy AQ-1. New development shall be designed to promote pedestrian/bicycle access and circulation to encourage community residents to use alternative modes of transportation to conserve air quality and minimize direct and indirect emission of air contaminants.

Policy AQ-2. Support Regional Transit's efforts to secure adequate funding so that transit is a viable transportation alternative. Development shall pay its fair share of the cost of transit facilities required to serve the project.

Policy AQ-3. Buffers and/or other appropriate exposure reduction measures shall be established on a project-by project basis and incorporated during review to provide for protection of sensitive receptors from sources of air pollution or odor. The California Air Resources Board's "Strategies to Reduce Air Pollution Exposure Near High Volume Roadways" Technical Advisory and the AQMD's "Mobile Sources Air Toxics Protocol" or applicable AQMD guidance shall be utilized when establishing these exposure reduction measures.

Policy AQ-4. Developments which meet or exceed thresholds of significance for ozone precursor pollutants, and/or Greenhouse Gases (GHG) as adopted by the Sacramento Metropolitan Air Quality Management District (SMAQMD), shall be deemed to have a significant environmental impact. An Air Quality Mitigation Plan and/or a Greenhouse Gas Reduction Plan shall be submitted to the County of Sacramento prior to project approval, subject to review and recommendation as to technical adequacy by the Sacramento Metropolitan Air Quality Management District.

Policy AQ-4B Land uses with sensitive receptors (such as residences, schools, senior care facilities and day care centers) which are proposed within 500 feet of a freeway or other high volume roadway (defined as an urban roadway with more than 100,000 average daily trips or a rural roadway with more than 50,000 average daily trips), a railyard or an active railroad shall incorporate exposure reduction measures consistent with the guidance listed in Air Quality Element policy AQ-3.

Policy AQ-5. Reduce emissions associated with vehicle miles travelled and evaporation by reducing the surface area dedicated to parking facilities; reduce vehicle emissions associated with "hunting" for on-street parking by implementing innovative parking innovative parking solutions including shared parking, elimination of minimum parking requirements, creation of maximum parking requirements, and utilize performance pricing for publicly owned parking spaces both on- and off-street, as well as creating parking benefit districts.

Policy AQ-6. Provide incentives for the use of transportation alternatives, including a program for the provision of financial incentives for builders that construct

[19] Sacramento County. *Sacramento County General Plan for 2005-2030*. November 9, 2011.

ownership housing within a quarter mile of existing and proposed light rail stations.

Policy AQ-8. Promote mixed-use development and provide for increased development intensity along existing and proposed transit corridors to reduce the length and frequency of vehicle trips.

Policy AQ-10. Encourage vehicle trip reduction and improved air quality by requiring development projects that exceed the SMAQMD's significance thresholds for operational emissions to provide on-going, cost-effective mechanisms for transportation services that help reduce the demand for existing roadway infrastructure.

Policy AQ-11. Encourage contractors operating in the county to procure and to operate low-emission vehicles, and to seek low emission fleet status for their off-road equipment.

Policy AQ-12. Minimize air pollutant emissions from Sacramento County facilities and operations.

Policy AQ-13. Use California State Air Resources Board (ARB) and SMAQMD guidelines for Sacramento County facilities and operations to comply with mandated measures to reduce emissions from fuel consumption, energy consumption, surface coating operations, and solvent usage.

Policy AQ-14. Support SMAQMD's development of improved ambient air quality monitoring capabilities and the establishment of standards, thresholds and rules to more adequately address the air quality impacts of plans and proposals proposed by the County.

Policy AQ-16. Prohibit the idling of on-and off-road engines when the vehicle is not moving or when the off-road equipment is not performing work for a period of time greater than five minutes in any one-hour period.

Policy AQ-17. Promote optimal air quality benefits through energy conservation measures in new development.

Policy AQ-19. Require all feasible reductions in emissions for the operation of construction vehicles and equipment on major land development and roadway construction projects.

Policy AQ-20. Promote Cool Community strategies to cool the urban heat island, reduce energy use and ozone formation, and maximize air quality benefits by encouraging four main strategies including, but not limited to: plant trees, selective use of vegetation for landscaping, install cool roofing, and install cool pavements.

Policy AQ-21. Support SMAQMD's particulate matter control measures for residential wood burning and fugitive dust.

Policy AQ-22. Reduce greenhouse gas emissions from County operations as well as private development.

# 6. IMPACTS AND MITIGATION MEASURES

The standards of significance and methodology used to analyze and determine the proposed project's potential project-specific impacts related to air quality and GHG emissions are described below. In addition, a discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

## Standards of Significance

Based on the recommendations of SMAQMD, and consistent with Appendix G of the CEQA Guidelines, the effects of a project are evaluated to determine if they would result in a significant adverse impact on the environment. For the purposes of this analysis, an impact is considered significant if the proposed project would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations (including localized CO concentrations and TAC emissions);
- Result in other emissions (such as those leading to odors) affecting a substantial number of people;
- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

## Criteria Pollutant Emissions and TAC Emissions

In order to evaluate criteria air pollutant emissions from development projects, SMAQMD has established significance thresholds for emissions of $NO_X$, ROG, $PM_{10}$, and $PM_{2.5}$. The significance thresholds serve as air quality standards in the evaluation of air quality impacts associated with proposed development projects. Thus, if the proposed project's emissions exceed the SMAQMD thresholds, the project could have a significant effect on regional air quality and attainment of federal and State AAQS. The SMAQMD's recommended thresholds of significance are listed in Table 6. Sacramento County, as the CEQA Lead Agency for the proposed project, has formally adopted the SMAQMD's thresholds of significance. Therefore, if the proposed project's emissions exceed the pollutant thresholds presented in Table 6, the project could have a significant effect on air quality, the attainment of federal and State AAQS, and could conflict with or obstruct implementation of the applicable air quality plan.

To assess the potential impacts of TACs from stationary sources, such as GDFs, chrome plating facilities, and dry cleaners, the SMAQMD maintains thresholds of significance for the review of local community risk and hazard impacts. The thresholds are designed to assess the impact of new sources of TACs on existing sensitive receptors. Based on the SMAQMD thresholds, the proposed project would result in a significant impact related to TACs if nearby sensitive receptors would experience an increased cancer risk of greater than or equal to 10 in one million people, or experience a chronic or acute hazard index of greater than or equal to 1.0.[20] While SMAQMD has regulatory authority to require a health risk assessment for stationary sources of TACs, SMAQMD

[20] Sacramento Metropolitan Air Quality Management District. *Guide to Air Quality Assessment in Sacramento County: Toxic Air Contaminants.* April 2020.

does not have authority to require a health risk assessment for area sources of TACs (i.e., rail yards, distribution centers, and freeways), and does not have adopted thresholds related to such. Nonetheless, if a project would introduce a new area source of TACs or would site a new sensitive receptor near an existing area source of TACs that would not meet the CARB's minimum recommended setback, as established in the CARB Handbook, a detailed health risk assessment may be warranted for disclosure purposes and to provide useful information for decision-makers.

**Table 6**
**SMAQMD Thresholds of Significance**

| Pollutant | Construction Threshold | Operational Threshold |
|---|---|---|
| $NO_X$ | 85 lbs/day | 65 lbs/day |
| ROG | - | 65 lbs/day |
| $PM_{10}$ | Zero (0). If all feasible BACT/BMPs are applied, then: 80 lbs/day and 14.6 tons/yr | Zero (0). If all feasible BACT/BMPs are applied, then: 80 lbs/day and 14.6 tons/yr |
| $PM_{2.5}$ | Zero (0). If all feasible BACT/BMPs are applied, then: 82 lbs/day and 15 tons/yr | Zero (0). If all feasible BACT/BMPs are applied, then: 82 lbs/day and 15 tons/yr |

Notes: BACT = Best Available Control Technologies; BMP = Best Management Practices.
***Source: SMAQMD Thresholds of Significance Table, April 2020.***

In addition, neither SMAQMD nor the County has established quantitative thresholds of significance for construction-related TAC emissions. Additionally, the SMAQMD does not have adopted thresholds of significance for cumulative health effects from multiple sources of TACs. However, for reference, the nearby Bay Area Air Quality Management District (BAAQMD) considers an impact associated with TACs to be significant if the total sources of TACs would result in a cumulative cancer risk hazard in excess of 100 cancers in a million from all local sources, or a cumulative chronic hazard index in excess of 10.0.[21] In the absence of adopted cumulative thresholds, the SMAQMD recommends presenting the BAAQMDs thresholds for informational purposes and to provide context.[22]

## GHG Emissions and Other Cumulative Emissions

Nearly all development projects in the region have the potential to generate air pollutants that may increase global climate change. SMAQMD has adopted thresholds of significance for GHG emissions during construction and operations of projects. This GHG analysis has been prepared to show compliance with SMAQMD's GHG thresholds of significance.

For construction-related GHG emissions, the SMAQMD has adopted a threshold of significance of 1,100 $MTCO_2e$/yr. If construction of the proposed project would result in emissions that exceed 1,100 $MTCO_2e$/yr, then construction of the project could be considered to result in a potentially significant impact and mitigation measures would be required.

For evaluating operational GHG emissions, SMAQMD has prepared a two-tiered framework of analysis for new projects. All discretionary projects subject to CEQA review, excluding exempt projects, are required to implement Tier 1 measures (BMP 1 and 2). If operations of the proposed project would exceed 1,100 $MTCO_2e$/yr after implementation of the Tier 1 measures, then the

[21] Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines*. May 2017.
[22] Rachel DuBose, Air Quality Planner and Analyst, Sacramento Metropolitan Air Quality Management District. Personal Communication [phone] with Briette Shea, Associate/Air Quality Technician, Raney Planning and Management, Inc. July 27, 2021.

project is required to implement Tier 2 measures (BMP 3). The Tier 1 and Tier 2 requirements are explained in further detail below.

## Tier 1

All discretionary projects subject to CEQA review within SMAQMD's jurisdiction would be required to comply with the Best Management Practices (BMPs) included in Tier 1. The proposed Tier 1 BMPs are as follows:

- ***BMP 1:*** No natural gas: Projects shall be designed and constructed without natural gas infrastructure.
- ***BMP 2:*** Electric vehicle (EV) ready: Projects shall meet the current CalGreen Tier 2 standards, except all EV Capable spaces shall instead be EV Ready.

If a project would not comply with both of the foregoing BMPs, the project would be required to include features that would achieve an equivalent level of GHG emissions reductions. Should a project opt to include natural gas infrastructure, the project would be required to include pre-wiring to allow for the future retrofit of all natural gas appliances with all-electric appliances. After implementation of BMPs 1 and 2, if a project's operational emissions would be at or below 1,100 $MTCO_2e$/yr, the operational emissions would be considered less than significant. Projects that would still result in emissions in excess of 1,100 $MTCO_2e$/yr after implementation of BMPs 1 and 2 are subject to review under Tier 2 of SMAQMD's thresholds.

Furthermore, projects that are below the Governor's Office of Planning and Research's (OPR's) *de minimis* vehicle miles travelled (VMT) criteria, and/or projects that emit less than 1,100 $MTCO_2e$/yr prior to implementation of BMP 1 and BMP 2 would be considered sufficiently small to screen out of further requirements, and would be assumed to result in a less-than-significant impact related to GHG emissions and climate change. The following types of projects would be considered to be below the OPR's *de minimis* VMT criteria:

- Small projects that generate or attract fewer than 110 trips per day;
- Residential and office projects in areas with low VMT (currently below threshold VMT) that incorporate similar features (i.e., density, mix of uses, transit accessibility), including affordable housing infill development; or
- Residential, retail, office, or mixed-use projects within 0.5-mile walking distance of an existing major transit stop or existing stop along a high-quality transit corridor, unless the primary use of the site is auto-oriented (e.g., car dealership, car wash, gas station).

It is noted, however, that all projects within the jurisdiction of SMAQMD are required to implement the Tier 1 measures, even if the project qualifies for screening using the OPR's *de minimis* VMT criteria.

## Tier 2

The second tier of SMAQMD's thresholds includes the following BMP:

- ***BMP 3***: Residential projects shall achieve a 15 percent reduction in VMT per resident, and office projects should achieve a 15 percent reduction in VMT per worker compared to existing average VMT per capita for the county, or for the city if a more local SB 743 target has been established. VMT reductions can be achieved by many strategies, such as:
    - Locate in an area that already has low VMT due to location, transit service, etc.;

- Adopt CAPCOA measures;
- Adopt measures noted in Sacramento's CAP checklist;
- Join a Transportation Management Association;
- Incorporate traffic calming measures;
- Incorporate pedestrian facilities and connections to public transportation; and/or
- Promote electric bicycle or other micro-mobility options.

The VMT evaluation conducted to assess compliance with BMP 3 shall be consistent with the County's adopted Transportation Analysis Guidelines, which sets forth methodology to conduct transportation analyses in compliance with SB 743.[23] Pursuant to the Tier 2 requirement, if a project can successfully achieve a 15 percent reduction in VMT, then impacts associated with operational GHG emissions are considered less than significant.

If a project cannot incorporate any of the foregoing BMPs, other reductions or purchasing and retiring of GHG/carbon offsets can be used as an alternative method of compliance. Given that the developer demonstrates that the alternative method(s) of compliance would achieve the same reductions as those required by BMPs 1 through 3, the project can be considered to result in a less-than-significant impact related to operational GHG emissions.

In accordance with CARB and SMAQMD recommendations, Sacramento County uses the currently adopted SMAQMD GHG thresholds of significance, as presented above. Therefore, if the proposed project would result in construction GHG emissions in excess of 1,100 $MTCO_2e$/yr, construction of the proposed project would be considered to result in a cumulatively considerable contribution to global climate change. In addition, if the proposed project would not achieve the SMAQMD's Tier 1 GHG requirements (BMPs 1 and 2) and, if applicable, Tier 2 GHG requirements (BMP 3), operations of the project would be considered to result in a cumulatively considerable contribution to global climate change.

With regard to other cumulative emissions, such as the cumulative emissions of criteria air pollutants, the SMAQMD directs lead agencies to use the region's existing attainment plans as a basis for analysis of cumulative emissions. If a project would interfere with an adopted attainment plan, the project would inhibit the future attainment of AAQS, and thus result in a significant incremental contribution to cumulative emissions. As discussed throughout this document, the SMAQMD's recommended thresholds of significance for ozone precursors and $PM_{10}$ are based on attainment plans for the region. Thus, SMAQMD concluded that if a project's ozone precursor and $PM_{10}$ emissions would be less than the associated thresholds, the project would not be expected to conflict with any relevant attainment plans, and would not result in a cumulatively considerable contribution to a significant cumulative impact. As a result, the operational phase cumulative-level emissions thresholds established by SMAQMD are identical to the project-level operational emissions thresholds; the operational/cumulative thresholds for criteria pollutants are presented in Table 6.

## Method of Analysis

The analysis protocol and guidance provided by the SMAQMD's *CEQA Guide*, including screening criteria and pollutant thresholds of significance, was used to analyze the proposed project's air quality impacts. All modeling results are included as an appendix to this document.

[23] Sacramento County. *Transportation Analysis Guidelines*. September 10, 2020.

## Construction Emissions

The proposed project would be built out over several phases across approximately 20 years in response to market-based demand for housing. As a result, the construction schedule is subject to economic fluctuations related to the housing market, and modeling construction of the entire project area in one phase would not represent a realistic analysis. Thus, in order to provide a conservative evaluation of potential impacts, this analysis evaluates Phase 1 of construction, which represents the most emissions-intensive phase of construction. Construction of the remainder of the project area would occur in subsequent phases, in response to market demand. However, it is anticipated that all other phases would be smaller in size and would result in a less intense level of construction. The approximate boundaries of Phase 1 are shown in Figure 6.

The construction emissions for Phase 1 of the proposed project were estimated using the California Emissions Estimator Model (CalEEMod) version 2020.4.0 software – a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions, including GHG emissions, from land use projects. The model applies inherent default values for various land uses, including construction data, trip generation rates, vehicle mix, trip length, timing, inherent site or project design features, compliance with applicable average speed, compliance with the 2019 California Building Standards Code (CBSC), etc.

Where project-specific data was available, such data was input into the model (e.g., construction phases and regulations, etc.).

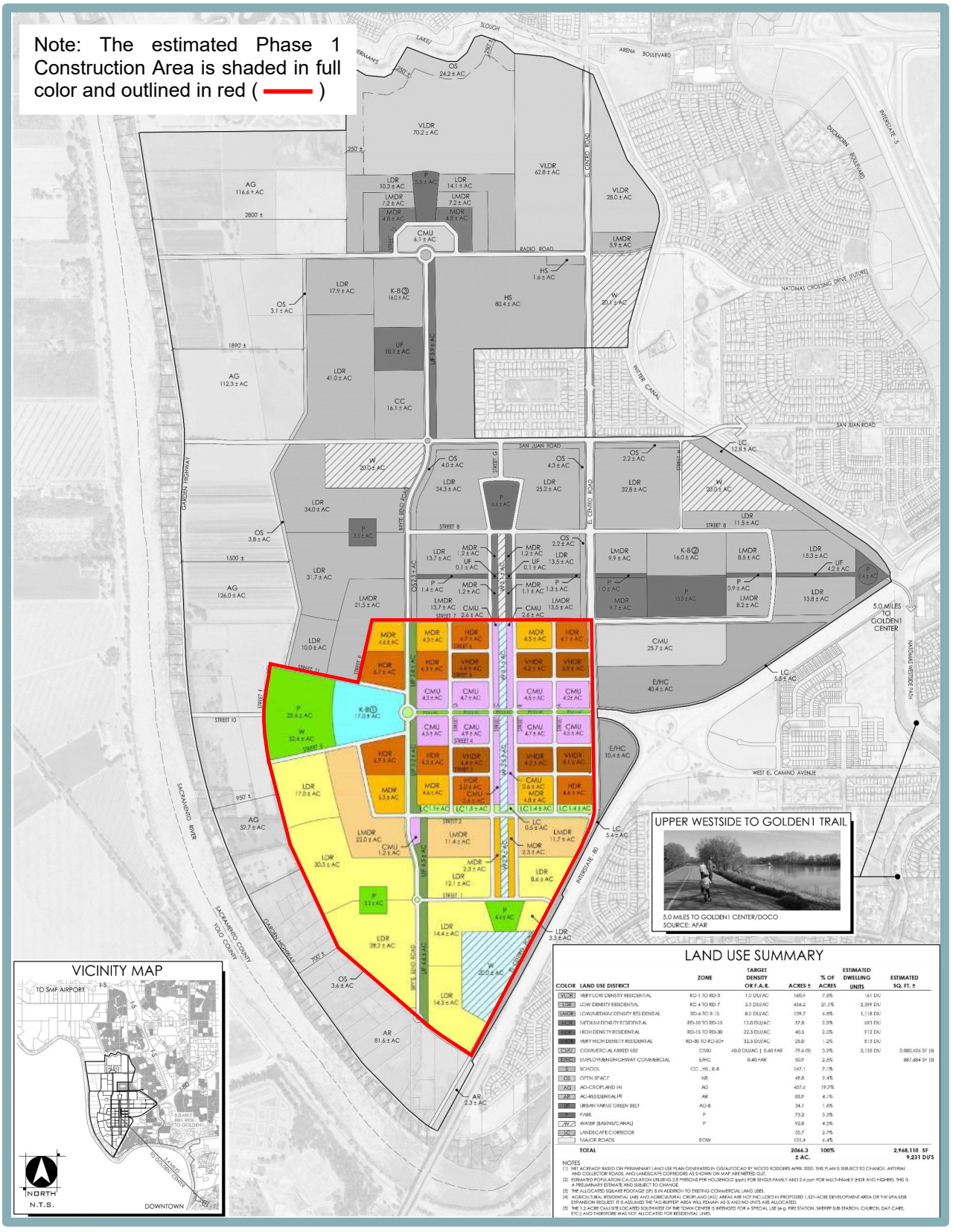
Accordingly, the Phase 1 construction modeling assumed the following:

- Construction would commence in June of 2023 and would occur over an approximately seven-year period;
- Approximately 122,570 cubic yards (CY) of material would be exported during site preparation;
- The timing of each phase of construction was adjusted based on applicant-provided information; and
- The amount of construction equipment was doubled to account for the size of the construction area and the construction timing.

As noted above, construction of Phase I of the proposed project would represent the most emissions-intensive phase, and construction of the remainder of the proposed project would occur in response to market demand. Thus, the construction timing of subsequent phases is speculative. Nonetheless, in order to disclose total construction emissions from the proposed project, modeling was conducted to represent buildout of the remainder of the proposed project. The modeling assumed construction of all remaining land uses, excluding those built during Phase I. The construction modeling of the remainder of the project assumed the following:

- Construction would commence in August of 2030 and would occur over an approximately 15-year period;
- The timing of each phase of construction was based on the applicant-provided timing for Phase I, and proportionally scaled to occur over the 15-year construction period; and
- The amount of construction equipment was doubled to account for the size of the construction area and the construction timing.

## Figure 6
## Estimated Phase 1 Construction Area



## Operational Emissions

The project site is currently developed with existing land uses including, but not limited to, the following: approximately 20 single-family residences; an approximately 40,000-sf general office building; an approximately 70,000-sf warehouse building; a 12-hole golf course; a 145-room hotel; and more. These existing land uses emit criteria pollutants during operations, and such emissions would cease upon buildout of the proposed project. In order to accurately represent the net change in criteria pollutants emissions associated with the proposed project, emissions were calculated for an estimated operations year of 2045 under both A) existing conditions and B) the proposed project.

A) The existing conditions operational emissions were estimated using CalEEMod version 2020.4.0 software. All existing land uses and vehicle trip generation rates were entered consistent with the project-specific Trip Generation Memorandum prepared by Fehr and Peers.[24]
B) The proposed project's operational emissions were also estimated using CalEEMod version 2020.4.0 software. All proposed land uses and associated vehicle trip generation rates were entered consistent with the project-specific Trip Generation Memorandum prepared by Fehr and Peers. The modeling also assumed compliance with the 2019 CalGreen Code and the adopted Model Water Efficiency Landscape Ordinance (MWELO).

## Construction Health Risk Assessment

Sensitive receptors do not currently exist in the immediate vicinity of the Phase 1 area. However, as buildout of each phase occurs, receptors would be located on the project site, and construction activities would have the potential to occur adjacent to sensitive receptors (existing and future), including residences and/or schools. In order to model the worst-case scenario, the construction emissions modeling associated with construction of Phase 1 assumed sensitive receptors along the perimeter of the Phase 1 construction area. In addition, an additional receptor was placed in the center of the Phase 1 construction area to represent receptors that would be exposed to emissions associated with subsequent phases of the proposed project in combination with the Phase 1 construction. The combination of the two receptor locations represents the maximum possible exposure to any one receptor through the course of the 30-year development associated with the proposed project. While these receptor locations are hypothetical for modeling purposes, the conditions represent the most emissions-intensive phase of construction occurring adjacent to sensitive receptors. In reality, because subsequent construction phases of the project would likely be less intense than Phase 1, construction which would occur adjacent to receptors would be less intense than what is evaluated herein.

To analyze potential health risks to nearby receptors that could result from DPM emissions from off-road equipment at the project site, total DPM emissions from construction of Phase 1 of the proposed project were estimated. DPM is considered a subset of $PM_{2.5}$, thus, the CalEEMod estimated $PM_{2.5}$ emissions from exhaust during construction was conservatively assumed to represent all DPM emitted on-site. The CalEEMod estimated $PM_{2.5}$ exhaust emissions were then used to calculate the concentration of DPM at the maximally exposed sensitive receptor near the project site.

[24] Fehr and Peers. *Draft Technical Memorandum #2, Upper Westside Specific Plan – Project Trip Generation*. December 8, 2020.

DPM concentrations resulting from project implementation were estimated using the American Meteorological Society/Environmental Protection Agency (AMS/EPA) Regulatory Model (AERMOD). The associated cancer risk and non-cancer hazard index were calculated using the CARB's Hotspot Analysis Reporting Program Version 2 (HARP 2) Risk Assessment Standalone Tool (RAST), which calculates the cancer and non-cancer health impacts using the risk assessment guidelines of the 2015 Office of Environmental Health Hazard Assessment (OEHHA) Guidance Manual for Preparation of Health Risk Assessments.[25] The modeling was performed in accordance with the USEPA's User's Guide for the AERMOD[26] and the 2015 OEHHA Guidance Manual.

Although pollutant concentrations at all nearby receptors were estimated, for the purpose of determining potential health risks, only the highest estimated pollutant concentrations were used in calculating cancer risk and hazard indices. The receptor experiencing the highest estimated pollutant concentrations was considered to be the maximally exposed receptor, and would experience the highest potential health risks. Health risks to all other receptors would be lower than the health risks to the maximally exposed receptor, because all other receptors would be exposed to lower concentrations of construction-related pollutants as compared to the maximally exposed receptor.

Additionally, considering that both schools and residences exist in proximity to the area of disturbance, the estimation of health risks conservatively assumed that nearby receptors would be continuously exposed to pollutants from construction at the maximum estimated concentrations. This assumption would represent a scenario whereby a resident living nearby also attends one of the nearby schools and is therefore exposed to pollutants both at home and at school. In practice, concentrations of pollutants at nearby schools would be much less than the concentration of pollutants at the maximally exposed receptor location. Due to the difference in pollutant concentrations at the maximally exposed receptor location and nearby schools, a single receptor would not be anticipated to be continuously exposed to the maximum level of pollutant concentrations both at home and at school. Nevertheless, by using the maximum estimated concentrations and assuming continuous exposure to pollutants, the estimated health risks presented below are considered a worst-case estimate of potential health risks, and actual health risks to receptors in the project area would be lower than the levels presented within this analysis.

## Operational Health Risk Assessment

Impacts of the environment on a project (as opposed to impacts of a project on the environment) are beyond the scope of required CEQA review. While not a CEQA consideration, this issue is hereby addressed given that the proposed project would involve locating sensitive receptors near existing sources of TACs, including two GDFs and I-80.

Figure 7 presents the modeled sources of TACs in yellow, as well as an overlay of the proposed site plan to demonstrate where future sensitive receptors would be located. The methods used to calculate the TAC emissions associated with each source are described below.

[25] Office of Environmental Health Hazard Assessment. *Air Toxics Hot Spots Program Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments* [pg. 8-18]. February 2015.

[26] U.S. Environmental Protection Agency. *User's Guide for the AMS/EPA Regulatory Model (AERMOD)*. December 2016.

**Figure 7**
**Operational Health Risk Assessment: Sources of TACs**



### *Estimating TAC Emissions Associated with GDFs*

The maximum permitted gasoline throughput for each GDF was obtained through the SMAQMD's Public Information Request Form.[27]

Following the guidance within the SMAQMD's *Guide to Air Quality Assessment in Sacramento County*,[28] as well as guidance from the Toxics Committee of the California Air Pollution Control Officers Association (CAPCOA),[29] the concentrations of pollutants from operation of the existing GDFs were calculated using AERMOD. The associated cancer risk and non-cancer hazard indices were calculated using the CARB's HARP 2 RAST. For the purpose of this analysis, the primary TAC of concern is benzene. As such, potential health risks related to the exposure of receptors to benzene were considered.

Like the construction health risk assessment, only the highest estimated pollutant concentrations at the maximally exposed receptors were used in calculating cancer risk and hazard indices. Health risks to all other receptors would be lower than the health risks to the maximally exposed receptor, because all other receptors would be exposed to lower concentrations of GDF-related pollutants as compared to the maximally exposed receptor. Additionally, the estimation of health risks conservatively assumed that nearby receptors would be continuously exposed to pollutants from the GDF at the maximum estimated concentrations. This assumption would represent a scenario whereby a resident living nearby also attends one of the nearby schools and is therefore exposed to pollutants both at home and at school and, thereby, offers the most conservative approach to analysis.

### *Estimating TAC Emissions Associated with I-80*

Based on the SMAQMD's Mobile Sources Air Toxics Protocol Tool, the estimated cancer risk per million persons and the concentration of $PM_{2.5}$ from operation of I-80 were estimated at the nearest sensitive receptors.[30] The concentration of $PM_{2.5}$ was applied in the HARP 2 RAST software, over an assumed 30-year exposure period, in order to estimate the chronic hazard index at the receptors near I-80.

The SMAQMD's Mobile Sources Air Toxics Protocol Tool uses car and truck emission factors from the CARB's EMission FACtor (EMFAC) database for vehicles within Sacramento County, and assumes future emission reductions due to technological advancements. The SMAQMD does not recommend any particular thresholds for use with the Mobile Sources Air Toxics Protocol Tool.

Although a specific threshold does not exist, due to the proposed proximity of sensitive receptors and I-80, the proposed project will be required to comply with the SMAQMD's Landscaping Guidance for Improving Air Quality Near Roadways as a condition of project approval.[31]

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27 Muller, Virginia. Legal Assistant II/Clerk of the Hearing Board, Sacramento Metropolitan Air Quality Management District. Personal communication [email] with Briette Shea, Associate/Air Quality Technician, Raney Planning and Management, Inc. July 15, 2021.

28 Sacramento Metropolitan Air Quality Management District. *Guide to Air Quality Assessment in Sacramento County: Toxic Air Contaminants.* April 2020.

29 California Air Pollution Control Officers Association. *CAPCOA Air Toxics "Hot Spots" Program: Gasoline Service Station Industrywide Risk Assessment Guidelines*. November 1997.

30 Sacramento Metropolitan Air Quality Management District. *Mobile Sources Air Toxics Protocol Tool*. Available at: http://sacramentorisk.azurewebsites.net/. Accessed July 2021.

31 Sacramento Metropolitan Air Quality Management District. *Landscaping Guidance for Improving Air Quality Near Roadways: Plant Species and Best Practices for the Sacramento Region, Version 2.0*. May 2020.

## Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on implementation of the proposed project in comparison with the standards of significance identified above.

### AQ-1 Conflict with or obstruct implementation of the applicable air quality plan. Based on the analysis below, the impact is *significant and unavoidable*.

The project's estimated emissions associated with construction and operations are presented and discussed in further detail below.

#### Construction Emissions

During construction of the project, various types of equipment and vehicles would temporarily operate on the project site. Construction exhaust emissions would be generated from construction equipment, vegetation clearing and earth movement activities, construction worker commutes, and construction material hauling for the entire construction period. The aforementioned activities would involve the use of diesel- and gasoline-powered equipment that would generate emissions of criteria pollutants. Project construction activities also represent sources of fugitive dust, which includes PM emissions. As construction of the proposed project would generate air pollutant emissions intermittently within the site and vicinity, until all construction has been completed, construction is a potential concern because the proposed project is in a non-attainment area for ozone, $PM_{10}$, and $PM_{2.5}$.

It is noted that the project is required to comply with all SMAQMD rules and regulations for construction, which would be noted on County-approved construction plans and ensured as a condition of approval for the proposed project. The applicable rules and regulations would include, but would not be limited to, the following:

- Rule 403 related to Fugitive Dust;
- Rule 404 Related to Particulate Matter;
- Rule 407 related to Open Burning;
- Rule 442 related to Architectural Coatings;
- Rule 453 related to Cutback and Emulsified Asphalt Paving Materials; and
- Rule 460 related to Adhesives and Sealants.

To apply the $PM_{10}$ and $PM_{2.5}$ thresholds presented in Table 6, projects must implement all feasible SMAQMD BACTs and BMPs related to dust control. In the case of construction activities, projects are required to implement the SMAQMD's identified Basic Construction Emissions Control Practices (BCECPs), which are considered by the SMAQMD to be the applicable construction BMPs. The control of fugitive dust during construction is required by SMAQMD Rule 403, and enforced by SMAQMD staff. The BCECPs for dust control include the following:

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads;

- Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered;
- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited;
- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph);
- All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used;
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site;[32]
- Provide current certificate(s) of compliance for CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation [California Code of Regulations, Title 13, sections 2449 and 2449.1]. For more information contact CARB at 877-593-6677, doors@arb.ca.gov, or www.arb.ca.gov/doors/compliance_cert1.html.;[33] and
- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.

Compliance with the foregoing measures is required per Rule 403, and compliance with all applicable SMAQMD rules, including Rule 403, is required as a County condition of approval. Thus, project construction would comply with the foregoing measures. Consequently, the project PM emissions are assessed in comparison to the thresholds presented in Table 6.

Table 7 presents the estimated construction-related emissions of ROG, $NO_X$, $PM_{10}$, and $PM_{2.5}$ associated with Phase 1 buildout of the proposed project in comparison with the SMAQMD thresholds of significance. It is noted that, as presented in Table 6, SMAQMD does not have an adopted threshold of significance for construction-related ROG emissions; thus, ROG emissions have been included in Table 7 for informational purposes only.

**Table 7**
**Maximum Unmitigated Construction Emissions – Phase 1**

| Pollutant | Project Emissions | Construction Threshold | Exceeds Threshold? |
|---|---|---|---|
| ROG | 53.03 lbs/day | - | **N/A** |
| $NO_X$ | 316.34 lbs/day | 85 lbs/day | **YES** |
| $PM_{10}$ | 40.52 lbs/day;<br>4.21 tons/yr | 80 lbs/day;<br>14.6 tons/yr | **NO** |
| $PM_{2.5}$ | 22.43 lbs/day;<br>1.27 tons/yr | 82 lbs/day;<br>15 tons/yr | **NO** |

***Source: CalEEMod, April 2023 (see Appendix A).***

[32] This BMP for dust control specifically applies to diesel-powered equipment. Non-diesel vehicles are not required to limit idling time.

[33] This BMP for dust control specifically applies to diesel-powered equipment.

As shown in the table, the maximum unmitigated construction-related emissions for the most intense phase of construction (i.e., Phase 1) would be below the applicable thresholds of significance for $PM_{10}$ and $PM_{2.5}$. However, emissions of $NO_X$ would exceed the applicable SMAQMD threshold of significance. Therefore, Mitigation Measure AQ-1, which would require the use of construction equipment with Tier 4 engines, would be required to ensure that emissions of $NO_X$ are below the SMAQMD threshold during construction of the proposed project.

### *Construction Emissions – Informational Discussion*

As noted above, construction of Phase I of the proposed project would represent the most emissions-intensive phase and, therefore, the conclusion presented above would be applicable to the entire project. In addition, as construction of the remainder of the proposed project would occur in response to market demand, the construction timing of subsequent phases is speculative. Nonetheless, in order to disclose total construction emissions from the proposed project, modeling was conducted to represent buildout of the remainder of the proposed project. The modeling assumed construction of all remaining land uses over approximately 15 years, for an operational year of 2045. The results of the modeling are presented below in Table 8, below.

**Table 8**
**Maximum Unmitigated Construction Emissions – Remainder of Project**

| Pollutant | Project Emissions | Construction Threshold | Exceeds Threshold? |
|---|---|---|---|
| ROG | 54.90 lbs/day | - | **N/A** |
| $NO_X$ | 103.53 lbs/day | 85 lbs/day | **YES** |
| $PM_{10}$ | 47.39 lbs/day;<br>6.00 tons/yr | 80 lbs/day;<br>14.6 tons/yr | **NO** |
| $PM_{2.5}$ | 13.22 lbs/day;<br>1.68 tons/yr | 82 lbs/day;<br>15 tons/yr | **NO** |

***Source: CalEEMod, April 2023 (see Appendix A).***

As shown in Table 8, buildout of the remainder of the proposed project is anticipated to be below the applicable thresholds of significance for $PM_{10}$ and $PM_{2.5}$. However, similar to Phase 1 buildout of the proposed project, emissions of $NO_X$ would exceed the applicable SMAQMD threshold of significance during buildout of the remainder of the proposed project. Therefore, Mitigation Measure AQ-1 would be required during all phases of the phases of project buildout to ensure that emissions of $NO_X$ are below the SMAQMD threshold during construction of the proposed project.

## Operational Emissions

Operational emissions of ROG, $NO_X$, and PM would be generated by the proposed project from both mobile and stationary sources. Day-to-day activities, such as the future resident's and employees' vehicle trips to and from the project site, would make up the majority of the mobile emissions. Emissions would also occur from area sources, including natural gas combustion from heating mechanisms, landscape maintenance equipment exhaust, and consumer products (e.g., deodorants, cleaning products, spray paint, etc.).

As discussed above, due to the nonattainment designations of the area, the SMAQMD has developed plans to attain the State and federal standards for ozone and particulate matter. The current applicable air quality plan for the proposed project area is the *Sacramento Regional 2009 NAAQS 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (Ozone Attainment Plan), updated July 24, 2017. The Ozone Attainment Plan demonstrates how existing and new control strategies would provide the necessary future emission reductions to meet the CAA requirements, including the federal AAQS. Adopted SMAQMD rules and regulations, as well as the thresholds of significance, have been developed with the intent to ensure continued attainment of AAQS, or to work towards attainment of AAQS for which the area is currently designated nonattainment, consistent with the applicable air quality plan. Thus, if a project's operational emissions exceed the SMAQMD's mass emission thresholds, a project would be considered to conflict with or obstruct implementation of the SMAQMD's air quality planning efforts.

The estimated net new operational emissions associated with proposed project are presented in Table 9. It should be noted that the project would not involve installation or operation of any pieces of equipment that would require implementation of SMAQMD's BACTs; therefore, the project would be subject to SMAQMD's mass emissions thresholds for $PM_{10}$ and $PM_{2.5}$.[34] As demonstrated in Table 9, the project's net new unmitigated operational emissions would exceed the applicable thresholds of significance for all criteria pollutants. Therefore, operations associated with development of the proposed project could substantially contribute to the SVAB's non-attainment status for ozone, $PM_{10}$, or $PM_{2.5}$.

**Table 9**
**Unmitigated Maximum Operational Criteria Pollutant Emissions**

| Scenario | ROG | $NO_X$ | $PM_{10}$ | | $PM_{2.5}$ | |
|---|---|---|---|---|---|---|
| | lbs/day | lbs/day | lbs/day | tons/yr | lbs/day | tons/yr |
| A) Existing Conditions | 21.21 | 10.66 | 10.42 | 1.83 | 3.00 | 0.53 |
| B) Proposed Project | 632.06 | 252.57 | 443.82 | 77.83 | 126.18 | 22.06 |
| *Net Change in Emissions* | *610.85* | *241.91* | *433.40* | *76.00* | *123.18* | *21.53* |
| **Threshold of Significance** | **65** | **65** | **80** | **14.6** | **82** | **15** |
| **Exceeds Threshold?** | **YES** | **YES** | **YES** | **YES** | **YES** | **YES** |

***Source: CalEEMod, July 2021; and CalEEMod, March 2022 (see Appendix A).***

## Conclusion

Construction activities associated with the proposed project would be required to comply with all SMAQMD BCECPs, and would therefore adhere to local air quality

[34] Although not anticipated, should the proposed project include land uses or pieces of equipment that would require implementation of SMAQMD's BACTs (i.e., boiler, crematory, automotive spray painting, dry cleaning, pharmaceutical manufacturing, etc.), each stationary source would require an operational permit issued by SMAQMD. As part of the permitting process, compliance with the identified BACTs would be required. Thus, the thresholds of significance for PM emissions remain applicable.

plans. However, $NO_X$ emissions resulting from construction activity are anticipated to exceed SMAQMD's applicable threshold of significance. In addition, during operations, the proposed project is anticipated to result in criteria pollutant emissions which exceed the SMAQMD's thresholds of significance. The proposed project could also result in a cumulatively considerable net increase of a criteria air pollutant for which the project region is non-attainment under an applicable AAQS. Therefore, a ***significant*** impact could result.

## Mitigation Measure(s)

The primary source of project-related construction $NO_X$ emissions would be associated with off-road construction equipment used during construction of the proposed project. Implementation of Mitigation Measure AQ-1, which requires the use of higher-tier off-road equipment, would reduce the emissions of $NO_X$ to below the applicable SMAQMD threshold of significance, as presented in Table 10. It should be noted that while the emissions presented in Table 10 are only representative of Phase I of the project, given that construction of Phase I of the proposed project would represent the most emissions-intensive phase, Mitigation Measure AQ-1 would result in emissions of $NO_X$ to below the applicable SMAQMD threshold of significance during the remaining phases of construction as well. Therefore, implementation of the following mitigation measure would reduce the above potential impact related to construction emissions to a less-than-significant level.

**Table 10**
**Maximum Mitigated Construction Emissions – Phase 1**

| Pollutant | Project Emissions | Construction Threshold | Exceeds Threshold? |
|---|---|---|---|
| ROG | 50.44 lbs/day | - | **N/A** |
| $NO_X$ | 68.39 lbs/day | 85 lbs/day | **NO** |
| $PM_{10}$ | 38.11 lbs/day;<br>4.07 tons/yr | 80 lbs/day;<br>14.6 tons/yr | **NO** |
| $PM_{2.5}$ | 20.23 lbs/day;<br>1.13 tons/yr | 82 lbs/day;<br>15 tons/yr | **NO** |

***Source: CalEEMod, April 2023 (see Appendix A).***

For land development projects that are anticipated to exceed the SMAQMD's operational emissions thresholds of significance for criteria pollutants, such as the proposed project, SMAQMD requires that the project proponent develop an Air Quality Mitigation Plan (AQMP) describing what features the project will incorporate to reduce operational criteria pollutant emissions from baseline conditions. SMAQMD guidance provides that the creation and implementation of an AQMP represents all feasible mitigation, provided that the AQMP demonstrates a 15 percent reduction of ozone precursors below baseline emissions for projects considered in the State Implementation Plan (SIP) and 35 percent for projects not considered in the SIP. As the proposed project was not anticipated by the County in its current General Plan (adopted in 2011) or other community plan, development of the project is not included in the growth assumptions of the SIP. As such, a reduction of 35 percent below baseline emissions of ozone precursors is required for the proposed project. According to SMAQMD, a project's ozone precursor emissions reductions goals should be based on mobile emissions only. Mitigation Measure AQ-2 requires preparation and implementation of a project-specific AQMP. The maximum operational criteria pollutant emissions, with implementation of Mitigation Measure AQ-2, is presented in

Table 11. Implementation of the following measure, Mitigation Measure AQ-2, represents all feasible mitigation. However, as demonstrated in Table 11, emission levels would still exceed the applicable threshold of significance and, therefore, the impact would remain *significant and unavoidable*.

**Table 11**
**Mitigated Maximum Operational Criteria Pollutant Emissions**

| Scenario | ROG | $NO_X$ | $PM_{10}$ | | $PM_{2.5}$ | |
|---|---|---|---|---|---|---|
| | lbs/day | lbs/day | lbs/day | tons/yr | lbs/day | tons/yr |
| A) Existing Conditions | 21.21 | 10.66 | 10.42 | 1.83 | 3.00 | 0.53 |
| B) Proposed Project with AQ-1 | 625.05* | 210.53* | 427.52 | 74.97 | 121.81 | 21.29 |
| *Net Change in Emissions* | *603.84* | *199.87* | *417.10* | *73.14* | *118.81* | *20.76* |
| **Threshold of Significance** | **65** | **65** | **80** | **14.6** | **82** | **15** |
| **Exceeds Threshold?** | **YES** | **YES** | **YES** | **YES** | **YES** | **YES** |

Note: ROG and $NO_X$ emissions followed by an (*) have been adjusted using off-model calculations to account for the prohibition of natural gas in residential land uses. Refer to the Air Quality Management Plan (see Appendix E) for further detail regarding the off-model calculation methodology.

***Source: CalEEMod, July 2021; and CalEEMod, March 2022 (see Appendix A).***

*AQ-1.* *Prior to the initiation of ground disturbance, the project applicant shall ensure that all heavy-duty off-road diesel-powered equipment to be used in the construction of the project (including owned, leased, and subcontractor equipment) shall be CARB Tier 4 Final or cleaner.*

*In addition, all off-road equipment working at the construction site must be maintained in proper working condition according to manufacturer's specifications. Idling shall be limited to five minutes or less in accordance with the Off-Road Diesel Fueled Fleet Regulation as required by CARB. Portable equipment over 50 horsepower must have either a valid District Permit to Operate (PTO) or a valid statewide Portable Equipment Registration Program (PERP) placard and sticker issued by CARB.*

*The aforementioned requirements shall be noted on improvement plans and submitted for review and approval by Sacramento County.*

*AQ-2.* *Prior to the approval of project improvement plans, the project applicant shall comply with the provisions of the Air Quality Management Plan prepared for the proposed project, dated March 2022 (see Appendix E), and incorporate all requirements into the Upper Westside Specific Plan conditions of approval. The measures included in the AQMP include the following:*

1. *Natural gas use shall be prohibited in all residential land uses (see Mitigation Measure GHG-3 below); and*
2. *The project shall implement a Transportation Management Association (TMA), such as Jibe North Natomas (for more information, visit https://jibe.org/). The TMA must comply with the following criteria, and is subject to approval by Sacramento County and SMAQMD:*

    a. *The TMA must be legally constituted as a non-profit organization, Property/Business Improvement District (PBID), or a government entity with a non-revocable funding mechanism, such as a community finance district, dedicated to TMA operations and services; and*
    b. *The TMA must provide a minimum level of TDM services to employees and residents within the area covered by the AQMP sufficient to achieve the emission reductions claimed by the measure. Services must be enumerated and funded to the satisfaction of the lead agency and SMAQMD.*

*The project applicant, in coordination with the SMAQMD, shall work with future developers to ensure proper implementation of the measures included in the Air Quality Management Plan, as well as any future replacement mitigation measures. Examples of replacement mitigation measures include the following:*

- ***Super-Compliant VOC Architectural Coatings during Operation.*** *Project sponsors shall include in all building rules and/or building operation plans (as applicable, depending on the parcel) a requirement that all future interior and exterior spaces be repainted only with "super-compliant" VOC (i.e., ROG) architectural coatings beyond Sacramento Metropolitan Air Quality Management District (air district) requirements (i.e., Rule 442: Architectural Coatings). "Super-compliant" coatings refer to paints that meet the more stringent regulatory limits in South Coast Air Quality Management District rule 1113, which requires a standard of 10 grams VOC per liter or less (http://www.aqmd.gov/home/regulations/compliance/architectural-coatings/super-compliant-coatings). Project sponsors shall be required to submit documentation to the County demonstrating compliance with this measure.*
- ***Best Available Emissions Controls for Stationary Emergency Generators.*** *To reduce emissions of ROG and toxic air contaminants (TACs) associated with operation of future projects, project applicants shall implement the following measures. These features shall be submitted to the County for review and approval, and shall be included on the project drawings submitted for the construction-related permit(s) or on other documentation submitted to the County prior to the issuance of any building permits:*

- *Permanent stationary emergency generators installed on-site shall have engines that meet or exceed California Air Resources Board Tier 4 Off-Road Compression Ignition Engine Standards (California Code of Regulations Title 13, Section 2423). If the California Air Resources Board adopts future emissions standards that exceed the Tier 4 requirement, the emissions standards resulting in the lowest ROG and DPM emissions shall apply.*
- *As non-diesel-fueled emergency generator technology becomes readily available and cost effective in the future, and subject to the review and approval of the County fire department for safety purposes, non-diesel-fueled generators shall be installed in new buildings, provided that alternative fuels used in generators, such as biodiesel, renewable diesel, natural gas, or other biofuels or other non-diesel emergency power systems, are demonstrated to reduce ROG and DPM emissions compared to diesel fuel.*
- *For each new diesel backup generator permit submitted to air district, project applicants shall submit the anticipated location and engine specifications to the planning department for review and approval prior to issuance of a permit for the generator. Once operational, all diesel backup generators shall be maintained in good working order for the life of the equipment, and any future replacement of the diesel backup generators must be consistent with these emissions specifications. The operator of the facility at which the generator is located shall maintain records of the testing schedule for each diesel backup generator for the life of that diesel backup generator and shall provide this information for review to the planning department within three months of requesting such information.*

- ***Promote Use of Green Consumer Products.*** *To reduce ROG emissions associated with future projects, project sponsors shall provide education for residential and commercial tenants concerning green consumer products. Prior to receipt of any certificate of occupancy, project sponsors shall develop electronic correspondence to be distributed by email annually and upon any new lease signing to residential and/or commercial tenants of each building on the project site that encourages the purchase of consumer products that generate lower than typical VOC emissions. The correspondence shall encourage environmentally preferable purchasing.*

- ***Operational Truck Emissions Reduction.*** *Project sponsors shall incorporate the following measures into the project design and construction contracts (as applicable) to reduce ROG emissions associated with operational trucks, along with the potential health risk caused by exposure to TACs. These features shall be submitted to the planning department for review and approval prior to the issuance of building permits and shall be included on the project drawings submitted for the construction-related permit or on other documentation submitted to the County. Emissions from project-related diesel trucks shall be reduced by implementing the following measures, if feasible:*
    - *Equip all truck delivery bays with electrical hook-ups for diesel trucks at loading docks to accommodate plug-in electric truck transport refrigeration units (TRUs) or auxiliary power units during project operations.*
    - *Provide a notice on the lease to all new tenants or owners of the project or any portion thereof requiring any truck-intensive uses on the site, such as large grocery stores or distribution facilities with their own fleet of trucks, to use TRUs and auxiliary power units that are electric plug-in capable and trucks that use advanced exhaust technology (e.g., hybrid) or alternative fuels.*
    - *Encourage the use of trucks equipped with diesel TRUs to meet U.S. Environmental Protection Agency Tier 4 emission standards.*
    - *Prohibit TRUs from operating at loading docks for more than thirty minutes, and post signs at each loading dock presenting this TRU limit.*
    - *Prohibit trucks from idling for more than two minutes, and post "no idling" signs at the site entry point, at all loading locations, and throughout the project site.*
- ***Electric Vehicle Charging Infrastructure.*** *Prior to the issuance of a certificate of occupancy for any project structure with parking, the project applicant shall demonstrate compliance with the California Green Building Standards (CALGreen Code) Tier 2 voluntary electric vehicle (EV) charging requirements current at that time or the mandatory requirements of the most recently adopted version of the County building code, whichever is more stringent. The installation of all EV charging equipment shall be included on project drawings submitted for construction-related permit(s) or on other documentation submitted to the County.*
- ***Electric Landscaping Equipment.*** *To reduce ROG emissions all projects shall use only electric landscaping equipment. No landscaping equipment powered by gasoline, diesel, propane, or other fossil fuels shall be used.*

*This requirement shall be incorporated into the project design and tenant contracts (as applicable).*

**AQ-2 Expose sensitive receptors to substantial pollutant concentrations. Based on the analysis below, the impact is *significant and unavoidable*.**

As noted previously, the nearest sensitive receptors to the project site include adjacent residential subdivisions and several public schools. The closest residences are approximately 50 feet away from the project site.

The major pollutant concentrations of concern are localized CO emissions, TAC emissions, and criteria pollutant emissions, which are addressed in further detail below.

### Localized CO Emissions

Localized concentrations of CO are related to the levels of traffic and congestion along streets and at intersections. Per the SMAQMD Guide, emissions of CO are generally of less concern than other criteria pollutants, as operational activities are not likely to generate substantial quantities of CO, and the SVAB has been in attainment for CO for multiple years.[35] Consequently, the proposed project is not anticipated to result in significant impacts to air quality related to localized CO emissions.

### TAC Emissions

Another category of environmental concern is TACs. The CARB Handbook provides recommended setback distances for sensitive land uses from major sources of TACs, including, but not limited to, freeways and high traffic roads, distribution centers, rail yards, and GDFs. Health risks associated with TACs are a function of both the concentration of emissions and the duration of exposure, where the higher the concentration and/or the longer the period of time that a sensitive receptor is exposed to pollutant concentrations would correlate to a higher health risk.

As noted previously, SMAQMD has permitting authority over stationary sources of TACs, but does not have authority to regulate area sources of TACs. Thus, any future land uses that may be considered a stationary source of TACs would be required to acquire the appropriate permits from the SMAQMD prior to operations. To assess the potential impacts of TACs from stationary sources, the SMAQMD maintains thresholds of significance for the review of local community risk and hazard impacts. The thresholds are designed to assess the impact of new stationary sources of TACs on existing sensitive receptors. Based on the SMAQMD thresholds, the proposed project would result in a significant impact related to stationary sources of TACs if nearby sensitive receptors would experience an increased cancer risk of greater than or equal to 10 in one million people, or experience a chronic or acute hazard index of greater than or equal to 1.0.[36]

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[35] Sacramento Metropolitan Air Quality Management District. *Guide to Air Quality Assessment, Chapter 4: Operational Criteria Air Pollutant and Precursor Emissions*. June 2020.

[36] Sacramento Metropolitan Air Quality Management District. *Guide to Air Quality Assessment in Sacramento County: Toxic Air Contaminants.* April 2020.

Implementation of the proposed project would result in emissions of TACs from area sources, which could influence existing receptors. Emissions of TACs from construction, as well as emissions of existing sources of TACs on future sensitive receptors, are discussed in further depth in the sections below.

### *Construction Emissions*

Construction-related activities would result in the generation of TACs, specifically DPM, from on-road haul trucks and off-road equipment exhaust emissions. Consequently, the operation of heavy equipment within the project site during demolition and project construction could result in exposure of nearby residents to DPM. As noted above, the proposed project would be constructed in several phases, and Phase 1 represents the most emissions-intensive phase.

As noted in the Methods section, sensitive receptors do not currently exist in the immediate vicinity of the Phase 1 area. However, as buildout of each phase occurs, receptors would be located on the project site, and construction activities would have the potential to occur adjacent to sensitive receptors. In order to model the worst-case scenario, the construction emissions modeling associated with construction of Phase 1 assumed sensitive receptors along the perimeter of the Phase 1 construction area. While these receptor locations are hypothetical for modeling purposes, the conditions represent the most emissions-intensive phase of construction occurring adjacent to sensitive receptors. In addition, an additional receptor was placed in the center of the Phase 1 construction area to represent receptors that would be exposed to emissions associated with subsequent phases of the proposed project in combination with the Phase 1 construction. The combination of the two receptor locations represents the maximum possible exposure to any one receptor through the course of the 30-year development associated with the proposed project.

In reality, because subsequent construction phases of the project would likely be less intense than Phase 1, construction which would occur adjacent to receptors would be less intense than what is evaluated herein. According to CARB, DPM is highly dispersive in the atmosphere. Specifically, based on dispersion of DPM emissions, at a distance of 1,000 feet, DPM concentrations are decreased by approximately 80 percent.[37] As such, the maximally exposed individual of any given phase would be buffered sufficiently from DPM emissions associated with construction of any remaining phases such that exposure to substantial concentrations of DPM would not occur beyond what is presented herein. In addition, regulations pertaining to construction vehicles and equipment, including, but not limited to, State and federal vehicle standards, are becoming increasingly more stringent. As such, construction of the subsequent phases would be anticipated to generate less TAC emissions as future equipment regulations become effective, and construction equipment and vehicles become cleaner.

The cancer risk and non-cancer hazard indices were estimated and are presented in Table 12. As shown in Table 12, TAC emissions related to construction of the proposed project would not result in non-cancer hazard index health risks in excess of the SMAQMD's thresholds. However, while unlikely given the highly conservative assumptions included in the model, the potential exists for construction of the

[37] California Air Resources Board. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005.



proposed project to result in cancer risks in excess of the SMAQMD threshold of significance. Therefore, a potentially significant impact could occur.

**Table 12**
**Maximum Cancer Risk and Hazard Index Associated with Construction of Phase I**

| | Cancer Risk (per million persons) | Acute Hazard Index | Chronic Hazard Index |
|---|---|---|---|
| Result at Maximally Exposed Receptor | 7.32 | 0.00 | 0.002544 |
| Result at On-Site Receptor | 11.96 | 0.00 | 0.004156 |
| *Total* | *19.28* | *0.00* | *0.0067* |
| **Thresholds of Significance** | **10.00** | **1.00** | **1.00** |
| **Exceed Thresholds?** | **YES** | **NO** | **NO** |

***Sources: AERMOD and HARP 2 RAST, April 2023, January 2024 (see Appendix C).***

## *Operational TACs on Existing Receptors*

The CARB's Handbook identified major sources of TACs, including, but not limited to, freeways and high traffic roads, GDFs, chrome plating operations, distribution centers, and rail yards. The CARB has identified diesel particulate matter (DPM) from diesel-fueled engines as a TAC; thus, high volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM.

The proposed project entails the development of primarily residential and commercial land uses and, thus, does not include any operations that would be considered a substantial source of stationary TACs. Although the project could include the implementation of new GDFs, the project would be required to comply with the CARB's recommended buffer distances which ensure that nearby sensitive receptors are not adversely affected by TAC emissions associated with such GDFs. Accordingly, operations of the proposed project would not expose sensitive receptors to excess concentrations of TACs. However, the existing receptors located to the south of the site, across I-80, could be exposed to increased DPM emissions associated with increased traffic on I-80 generated by the proposed project, as discussed below.

## *Operational TACs on Future Receptors*

The CARB has identified DPM from diesel-fueled engines as a TAC; thus, high volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. Gasoline includes multiple TACs, which are released through various processes during the operation of GDFs. Such TACs include benzene, ethyl benzene, toluene, and xylene, among others. The following analysis evaluates the potential health risks associated with the proposed multi-family housing in close proximity to two existing GDFs and I-80.

To address potential health impacts that could result from the existing GDF operations and operations of I-80 upon the nearby proposed residences to the west, emissions of pollutants related to such sources were estimated and the potential health risks were

subsequently calculated. The dispersion of benzene emissions from each GDF were modeled using AERMOD, and the health risks associated with exposure to such concentrations were calculated using HARP 2 RAST. The cancer risk per million persons associated with DPM emissions from I-80 were determined using the SMAQMD's Mobile Sources Air Toxics Protocol Tool. In addition, the SMAQMD's Mobile Sources Air Toxics Protocol Tool provided the concentration of $PM_{2.5}$ at nearby receptors, which was then used to calculate the associated chronic hazard index using HARP 2 RAST. As noted previously, the SMAQMD does not have adopted thresholds of significance for cumulative health effects from multiple sources of TACs. In the absence of adopted cumulative thresholds, the SMAQMD recommends presenting the BAAQMDs thresholds as the applicable thresholds of significance.[38]

The results of the HRA for Existing conditions indicate that the cancer risk per million people associated with operations of the existing GDFs and traffic along I-80 would exceed the applicable cumulative threshold of significance of 100 cancers per million people. Thus, an existing hazardous condition is present. Accordingly, a model run was prepared for Cumulative No Project and Cumulative Plus Project conditions to determine whether the proposed project would exacerbate the existing hazardous condition. For the Cumulative No Project and Cumulative Plus Project conditions, vehicle emission factors for the year 2045 were obtained from EMFAC2021, and traffic volumes along the study segment were provided by Fehr & Peers.[39] The results of the modeling are presented in Table 13.

According to BAAQMD guidance, a project would have a cumulative significant impact if the aggregate total of all past, present, and foreseeable future sources, plus the contribution from the project, exceeds a cancer risk of 100 in one million persons, a chronic non-cancer risk of 10.0, or an annual average $PM_{2.5}$ concentration of 0.8 µg/$m^3$. As presented in the table, the total cancer risk for Cumulative No Project Conditions would be 287.41 cancer risks per million, and the Cumulative Plus Project Conditions would be 331.79 cancer risks per million. Therefore, the proposed project would exacerbate existing conditions related to potential health risks associated with the proposed multi-family housing in close proximity to two existing GDFs and I-80, and a cumulative significant impact would occur.

Similarly, as discussed above, the existing receptors located to the south of the site, across I-80, would be exposed to increased DPM emissions associated with increased traffic on I-80 generated by the proposed project. Total cancer risk for Cumulative No Project Conditions and the Cumulative Plus Project Conditions would generally be the same as the cancer risks associated with the proposed multi-family housing on-site, presented in Table 13. Therefore, the proposed project would exacerbate existing conditions related to potential health risks associated with the existing receptors located to the south of the site, across I-80, and a cumulative significant impact would occur.

[38] Rachel DuBose, Air Quality Planner and Analyst, Sacramento Metropolitan Air Quality Management District. Personal Communication [phone] with Briette Shea, Associate/Air Quality Technician, Raney Planning and Management, Inc. July 27, 2021.

[39] John Gard, Fehr & Peers. Personal communication [email] with Rod Stinson, Vice President/Air Quality Specialist at Raney Planning & Management. September 27, 2022.



**Table 13**
**Cumulative Cancer Risk and Hazard Index**

| | Cancer Risk (per million persons) | Acute Hazard Index | Chronic Hazard Index | $PM_{2.5}$ Concentration |
|---|---|---|---|---|
| GDF 1 and 2[1] | 28.12 | 0.74 | 0.12 | N/A |
| DPM from I-80[2] Existing Conditions | 145.63 | 0.00 | 0.03 | 0.16832 |
| DPM from I-80[2] Cumulative No Project Conditions | 259.29 | 0.00 | 0.06 | 0.0997 |
| DPM from I-80[2] Cumulative Plus Project Conditions | 303.67 | 0.00 | 0.07 | 0.35099 |
| ***Totals*** | | | | |
| Total Health Risk Existing Conditions | 173.75 | 0.74 | 0.15 | 0.16832 |
| Total Health Risk Cumulative No Project Conditions | 287.41 | 0.74 | 0.18 | 0.0997 |
| Total Health Risk Cumulative Plus Project Conditions | 331.79 | 0.74 | 0.19 | 0.35099 |

***Sources:***
***1 AERMOD and HARP 2 RAST, July 2021 (see Appendix C).***
***2 AERMOD and HARP 2 RAST, September 2022 (see Appendix C).***

It should be noted, however, that the cancer and non-cancer hazard index risks presented above represent an absolute worst-case scenario with regard to project traffic. In reality, regulations pertaining to vehicle emissions, including, but not limited to, State and federal vehicle standards, are becoming increasingly more stringent. As such, project traffic, as well as future traffic travelling along I-80, is anticipated to generate less TAC emissions as future regulations become effective, and vehicle engines become cleaner. Therefore, when considering the effect of future, more stringent regulations, the cancer and non-cancer hazard index risks presented above represent a conservative estimate.

## Criteria Pollutants

Recent rulings from the California Supreme Court (including the *Sierra Club v. County of Fresno* (2018) 6 Cal. 5th 502 case regarding the proposed Friant Ranch Project) have underscored the need for analyzing potential health impacts resulting from the emission of criteria pollutants during operations of proposed projects. Although analysis of project-level health risks related to the emission of CO and TACs has long been practiced under CEQA, the analysis of health impacts due to individual projects resulting from emissions of criteria pollutants is a relatively new field. In October of 2020, SMAQMD released the *Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District* (Guidance) for the analysis of criteria emissions in areas within the SMAQMD's jurisdiction. The Guidance represents SMAQMD's effort to develop a methodology that provides a consistent, reliable, and meaningful

analysis in response to the Supreme Court's direction on correlating health impacts to a project's emissions.

The Guidance was prepared by conducting regional photochemical modeling, and relies on the USEPA's Benefits Mapping and Analysis Program (BenMAP) to assess health impacts from ozone and $PM_{2.5}$. SMAQMD has prepared two tools that are intended for use in analyzing health risks from criteria pollutants. Small projects with criteria pollutant emissions close to or below SMAQMD's adopted thresholds of significance may use the *Minor Project Health Effect Screening Tool*, while larger projects with emissions between two and eight times greater than SMAQMD's adopted thresholds may use the *Strategic Area Project Health Screening Tool*.[40] Considering the proposed project would result in emissions which exceed the SMAQMD's thresholds of significance, the project would qualify for the *Strategic Area Project Health Screening Tool*. The *Strategic Area Project Health Screening Tool* is based on location specific modeling, in five specific growth area locations. The proposed project is located closest to the Downtown Sacramento location in the *Strategic Area Project Health Screening Tool*. Results from the *Strategic Area Project Health Effects Screening Tool* are shown in Table 14.

As shown in the table, the proposed project could result in 5.2 premature deaths per year due to the project's $PM_{2.5}$ impacts, and could result in 0.14 premature deaths per year due to the project's ozone impacts. Such numbers represent a very small increase over the background incidence of premature deaths due to $PM_{2.5}$ and ozone concentrations (0.0120 percent and 0.0005 percent, respectively). $PM_{2.5}$ emissions from the proposed project could result in 2.1 asthma-related emergency room visits per year, and ozone emissions from the proposed project could result in 2.9 asthma-related emergency room visits per year. Such numbers represent a minute increase over the background level of asthma-related emergency room visits (0.0110 percent and 0.0330 percent, respectively). Additionally, it is noted that the baseline health impacts and the estimated health impacts associated with the proposed project encompass the 5-Air-District Region, which includes over seven counties.

A threshold of significance has not been established for such data and, thus, the results of the *Strategic Area Project Health Screening Tool* have been presented for informational purposes only.

## Conclusion

Based on the above discussion, the proposed project would not expose any sensitive receptors to excess concentrations of localized CO or criteria pollutants during construction or operations of the project. However, with regard to TAC emissions, the proposed project could result in construction-related cancer risks in excess of the SMAQMD threshold of significance, and would exacerbate existing conditions related to potential health risks associated with the proposed multi-family housing in close proximity to two existing GDFs and I-80, as well as the exposure of the existing receptors to the south of the project site to increased DPM emissions associated with project traffic along I-80. Consequently, the proposed project would result in a ***significant*** impact related to the exposure of sensitive receptors to substantial pollutant concentrations.

[40] Sacramento Metropolitan Air Quality Management District. *Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District*. June 2020.

## Table 14
## Health Effects from Proposed Project

| Health Endpoint | Age Range[1] | Incidences Across the 5-Air-District Region Resulting from Project Emissions (per year)[2] (Mean) | Percent of Background Health Incidences Across the 5-Air-District Region[3] (%) | Total Number of Health Incidences Across the 5-Air-District Region (per year)[4] |
|---|---|---|---|---|
| **Respiratory $PM_{2.5}$** | | | | |
| Emergency Room Visits, Asthma | 0-99 | 2.1 | 0.0110 | 18,419 |
| Hospital Admissions, Asthma | 0-64 | 0.13 | 0.0072 | 1,846 |
| Hospital Admissions, All Respiratory | 65-99 | 0.70 | 0.0036 | 19,644 |
| **Cardiovascular $PM_{2.5}$** | | | | |
| Hospital Admissions, All Cardiovascular (less Myocardial Infarctions) | 65-99 | 0.37 | 0.0015 | 24,037 |
| Acute Myocardial Infarction, Nonfatal | 18-24 | 0.00019 | 0.0049 | 4 |
| Acute Myocardial Infarction, Nonfatal | 25-44 | 0.016 | 0.0052 | 308 |
| Acute Myocardial Infarction, Nonfatal | 45-54 | 0.036 | 0.0049 | 741 |
| Acute Myocardial Infarction, Nonfatal | 55-64 | 0.062 | 0.0050 | 1,239 |
| Acute Myocardial Infarction, Nonfatal | 65-99 | 0.24 | 0.0047 | 5,052 |
| **Mortality $PM_{2.5}$** | | | | |
| Mortality, All Cause | 30-99 | 5.2 | 0.0120 | 44,766 |
| **Respiratory Ozone** | | | | |
| Hospital Admissions, All Respiratory | 65-99 | 0.20 | 0.0010 | 19,644 |
| Emergency Room Visits, Asthma | 0-17 | 1.1 | 0.0190 | 5,859 |
| Emergency Room Visits, Asthma | 18-99 | 1.8 | 0.0140 | 12,560 |
| **Mortality Ozone** | | | | |
| Mortality, Non-Accidental | 0-99 | 0.14 | 0.0005 | 30,386 |

1 Affected age ranges are shown. Other age ranges are available, but the endpoints and age ranges shown here are the ones used by the USEPA in their health assessments. The age ranges are consistent with the epidemiological study that is the basis of the health function.

2 Health effects are shown in terms of incidences of each health endpoint and how it compares to the base (2035 base year health effect incidences, or "background health incidence") values. Health effects are shown for the Reduced Sacramento 4-km Modeling Domain and the 5-Air-District Region.

3 The percent of background health incidence uses the mean incidence. The background health incidence is an estimate of the average number of people that are affected by the health endpoint in a given population over a given period of time. In this case, the background incidence rates cover the 5-Air-District Region (estimated 2035 population of 3,271,451 persons). Health incidence rates and other health data are typically collected by the government as well as the World Health Organization. The background incidence rates used here are obtained from BenMAP.

4 The total number of health incidences across the 5-Air-District Region is calculated based on the modeling data. The information is presented to assist in providing overall health context.

***Source: Sac Metro Air District Strategic Area Project Health Effects Tool, Version 2, Published September 2020.***

## Mitigation Measure(s)

With regard to construction-related cancer risks, as required by Mitigation Measure AQ-1 presented above, off-road equipment used during construction of the proposed project would be required to meet Tier 4 final engine standards.

Based on modeling conducted, as demonstrated in Table 15, use of higher tier construction equipment for all construction activities would ensure that DPM emissions from construction equipment do not result in increased health risks in excess of SMAQMD's standards. Consequently, implementation of AQ-1, as required by AQ-3, below, would reduce such impacts to a less-than-significant level.

**Table 15**
**Maximum Cancer Risk and Hazard Index Associated with Construction of Phase I**

| | Cancer Risk (per million persons) | Acute Hazard Index | Chronic Hazard Index |
|---|---|---|---|
| Result at Maximally Exposed Receptor | 1.96 | 0.00 | 0.00059 |
| Result at On-Site Receptor | 2.76 | 0.00 | 0.00096 |
| *Total* | *4.72* | *0.00* | *0.00155* |
| **Thresholds of Significance** | **10.00** | **1.00** | **1.00** |
| **Exceed Thresholds?** | **NO** | **NO** | **NO** |

***Sources: AERMOD and HARP 2 RAST, January 2024 (see Appendix C).***

With regard to operational cancer risks, Mitigation Measure AQ-4 would require the proposed project to include a minimum MERV 13 filter in the HVAC system for all on-site sensitive land uses within 500 feet of I-80. MERV 13 filters are rated to capture 80 to 90.9 percent of particles that are 1.3 to 3.0 microns in size, and over 90 percent of particles that are 3.0 to 10.0 microns in size.[41] In addition, the upgrade from standard home filters to MERV 13 filters has been shown to result in a decrease in mortality of 0.5 per 1,000 persons.[42] Therefore, the inclusion of MERV 13 filters in the proposed project would dramatically reduce resident $PM_{2.5}$ exposure. In fact, the installation of upgraded MERV rating filters has been shown to reduce indoor $PM_{2.5}$ exposure by 19 to 28 percent.[43] A linear relationship exists between $PM_{2.5}$ concentration and the associated cancer risk when all other variables, including exposure time, remains constant. Therefore, in the case of the proposed project, a 19 to 28 percent reduction in $PM_{2.5}$ concentration would equate to a 19 to 28 percent reduction in cancer risk. After installation of MERV 13 filters, the total Cumulative Plus Project cancer risk can reasonably be expected to range between 238.87 to 268.72 cases per million, which would be below the total Cumulative No Project cancer risk of 287.41 cases per million.

41 U.S. Environmental Protection Agency. *Indoor Air Quality (IAQ): What is a MERV rating?* Available at: https://www.epa.gov/indoor-air-quality-iaq/what-merv-rating-1. Accessed June 2023.

42 W.J. Fisk and W. R. Chan. *Effectiveness and cost of reducing particle-related mortality with particle filtration*. February 1, 2017.

43 M.S. Zuraimi and Zhongchao Tan. *Impact of residential building regulations on reducing indoor exposures to outdoor $PM_{2.5}$ in Toronto*. March 14, 2015.

Therefore, implementation of Mitigation Measure AQ-4 would ensure that the proposed project would not exacerbate cancer risk for future on-site receptors.

Installation of a minimum MERV 13 filter in the HVAC systems for the existing sensitive receptors to the south of the project site, across I-80, would ensure that the proposed project would not exacerbate cancer risk for such receptors as well. However, because installation of such filters in the existing residences would require resident approval, neither Sacramento County, nor the project applicant, can legally impose such improvements on private properties within the City of Sacramento. Therefore, the project's contribution to the cumulative health risk would remain *significant and unavoidable*.

*AQ-3* *Implement Mitigation Measure AQ-1.*

*AQ-4* *For sensitive land uses within 500 feet of Interstate 80, as determined to be feasible by the Sacramento County Planning Department, the project applicant shall implement measures that include, but are not limited to, the following:*

- *Install, operate and maintain in good working order a central heating, ventilation and air conditioning (HVAC) system or other air intake system in the building, or in each individual unit, that meets or exceeds a minimum efficiency reporting value (MERV) of 13 or higher. The HVAC system shall include the following features: Installation of a high efficiency filter and/or carbon filter to filter particulates and other chemical matter from entering the building. Either high efficiency particulate air (HEPA) filters or American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) certified 85% supply filters shall be used.*
- *Maintain, repair and/or replace HVAC system on an ongoing and as needed basis or shall prepare an operation and maintenance manual for the HVAC system and the filter. The manual shall include the operating instructions and the maintenance and replacement schedule. This manual shall be included in the Covenants, Conditions and Restrictions (CC&Rs) for residential projects and/or distributed to the building maintenance staff. In addition, the applicant shall prepare a separate homeowners manual. The manual shall contain the operating instructions and the maintenance and replacement schedule for the HVAC system and the filters.*
- *Install passive electrostatic filtering systems with low air velocities (i.e., less than 1 mph).*
- *Individual and common exterior open space and outdoor activity areas proposed as part of individual projects shall be located as far away as possible within the project site boundary, face away major freeways, and shall be shielded from the source (i.e., the roadway) of air pollution by buildings or otherwise buffered to further reduce air pollution for project occupants.*
- *Locate air intakes and design windows to reduce PM exposure (e.g., windows nearest to the roadway do not open).*

- *Planting trees and/or vegetation between sensitive receptors and pollution source. Trees that are best suited to trapping PM shall be planted, including one or more of the following species: Pine (Pinus nigra var. maritima), Cypress (X Cupressocyparis leylandii), Hybrid popular (Populus deltoids X trichocarpa), California pepper tree (Schinus 63ole) and Redwoods (Sequoia sempervirens).*

## AQ-3 Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. Based on the analysis below, the impact is *less than significant*.

Pollutants of principal concern include emissions leading to odors, emission of dust, or emissions considered to constitute air pollutants. Air pollutants have been discussed in sections AQ-1 and AQ-2 above. Therefore, the following discussion focuses on emissions of odors and dust.

### Odors

Construction activities often include diesel-fueled equipment and heavy-duty trucks, which could create odors associated with diesel fumes that may be considered objectionable. However, construction activities would be temporary, and hours of operation for construction equipment would be restricted to the hours of 6:00 AM and 8:00 PM on weekdays and 7:00 AM and 8:00 PM on weekends per Section 6.68.090 of the Sacramento County Code. Project construction would also be required to comply with all applicable SMAQMD rules and regulations, listed under section AQ-1 above. The aforementioned regulations would help to minimize emissions, including emissions leading to odors. Accordingly, substantial objectionable odors would not be expected to occur during construction activities.

Full buildout of the project area would include operations of fast-food and sit-down restaurants, and other uses which could include commercial kitchens. Operations of the commercial kitchens would have the potential to result in emissions of odors related to food preparation and disposal. In particular, preparation of oily food, some baking processes, and cooking using charbroiling grills may create odorous emissions. However, commercial kitchens and cooking areas are required to comply with State and local regulations associated with cooking equipment and controls, such as grease filtration and removal systems, exhaust hood systems, and blowers to move air into the hood systems, through air cleaning equipment, and then outdoors. Such equipment would ensure that pollutants associated with smoke and exhaust from cooking surfaces would be captured and filtered, allowing only filtered air to be released into the atmosphere. For instance, Article 2, Ventilation, and Article 4, Refuse, of the California Retail Food Code, set standards for mechanical exhaust ventilation equipment and waste management to reduce the emissions of odors.[44] In addition, the disposal of solid waste, including food waste, is regulated under 6.20.115, Solid Waste Removal, of the Sacramento County Code.

Furthermore, the SMAQMD regulates objectionable odors through Rule 402 (Nuisance), which prohibits any person or source from emitting air contaminants that

[44] *California Health and Safety Code: Division 104. Environmental Health, Part 7. California Retail Food Code*. January 1, 2020.

cause detriment, nuisance, or annoyance to a considerable number of persons or the public. Rule 402 is enforced based on complaints. If complaints are received, the SMAQMD is required to investigate the complaint, as well as determine and ensure a solution for the source of the complaint, which could include operational modifications. Thus, although not anticipated, if odor complaints are made regarding food preparation or GDF operations after the proposed project is approved, the SMAQMD would ensure that such odors are addressed, and any potential odor effects reduced to less than significant.

### Dust

As noted previously, construction of the proposed project is required to comply with all applicable SMAQMD rules and regulations, including, but not limited to, Rule 403 (Fugitive Dust) and Rule 404 (Particulate Matter). Furthermore, all projects within Sacramento County are required to implement the SMAQMD's BCECPs during construction, which are required as a condition of approval of development projects in Sacramento County. Compliance with SMAQMD rules and regulations and BCECP would help to ensure that dust is minimized during project construction. Following project construction, vehicles operating within the project site would be limited to paved areas of the site, which would not have the potential to create substantial dust emissions. Thus, project operations would not include sources of dust that could adversely affect a substantial number of people.

### Conclusion

For the aforementioned reasons, project construction and operations would not result in substantial emissions, such as those leading to odors or dust, which could adversely affect a substantial number of people, and a ***less-than-significant*** impact would result.

### Mitigation Measure(s)

*None required.*

## Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

A project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development projects. The geographic context for the cumulative air quality and GHG analysis includes Sacramento County and surrounding areas within the portion of the SVAB that is designated nonattainment for ozone, $PM_{10}$, and $PM_{2.5}$.

**AQ-4 Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors). Based on the**

**analysis below, and with the implementation of mitigation, the impact would be *cumulatively considerable* and *significant and unavoidable.***

A cumulative impact analysis considers a project over time in conjunction with other past, present, and reasonably foreseeable future projects whose impacts might compound those of the project being assessed. Due to the dispersive nature and regional sourcing of air pollutants, air pollution is already largely a cumulative impact. The non-attainment status of regional pollutants, including ozone and PM, is a result of past and present development, and, thus, cumulative impacts related to these pollutants could be considered cumulatively significant.

The SMAQMD directs lead agencies to use the region's existing attainment plans as a basis for analysis of cumulative emissions. A project's interference with such plans may be determined through the use of the SMAQMD's recommended thresholds of significance for ozone precursors, $PM_{2.5}$, and $PM_{10}$. Given the project's required compliance with all applicable BMPs, the SMAQMD's recommended cumulative thresholds are identical to the operational thresholds, which are presented in Table 6. Accordingly, if the proposed project would result in an increase of ROG, $NO_X$, $PM_{10}$, or $PM_{2.5}$ in excess of SMAQMD's operational phase cumulative-level emissions threshold, which are equivalent to SMAQMD's project-level operational emissions thresholds, the project could potentially result in a significant incremental contribution towards cumulative air quality impacts. The proposed project's unmitigated cumulative contribution to regional emissions is equivalent to the project's unmitigated operational emissions, as presented in Table 9.

As discussed above, the proposed project would result in operational emissions which exceed all applicable SMAQMD thresholds of significance. Therefore, the proposed project could be considered to result in a ***cumulatively considerable*** net increase of a criteria pollutant for which the project region is non-attainment.

### Mitigation Measure(s)

Implementation of the following mitigation measure represents all feasible mitigation to address criteria pollutant emissions. However, as presented in Table 11, emission levels would still exceed the applicable thresholds of significance and, therefore, the impact would remain *significant and unavoidable*.

*AQ-5. Implement Mitigation Measure AQ-2.*

**GHG-1 Generation of GHG emissions that may have a significant impact on the environment or conflict with an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. Based on the analysis below, and with the implementation of mitigation, the project's incremental contribution to this significant cumulative impact is *less than cumulatively considerable*.**

Buildout of the proposed project would contribute to increases of GHG emissions that are associated with global climate change during construction and operation.

## Construction GHG Emissions

The estimated unmitigated maximum annual construction-related emissions from the proposed project are presented in Table 16. As shown in the table, the maximum annual emissions related to construction of the proposed project would exceed the SMAQMD's threshold of 1,100 $MTCO_2e$/yr. Therefore, unmitigated project construction emissions could be considered to result in a cumulatively considerable contribution to global climate change.

**Table 16**
**Maximum Unmitigated Construction GHG Emissions**

| | **GHG Emissions ($MTCO_2e$/yr)** |
|---|---|
| Maximum Annual Construction Emissions | 5,238.86 |
| **SMAQMD Threshold** | **1,100.00** |
| **Exceed Thresholds?** | **YES** |

***Source: CalEEMod, April 2023 (see Appendix A).***

## Operational GHG Emissions

The unmitigated maximum annual operational GHG emissions were estimated under both A) existing conditions and B) the proposed project. The results are presented in Table 17.

**Table 17**
**Unmitigated Annual Operational GHG Emissions ($MTCO_2e$/yr)**

| **Source** | **A) Existing Conditions** | **B) Proposed Project** | ***Net Change*** |
|---|---|---|---|
| Area | 0.35 | 161.62 | *161.27* |
| Energy | 700.21 | 14,161.52 | *13,461.31* |
| Mobile | 1,395.13 | 54,632.27 | *53,237.14* |
| Waste | 245.26 | 6,392.06 | *6,146.80* |
| Water | 27.91 | 649.98 | *622.07* |
| **Total Annual Operational GHG Emissions** | **2,368.85** | **75,997.45** | ***73,628.60*** |

***Source: CalEEMod, July 2021; and CalEEMod, March 2022 (see Appendix A).***

The proposed project's compliance with the SMAQMD's BMPs is discussed in further detail below.

### *BMP-1: No Natural Gas*

Consistent with BMP-1, the residential portion of the proposed project would not include natural gas infrastructure. However, the non-residential components are anticipated to include natural gas. Pursuant to SMAQMD's Guidance, BMP-1 may be replaced with an alternative mitigation strategy that would reduce GHG to the same extent. Nonetheless, the non-residential components would be required to pre-wire for a future retrofit to remove natural gas plumbing and become all-electric.

Per the CalEEMod results, non-residential natural gas combustion at full buildout of the proposed project accounts for 5,995.77 $MTCO_2e$/yr. In order to fully comply with BMP-1 at full buildout, the proposed project must reduce overall GHG emissions by

5,995.77 $MTCO_2e$/yr. It is noted, however, that project buildout would be phased, and not all non-residential land uses would become operational at once. Thus, throughout the development period, non-residential natural gas combustion would result in fewer GHG emissions per year. Compliance with BMP-1 through the equivalent reduction in GHG emissions would be ensured by Mitigation Measure GHG-3.

### *BMP-2: EV-Ready*

Consistent with BMP-2, the proposed project would provide EV Ready parking spaces at the ratio with which the current CalGreen Tier 2 standards require EV Capable spaces. Given that the project would be constructed over several phases across approximately 20 years in response to market-based demand for housing, the current (i.e., most recently adopted) CalGreen Tier 2 standards would vary depending on when each specific phase of the project is developed. For example, Table 18 presents EV Ready parking spaces requirements based on the 2022 CALGreen Code, which is the most recently adopted version of CALGreen Code currently available. Compliance with BMP-2 would be ensured by Mitigation Measure GHG-2.

**Table 18**
**EV Ready Parking Space Requirements**

| Land Use Type | Requirements for New Construction | | |
|---|---|---|---|
| 1-2 family dwelling units/townhouses[1] | Each dwelling unit shall have a listed raceway to accommodate a dedicated 208/40-volt branch circuit | | |
| Multifamily dwelling units, hotels, and motels[2] | 55 percent of total parking spaces shall be EV Ready, and 20 percent of spaces shall have Level 2 EV Chargers | | |
| Nonresidential[3] | **Total Number of Parking Spaces** | **EV Ready Spaces** | **EVSE Spaces** |
| | 0-9 | 3 | 0 |
| | 10.25 | 8 | 3 |
| | 26-50 | 17 | 6 |
| | 51-75 | 28 | 9 |
| | 76-100 | 40 | 13 |
| | 101-150 | 57 | 19 |
| | 151-200 | 79 | 26 |
| | 201 and over | 45 percent of actual parking spaces | 33 percent of EV Ready Spaces |

Sources:
1. 2022 CalGreen Code Section A4.106.8.1.
2. 2022 CalGreen Code Section A4.106.8.2.
3. 2022 CalGreen Code Table A5.106.5.3.3.

### *BMP-3: No Net increase in Total VMT*

Because the project is located within the jurisdiction of SMAQMD, the project is required to implement BMPs 1 and 2. However, even with implementation of BMPs 1 and 2, the project would still result in annual emissions over the SMAQMD's threshold of significance and, therefore, would be subject to BMP 3.

A Transportation Impact Analysis was prepared for the proposed project, based primarily on the OPR's *Technical Advisory on Evaluating Transportation Impacts in*

*CEQA* as well as Sacramento County's *Transportation Analysis Guidelines* (TAG).[45,46] Per the TAG, the VMT analysis was performed using the Sacramento Area Council of Government's (SACOG) SACSIM19 tour-based travel demand model. The version of the model that was used is similar to what was used as the basis for SACOG's 2020 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS), but has been improved upon by considering the length of trips generated by land uses within the SACOG region that have an origin or destination outside the region. SACSIM19 simulates people's activities on a typical weekday and tracks travel of individuals throughout the day in trip tours. The model allocates household and employment at a parcel level, which allows the model to capture smaller-scale land use changes and demographic differences. SACSIM19 is sensitive to the local physical environment, including the presence (or absence) of pedestrian and bicycle facilities, the patterns of local street networks (e.g., grid vs. cul-de-sacs), and the density, proximity and mix of surrounding land uses (i.e. employment destinations, schools, retail, parks, etc.

SACSIM19 estimated that 15.4 percent of home-based household trips would be internal to the project site, which is considered low given the diversity and proximity of on-site land uses. In contrast, the MXD+ mixed-use trip generation model estimated 22.9 percent of home-based trips being internal. According to Fehr and Peers, because SACSIM19 is a regional travel demand model, while MXD+ was developed to more accurately estimate internal trips associated with mixed-use projects, the household VMT estimate from SACSIM19 was adjusted to reflect the expected level of internal resident trips. Adjustments were not made to work tour VMT per employee because the results appeared reasonable, and work tour VMT represents a relatively small (i.e., approximately 20 percent) component of the project's total VMT.

Results of the modeled VMT per capita associated with the proposed project is presented in Table 19.

**Table 19**
**VMT per Capita and per Employee Baseline Conditions**

| Measure | Work Tour VMT Per Employee[1] | Household VMT per Capita[2] |
|---|---|---|
| Regional Average[2] | 18.48 | 17.44 |
| Project[4] | 15.31 | 14.34 |
| **Threshold of Significance[3]** | **15.70** | **14.83** |
| **Exceeds threshold?** | **NO** | **NO** |

Notes:
1. Calculated per Sacramento County TAG.
2. Regional Average is from Existing No Project Model run. VMT includes the entire length of trips outside of SACOG Region, whereas Sacramento County TAG threshold didn't include trip length outside SACOG Region; hence, values are slightly different.
3. 85 percent of Regional Average per Sacramento County TAG.
4. Project was added to the base year MTP/SCS model. Average trip distance outside of SACOG region for the project was estimated using the average of nearby TAZs.

***Source: Fehr and Peers. Draft Report CEQA Transportation Impact Analysis for Upper Westside Specific Plan. June 16, 2021.***

45 Governor's Office of Planning and Research. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. December 2018.
46 Sacramento County. *Transportation Analysis Guidelines*. September 10, 2020.

As demonstrated in the table, the proposed project would not exceed the applicable threshold of significant related to VMT per capita.

In addition, the project's retail components are considered regional-serving because they are situated nearest to and visible from I-80. The SACSIM19 model was run for the project with and without the regional retail component. The results are shown in Table 20.

As shown in the table, the proposed project without the regional retail component generates more VMT than the project with the regional retail added, as the regional retail uses decrease the travel distance for many residents in the project area who are traveling to a regional retail destination.

Based on the above, the proposed project would comply with BMP-3.

**Table 20**
**Effect of Project's Regional Retail on VMT – Baseline Conditions**

| Measure[1] | Base Year SACSIM Model Plus Project | Base Year SACSIM Model Plus Project Without Regional Retail |
|---|---|---|
| Total Regional VMT | 42,992,142 | 43,014,069 |

[1] Calculated using Daysim trip tables, which is a step within the overall SACSIM19 model.

***Source: Fehr and Peers. Draft Report CEQA Transportation Impact Analysis for Upper Westside Specific Plan. June 16, 2021.***

## Consistency with 2022 Scoping Plan

Appendix D to the CARB's 2022 Scoping Plan provides examples of key project attributes that could be considered to assess a project's compliance with the State's 2030 GHG emissions reductions goals. Thus, general implementation of the suggested project attributes within the 2022 Scoping Plan would be considered to demonstrate the project's compliance with SB 32. The project's consistency with the key attributes within the 2022 Scoping Plan is assessed in Table 21 below.

As shown in Table 21, the proposed project would generally comply with the majority of the suggested project attributes. Because the 2022 Scoping Plan is the CARB's strategy for meeting the State's 2030 emissions goals established by SB 32, the project would not be considered to conflict with SB 32.

**Table 21**
**Project Consistency with the 2022 Scoping Plan**

| Key Project Attributes | Consistency Discussion |
|---|---|
| Provides EV charging infrastructure that, at minimum, meets the most ambitious voluntary standard in the California Green Building Standards Code at the time of project approval. | Consistent with SMAQMD BMP-2, as discussed above, the proposed project would provide EV Ready parking spaces at the ratio with which the current CalGreen Tier 2 standards require EV Capable spaces (see Table 18). Compliance with BMP-2 would be ensured by Mitigation Measure GHG-2. |

**Table 21**
**Project Consistency with the 2022 Scoping Plan**

| Key Project Attributes | Consistency Discussion |
|---|---|
| Is located on infill sites that are surrounded by existing urban uses and reuses or redevelops previously undeveloped or underutilized land that is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer). | The project site is predominantly agricultural land with existing commercial uses, including a truck stop, restaurants, gas stations, and hotels located west of the I-80 off-/on-ramp (see Figure 1 and Figure 2). The site is also surrounded by I-80, multi-family residences, and a business park to the east; and single-family residences to the east, west, north, and south. Therefore, the proposed project would develop the site with urban uses consistent with the existing uses in the project vicinity. The project would also include roadway improvements, including the expansion of El Centro Road and the development of additional roadways throughout the project site. |
| Does not result in the loss or conversion of natural and working lands. | While the project site is predominantly agricultural land, existing commercial uses, including a truck stop, restaurants, gas stations, and hotels are currently located on-site. In addition, portions of the project site are designated Commercial/Office by the Sacramento County General Plan, and are zoned General Commercial, and Highway Travel Commercial. Therefore, portions of the site have been anticipated for urban development by the County. |
| Consists of transit-supportive densities (minimum of 20 residential dwelling units per acre), or<br><br>Is in proximity to existing transit stops (within a half mile), or<br><br>Satisfies more detailed and stringent criteria specified in the region's SCS. | The proposed project includes a range of residential uses, including very low density, low density, low/medium density, medium density, high density, and very high density residential, which would be developed at a density of one dwelling unit per acre (du/ac) to 32.5 du/ac. Overall, approximately 65.5 acres of the site would be developed at a density higher than 20 du/ac. It should also be noted that the proposed project would include the development of commercial mixed use and employment/highway commercial uses, as well as schools. By providing a range of residential, commercial, and school uses within the project site, approximately 22.9 percent of home-based trips associated with the proposed project would be internal. In addition, the proposed project's regional retail uses decrease the travel distance for many residents in the project area who are traveling to a regional retail destination. |
| Reduces parking requirements by: | The proposed project would create a Specific Plan for the Upper Westside planning area. As such, the analysis included herein is a |

**Table 21**
**Project Consistency with the 2022 Scoping Plan**

| Key Project Attributes | Consistency Discussion |
|---|---|
| • Eliminating parking requirements or including maximum allowable parking ratios (i.e., the ratio of parking spaces to residential units or square feet); or<br>• Providing residential parking supply at a ratio of less than one parking space per dwelling unit; or<br>• For multifamily residential development, requiring parking costs to be unbundled from costs to rent or own a residential unit. | program-level analysis of the Specific Plan, and specific development proposals have not yet been prepared for the proposed land uses within the Specific Plan area. Nonetheless, as specific development proposals are prepared in the future, detailed plans would be prepared, which would include parking standards, which would require review and approval by Sacramento County. As such, future review of specific development proposals would ensure that the key project attributes identified in the 2022 Scoping Plan related to parking are implemented. |
| At least 20 percent of units included are affordable to lower-income residents. | As discussed above, the proposed project would create a Specific Plan for the Upper Westside planning area. As such, the analysis included herein is a program-level analysis of the Specific Plan, and specific development proposals have not yet been prepared for the proposed land uses within the Specific Plan area. Specific development proposals prepared in the future would be required to comply with the Sacramento County Affordable Housing Ordinance (Chapter 22.35 of the Sacramento County Code), which requires new development projects pay an affordability fee on all newly constructed market rate units; comply with the development project's approved affordable housing plan, if one exists; or enter into a development agreement or other form of agreement with the County which provides for a fee credit for land dedication, construction of affordable dwelling units, or other mechanism which leads to the production of affordable housing, in an amount at least equivalent to the affordability fee established by the County. |
| Results in no net loss of existing affordable units. | The project site does not currently include any affordable housing units. Therefore, the proposed project would not result in a net loss of existing affordable units. |
| Uses all-electric appliances without any natural gas connections and does not use propane or other fossil fuels for space heating, water heating, or indoor cooking. | As discussed above, consistent with SMAQMD BMP-1, the residential portion of the proposed project would not include natural gas infrastructure. However, the non-residential components are anticipated to include natural gas. Pursuant to SMAQMD's Guidance, BMP-1 may be replaced with an alternative mitigation strategy that would reduce GHG to the same extent. As such, |

| **Table 21**<br>**Project Consistency with the 2022 Scoping Plan** | |
|---|---|
| **Key Project Attributes** | **Consistency Discussion** |
| | compliance with BMP-1 through the equivalent reduction in GHG emissions would be ensured by Mitigation Measure GHG-3. |
| ***Source: California Air Resources Board. 2022 Scoping Plan [Appendix D]. December 2022.*** | |

## Conclusion

Based on the analysis presented above, while the proposed project would generally comply with the majority of the suggested project attributes included in the 2022 Scoping Plan, the proposed project would exceed SMAQMD's 1,100 $MTCO_2e$/yr threshold of significance during construction. In addition, based on the project site proximity to downtown Sacramento, the proposed project would inherently comply with SMAQMD Tier 2 requirement. However, during operations, if the SMAQMD's Tier 1 requirements are not ensured, a potentially significant impact could occur. Thus, the proposed project could be considered to generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Consequently, the project could result in a cumulatively considerable incremental contribution to GHG emissions or climate change and the project's impact would be ***potentially significant***.

## Mitigation Measure(s)

Mitigation Measure GHG-1 ensures that construction-related GHG emissions are reduced to below the applicable threshold of significance. Mitigation Measure GHG-2 ensures that Tier 1 BMP 2 is implemented, and Mitigation Measure GHG-3 ensures that an equivalent GHG reduction is applied to establish compliance with Tier 1 BMP 1. Therefore, implementation of the following mitigation measures would reduce the above potentially significant impact to a *less-than-significant* level.

### *Construction*

*GHG-1* *Prior to the initiation of construction, the applicant shall demonstrate that construction-related GHG emissions would be reduced to 1,100 $MTCO_2e$/yr and shall submit proof to the County's Department of Planning and Environmental Review.*

*Construction-related GHG emissions can be reduced through several options. The SMAQMD recommends the following options for reducing greenhouse gas emission from construction projects:*

- *Modify the construction schedule to reduce the intensity of construction to lower emissions;*
- *Ensure that phases of development do not overlap;*
- *Use of renewable diesel for construction fuel rather than diesel;*
- *Improve fuel efficiency from construction equipment by:*
  - *Minimizing idling time either by shutting equipment off when not in use or reducing the time of idling to no more than three minutes (five-minute limit is required by the state airborne*

*toxics control measure [Title 13, sections 2449(d)(3) and 2485 of the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site; and*

- *Using equipment with new technologies (repowered engines, electric drive trains).*

- *Perform on-site emission reductions such as implementing on-site material hauling with trucks equipped with on-road engines (if determined to be less emissive than the off-road engines) or real, quantifiable, permanent, verifiable, and enforceable on-site emission reductions;*
- *Use alternative fuels for generators at construction sites such as propane or solar, or use electrical power;*
- *Use a CARB-approved low carbon fuel for construction equipment; ($NO_X$ emissions from the use of low carbon fuel must be reviewed and increases mitigated.)*
- *Encourage and provide carpools, shuttle vans, transit passes and/or secure bicycle parking for construction worker commutes;*
- *Reduce electricity use in the construction office by using LED bulbs, powering off computers every day, and replacing heating and cooling units with more efficient ones;*
- *Recycle or salvage non-hazardous construction and demolition debris (goal of at least 75 percent by weight);*
- *Use locally sourced or recycled materials for construction materials (goal of at least 20 percent based on costs for building materials, and based on volume for roadway, parking lot, sidewalk and curb materials). Wood products utilized should be certified through a sustainable forestry program;*
- *Minimize the amount of concrete for paved surfaces or utilize a low carbon concrete option;*
- *Produce concrete on-site if determined to be less emissive than transporting ready mix;*
- *Use SmartWay certified trucks for deliveries and equipment transport; and*
- *Develop a plan to efficiently use water for adequate dust control.*

*The project applicant may elect to implement any combination of the foregoing measures to reduce construction-related GHG emissions. All GHG emissions reductions must be quantified. Compliance with the aforementioned measures shall be ensured by the County's Department of Planning and Environmental Review.*

*If the quantified reduction measures do not reduce construction-related GHG emissions to below 1,100 $MTCO_2e/yr$, offsite carbon credits may be purchased to make up the difference. The purchase of off-site mitigation credits shall be negotiated with the County and SMAQMD at the time that credits are sought. Off-site mitigation credits shall be real, quantifiable, permanent, verifiable, enforceable, and additional, consistent with the standards set forth in Health and Safety Code section 38562, subdivisions (d)(1) and (d)(2). The offsets shall be retired, and emissions must be offset*

*through the year 2045. Such credits shall be based on CARB-approved protocols that are consistent with the criteria set forth in subdivision (a) of Section 95972 of Title 17 of the California Code of Regulations, and shall not allow the use of offset projects originating outside of California, except to the extent that the quality of the offsets, and their sufficiency under the standards set forth herein, can be verified by Sacramento County and/or the SMAQMD. Such credits must be purchased through one of the following: (i) a CARB-approved registry, such as the Climate Action Reserve, the American Carbon Registry, and the Verified Carbon Standard; (ii) any registry approved by CARB to act as a registry under the California Cap and Trade program; or (iii) any registry established by SMAQMD.*

### *Operations*

*GHG-2* *Consistent with SMAQMD's GHG BMP-2, prior to the approval of project improvement plans, the applicant shall indicate that EV Ready parking spaces shall be installed throughout the project site at the ratio with which the current CalGreen Tier 2 standards require EV Capable spaces. Compliance with this measure shall be ensured by the County's Department of Planning and Environmental Review.*

*GHG-3* *Prior to the approval of project tentative maps, the applicant shall implement the following measures:*

1. *Consistent with SMAQMD's GHG BMP-1, natural gas shall be prohibited in all residential land uses; and*
2. *The applicant shall reduce GHG emissions associated with each phase of the proposed project at a rate of 0.001423 $MTCO_2e/yr$ per square foot of non-residential development (5,995.77 $MTCO_2e/yr$ / the modeled total of 4,213,916.52 square feet of non-residential development = 0.001432 $MTCO_2e/yr$ per square foot of non-residential development) through any combination of the following on-site mitigation options:*

    - *Prohibiting natural gas infrastructure in a portion of the non-residential buildings.*
    - *Requiring on-site renewable energy generation for non-residential buildings in excess of Code requirements.*
    - *Increasing the number of EV charging stations.*
    - *Constructing on-site or fund off-site carbon sequestration projects (such as tree plantings or reforestation projects).*
    - *Implementing a Transportation Demand Management Program.*
    - *Should new and quantifiable GHG emission reduction technology become available, the applicant may otherwise achieve the required GHG emissions reduction through other means, subject to review and approval by Sacramento County and the SMAQMD.*

*The project applicant may elect to implement any combination of the foregoing measures to reduce operational GHG emissions. All GHG emissions reductions must be quantified.*

*If it is determined that the above on-site mitigation options are not sufficient to achieve the required GHG reduction, subject to the discretion of Sacramento County and the SMAQMD, off-site carbon credits may be purchased to make up the difference. The purchase of off-site mitigation credits shall be negotiated with the County and SMAQMD at the time that credits are sought. Off-site mitigation credits shall be real, quantifiable, permanent, verifiable, enforceable, and additional, consistent with the standards set forth in Health and Safety Code section 38562, subdivisions (d)(1) and (d)(2). The offsets shall be retired, and emissions must be offset through the year 2045. Such credits shall be based on CARB-approved protocols that are consistent with the criteria set forth in subdivision (a) of Section 95972 of Title 17 of the California Code of Regulations, and shall not allow the use of offset projects originating outside of California, except to the extent that the quality of the offsets, and their sufficiency under the standards set forth herein, can be verified by Sacramento County and/or the SMAQMD. Such credits must be purchased through one of the following: (i) a CARB-approved registry, such as the Climate Action Reserve, the American Carbon Registry, and the Verified Carbon Standard; (ii) any registry approved by CARB to act as a registry under the California Cap and Trade program; or (iii) any registry established by SMAQMD.*

*Compliance with the aforementioned measures shall be ensured by the County's Department of Planning and Environmental Review.*

# 7. SOURCES

The following documents are referenced information sources used for the purposes of this Air Quality and Greenhouse Gas Impact Analysis:

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9. Fehr and Peers. *Draft Report CEQA Transportation Impact Analysis for Upper Westside Specific Plan*. June 16, 2021.
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22. Sacramento Metropolitan Air Quality Management District. *Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District*. June 2020.
23. Sacramento Metropolitan Air Quality Management District. *Guide to Air Quality Assessment in Sacramento County: Toxic Air Contaminants.* April 2020.
24. Sacramento Metropolitan Air Quality Management District. *Landscaping Guidance for Improving Air Quality Near Roadways: Plant Species and Best Practices for the Sacramento Region, Version 2.0*. May 2020.
25. Sacramento Metropolitan Air Quality Management District. *Mobile Sources Air Toxics Protocol Tool*. Available at: http://sacramentorisk.azurewebsites.net/. Accessed July 2021.
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27. U.S. Environmental Protection Agency. *Final Rule to Revise Existing National GHG Emissions Standards for Passenger Cars and Light Trucks Through Model Year 2026*. Available at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-revise-existing-national-ghg-emissions. Accessed March 2022.
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# Appendix A

# CalEEMod Air Quality and Greenhouse Gas Modeling Results

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# UWSP - Phase 1 Construction

**Sacramento Metropolitan AQMD Air District, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Office Park | 1,252.00 | 1000sqft | 47.90 | 1,252,000.00 | 0 |
| Elementary School | 850.00 | Student | 17.00 | 71,062.86 | 0 |
| City Park | 33.50 | Acre | 33.50 | 1,459,260.00 | 0 |
| Apartments High Rise | 816.00 | Dwelling Unit | 25.10 | 816,000.00 | 2179 |
| Apartments Low Rise | 404.00 | Dwelling Unit | 33.70 | 404,000.00 | 1079 |
| Apartments Mid Rise | 914.00 | Dwelling Unit | 40.60 | 914,000.00 | 2440 |
| Single Family Housing | 1,067.00 | Dwelling Unit | 173.50 | 1,920,600.00 | 2849 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 3.5 | **Precipitation Freq (Days)** | 58 |
| **Climate Zone** | 6 | | | **Operational Year** | 2045 |
| **Utility Company** | Sacramento Municipal Utility District | | | | |
| **CO2 Intensity (lb/MWhr)** | 357.98 | **CH4 Intensity (lb/MWhr)** | 0.033 | **N2O Intensity (lb/MWhr)** | 0.004 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreages updated based on preliminary land use summary.

Construction Phase - Construction phase timing adjusted based on applicant-provided information.

Off-road Equipment - Architectural coating equipment doubled.

Off-road Equipment - Building construction phase equipment doubled.

Off-road Equipment - Construction equipment updated per engineer information.

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Off-road Equipment - Construction equipment updated per engineer information.

Off-road Equipment - Number of equipment has been updated.

Grading -

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 440.00 | 1,680.00 |
| tblConstructionPhase | NumDays | 6,200.00 | 1,680.00 |
| tblConstructionPhase | NumDays | 620.00 | 60.00 |
| tblConstructionPhase | NumDays | 440.00 | 60.00 |
| tblConstructionPhase | NumDays | 240.00 | 60.00 |
| tblGrading | AcresOfGrading | 1,860.00 | 390.00 |
| tblGrading | AcresOfGrading | 180.00 | 90.00 |
| tblGrading | MaterialExported | 0.00 | 122,750.00 |
| tblLandUse | LotAcreage | 28.74 | 47.90 |
| tblLandUse | LotAcreage | 1.63 | 17.00 |
| tblLandUse | LotAcreage | 13.16 | 25.10 |
| tblLandUse | LotAcreage | 25.25 | 33.70 |
| tblLandUse | LotAcreage | 24.05 | 40.60 |
| tblLandUse | LotAcreage | 346.43 | 173.50 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 29.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 3.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 4.00 | 8.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |

## 2.0 Emissions Summary

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.1 Overall Construction

**Unmitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2023 | 1.0461 | 11.7417 | 8.7021 | 0.0240 | 1.8791 | 0.4427 | 2.3218 | 0.8693 | 0.4076 | 1.2769 | 0.0000 | 2,165.8172 | 2,165.8172 | 0.5567 | 0.0764 | 2,202.5079 |
| 2024 | 5.8680 | 9.0387 | 15.4022 | 0.0512 | 3.5874 | 0.2211 | 3.8085 | 0.9668 | 0.2083 | 1.1751 | 0.0000 | 4,799.2934 | 4,799.2934 | 0.2826 | 0.3146 | 4,900.1209 |
| 2025 | 6.5901 | 9.0860 | 15.5399 | 0.0544 | 4.0187 | 0.1938 | 4.2125 | 1.0829 | 0.1832 | 1.2661 | 0.0000 | 5,130.5444 | 5,130.5444 | 0.2625 | 0.3414 | 5,238.8569 |
| 2026 | 6.5195 | 8.9253 | 14.9621 | 0.0531 | 4.0186 | 0.1924 | 4.2110 | 1.0829 | 0.1819 | 1.2647 | 0.0000 | 5,031.4023 | 5,031.4023 | 0.2553 | 0.3325 | 5,136.8795 |
| 2027 | 6.4542 | 8.7830 | 14.4686 | 0.0519 | 4.0186 | 0.1909 | 4.2095 | 1.0829 | 0.1805 | 1.2634 | 0.0000 | 4,935.3984 | 4,935.3984 | 0.2488 | 0.3240 | 5,038.1605 |
| 2028 | 6.3701 | 8.6317 | 14.0034 | 0.0507 | 4.0031 | 0.1888 | 4.1919 | 1.0787 | 0.1785 | 1.2572 | 0.0000 | 4,829.2001 | 4,829.2001 | 0.2423 | 0.3150 | 4,929.1352 |
| 2029 | 6.3367 | 8.5587 | 13.7008 | 0.0498 | 4.0185 | 0.1881 | 4.2066 | 1.0828 | 0.1779 | 1.2607 | 0.0000 | 4,767.6583 | 4,767.6583 | 0.2384 | 0.3092 | 4,865.7661 |
| 2030 | 3.5980 | 3.9312 | 7.3650 | 0.0274 | 2.2080 | 0.0436 | 2.2516 | 0.5949 | 0.0425 | 0.6374 | 0.0000 | 2,616.2913 | 2,616.2913 | 0.0648 | 0.1652 | 2,667.1351 |
| **Maximum** | **6.5901** | **11.7417** | **15.5399** | **0.0544** | **4.0187** | **0.4427** | **4.2125** | **1.0829** | **0.4076** | **1.2769** | **0.0000** | **5,130.5444** | **5,130.5444** | **0.5567** | **0.3414** | **5,238.8569** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.1 Overall Construction

**Mitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2023 | 1.0461 | 11.7417 | 8.7021 | 0.0240 | 1.8791 | 0.4427 | 2.3218 | 0.8693 | 0.4076 | 1.2769 | 0.0000 | 2,165.8152 | 2,165.8152 | 0.5567 | 0.0764 | 2,202.5060 |
| 2024 | 5.8680 | 9.0387 | 15.4022 | 0.0512 | 3.5874 | 0.2211 | 3.8085 | 0.9668 | 0.2083 | 1.1751 | 0.0000 | 4,799.2926 | 4,799.2926 | 0.2826 | 0.3146 | 4,900.1201 |
| 2025 | 6.5901 | 9.0860 | 15.5399 | 0.0544 | 4.0187 | 0.1938 | 4.2125 | 1.0829 | 0.1832 | 1.2661 | 0.0000 | 5,130.5436 | 5,130.5436 | 0.2625 | 0.3414 | 5,238.8561 |
| 2026 | 6.5195 | 8.9253 | 14.9621 | 0.0531 | 4.0186 | 0.1924 | 4.2110 | 1.0829 | 0.1819 | 1.2647 | 0.0000 | 5,031.4015 | 5,031.4015 | 0.2553 | 0.3325 | 5,136.8787 |
| 2027 | 6.4542 | 8.7830 | 14.4686 | 0.0519 | 4.0186 | 0.1909 | 4.2095 | 1.0829 | 0.1805 | 1.2634 | 0.0000 | 4,935.3976 | 4,935.3976 | 0.2488 | 0.3240 | 5,038.1597 |
| 2028 | 6.3701 | 8.6317 | 14.0034 | 0.0507 | 4.0031 | 0.1888 | 4.1919 | 1.0787 | 0.1785 | 1.2572 | 0.0000 | 4,829.1993 | 4,829.1993 | 0.2423 | 0.3150 | 4,929.1344 |
| 2029 | 6.3367 | 8.5587 | 13.7008 | 0.0498 | 4.0185 | 0.1881 | 4.2066 | 1.0828 | 0.1779 | 1.2607 | 0.0000 | 4,767.6575 | 4,767.6575 | 0.2384 | 0.3092 | 4,865.7653 |
| 2030 | 3.5980 | 3.9312 | 7.3650 | 0.0274 | 2.2080 | 0.0436 | 2.2516 | 0.5949 | 0.0425 | 0.6374 | 0.0000 | 2,616.2908 | 2,616.2908 | 0.0648 | 0.1652 | 2,667.1346 |
| **Maximum** | **6.5901** | **11.7417** | **15.5399** | **0.0544** | **4.0187** | **0.4427** | **4.2125** | **1.0829** | **0.4076** | **1.2769** | **0.0000** | **5,130.5436** | **5,130.5436** | **0.5567** | **0.3414** | **5,238.8561** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| **1** | **6-1-2023** | **8-31-2023** | 2.7888 | 2.7888 |
| **2** | **9-1-2023** | **11-30-2023** | 9.5219 | 9.5219 |
| **3** | **12-1-2023** | **2-29-2024** | 1.8050 | 1.8050 |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | |
|---|---|---|---|---|
| **4** | **3-1-2024** | **5-31-2024** | 4.0930 | 4.0930 |
| **5** | **6-1-2024** | **8-31-2024** | 4.0643 | 4.0643 |
| **6** | **9-1-2024** | **11-30-2024** | 4.0765 | 4.0765 |
| **7** | **12-1-2024** | **2-28-2025** | 3.9667 | 3.9667 |
| **8** | **3-1-2025** | **5-31-2025** | 3.9506 | 3.9506 |
| **9** | **6-1-2025** | **8-31-2025** | 3.9228 | 3.9228 |
| **10** | **9-1-2025** | **11-30-2025** | 3.9348 | 3.9348 |
| **11** | **12-1-2025** | **2-28-2026** | 3.8792 | 3.8792 |
| **12** | **3-1-2026** | **5-31-2026** | 3.8912 | 3.8912 |
| **13** | **6-1-2026** | **8-31-2026** | 3.8641 | 3.8641 |
| **14** | **9-1-2026** | **11-30-2026** | 3.8754 | 3.8754 |
| **15** | **12-1-2026** | **2-28-2027** | 3.8239 | 3.8239 |
| **16** | **3-1-2027** | **5-31-2027** | 3.8379 | 3.8379 |
| **17** | **6-1-2027** | **8-31-2027** | 3.8114 | 3.8114 |
| **18** | **9-1-2027** | **11-30-2027** | 3.8221 | 3.8221 |
| **19** | **12-1-2027** | **2-29-2028** | 3.8174 | 3.8174 |
| **20** | **3-1-2028** | **5-31-2028** | 3.7921 | 3.7921 |
| **21** | **6-1-2028** | **8-31-2028** | 3.7661 | 3.7661 |
| **22** | **9-1-2028** | **11-30-2028** | 3.7764 | 3.7764 |
| **23** | **12-1-2028** | **2-28-2029** | 3.7323 | 3.7323 |
| **24** | **3-1-2029** | **5-31-2029** | 3.7497 | 3.7497 |
| **25** | **6-1-2029** | **8-31-2029** | 3.7239 | 3.7239 |
| **26** | **9-1-2029** | **11-30-2029** | 3.7342 | 3.7342 |
| **27** | **12-1-2029** | **2-28-2030** | 3.4852 | 3.4852 |
| **28** | **3-1-2030** | **5-31-2030** | 3.3873 | 3.3873 |
| **29** | **6-1-2030** | **8-31-2030** | 1.9239 | 1.9239 |
| | | **Highest** | 9.5219 | 9.5219 |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.2 Overall Operational

**Unmitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 25.1520 | 0.3796 | 32.8929 | 1.7500e-003 | | 0.1832 | 0.1832 | | 0.1832 | 0.1832 | 0.0000 | 53.9756 | 53.9756 | 0.0515 | 0.0000 | 55.2622 |
| Energy | 0.3619 | 3.1544 | 1.7665 | 0.0197 | | 0.2501 | 0.2501 | | 0.2501 | 0.2501 | 0.0000 | 9,571.6532 | 9,571.6532 | 0.6208 | 0.1326 | 9,626.6873 |
| Mobile | 9.0125 | 10.7792 | 95.4797 | 0.2015 | 29.2695 | 0.0970 | 29.3665 | 7.8141 | 0.0908 | 7.9049 | 0.0000 | 20,537.1235 | 20,537.1235 | 1.3004 | 0.9455 | 20,851.3887 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 675.8889 | 0.0000 | 675.8889 | 39.9439 | 0.0000 | 1,674.4860 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 153.2461 | 528.3668 | 681.6129 | 0.5762 | 0.3392 | 797.0879 |
| **Total** | **34.5264** | **14.3132** | **130.1391** | **0.2230** | **29.2695** | **0.5302** | **29.7997** | **7.8141** | **0.5240** | **8.3381** | **829.1349** | **30,691.1191** | **31,520.2540** | **42.4927** | **1.4173** | **33,004.9120** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.2 Overall Operational

**Mitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 25.1520 | 0.3796 | 32.8929 | 1.7500e-003 | | 0.1832 | 0.1832 | | 0.1832 | 0.1832 | 0.0000 | 53.9756 | 53.9756 | 0.0515 | 0.0000 | 55.2622 |
| Energy | 0.3619 | 3.1544 | 1.7665 | 0.0197 | | 0.2501 | 0.2501 | | 0.2501 | 0.2501 | 0.0000 | 9,571.6532 | 9,571.6532 | 0.6208 | 0.1326 | 9,626.6873 |
| Mobile | 9.0125 | 10.7792 | 95.4797 | 0.2015 | 29.2695 | 0.0970 | 29.3665 | 7.8141 | 0.0908 | 7.9049 | 0.0000 | 20,537.1235 | 20,537.1235 | 1.3004 | 0.9455 | 20,851.3887 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 675.8889 | 0.0000 | 675.8889 | 39.9439 | 0.0000 | 1,674.4860 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 153.2461 | 528.3668 | 681.6129 | 0.5762 | 0.3392 | 797.0879 |
| **Total** | **34.5264** | **14.3132** | **130.1391** | **0.2230** | **29.2695** | **0.5302** | **29.7997** | **7.8141** | **0.5240** | **8.3381** | **829.1349** | **30,691.1191** | **31,520.2540** | **42.4927** | **1.4173** | **33,004.9120** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 6/1/2023 | 8/23/2023 | 5 | 60 | |
| 2 | Grading | Grading | 8/24/2023 | 11/15/2023 | 5 | 60 | |
| 3 | Paving | Paving | 11/16/2023 | 2/7/2024 | 5 | 60 | |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4 | Building Construction | Building Construction | 2/8/2024 | 7/17/2030 | 5 | 1680 | |
| 5 | Architectural Coating | Architectural Coating | 2/22/2024 | 7/31/2030 | 5 | 1680 | |

**Acres of Grading (Site Preparation Phase): 90**

**Acres of Grading (Grading Phase): 390**

**Acres of Paving: 0**

**Residential Indoor: 8,210,565; Residential Outdoor: 2,736,855; Non-Residential Indoor: 1,984,594; Non-Residential Outdoor: 661,531; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | 6 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 8 | 8.00 | 97 | 0.37 |
| Grading | Excavators | 4 | 8.00 | 158 | 0.38 |
| Grading | Graders | 2 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 2 | 8.00 | 247 | 0.40 |
| Grading | Scrapers | 29 | 8.00 | 367 | 0.48 |
| Grading | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Paving | Excavators | 8 | 8.00 | 158 | 0.38 |
| Paving | Pavers | 4 | 8.00 | 130 | 0.42 |
| Paving | Paving Equipment | 4 | 8.00 | 132 | 0.36 |
| Paving | Rollers | 4 | 8.00 | 80 | 0.38 |
| Paving | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Building Construction | Cranes | 2 | 7.00 | 231 | 0.29 |
| Building Construction | Forklifts | 6 | 8.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 2 | 8.00 | 84 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | 6 | 7.00 | 97 | 0.37 |
| Building Construction | Welders | 2 | 8.00 | 46 | 0.45 |
| Architectural Coating | Air Compressors | 2 | 6.00 | 78 | 0.48 |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 14 | 35.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 40 | 100.00 | 0.00 | 15,344.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 24 | 60.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 18 | 2,964.00 | 798.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 2 | 593.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

## 3.2 Site Preparation - 2023

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 1.1317 | 0.0000 | 1.1317 | 0.6010 | 0.0000 | 0.6010 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.1596 | 1.6515 | 1.0947 | 2.2800e-003 | | 0.0760 | 0.0760 | | 0.0699 | 0.0699 | 0.0000 | 200.7042 | 200.7042 | 0.0649 | 0.0000 | 202.3270 |
| **Total** | **0.1596** | **1.6515** | **1.0947** | **2.2800e-003** | **1.1317** | **0.0760** | **1.2077** | **0.6010** | **0.0699** | **0.6709** | **0.0000** | **200.7042** | **200.7042** | **0.0649** | **0.0000** | **202.3270** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.0100e-003 | 1.8600e-003 | 0.0245 | 7.0000e-005 | 7.7100e-003 | 4.0000e-005 | 7.7500e-003 | 2.0500e-003 | 4.0000e-005 | 2.0900e-003 | 0.0000 | 6.1864 | 6.1864 | 2.0000e-004 | 1.8000e-004 | 6.2440 |
| **Total** | **3.0100e-003** | **1.8600e-003** | **0.0245** | **7.0000e-005** | **7.7100e-003** | **4.0000e-005** | **7.7500e-003** | **2.0500e-003** | **4.0000e-005** | **2.0900e-003** | **0.0000** | **6.1864** | **6.1864** | **2.0000e-004** | **1.8000e-004** | **6.2440** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 1.1317 | 0.0000 | 1.1317 | 0.6010 | 0.0000 | 0.6010 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.1596 | 1.6515 | 1.0947 | 2.2800e-003 | | 0.0760 | 0.0760 | | 0.0699 | 0.0699 | 0.0000 | 200.7039 | 200.7039 | 0.0649 | 0.0000 | 202.3267 |
| **Total** | **0.1596** | **1.6515** | **1.0947** | **2.2800e-003** | **1.1317** | **0.0760** | **1.2077** | **0.6010** | **0.0699** | **0.6709** | **0.0000** | **200.7039** | **200.7039** | **0.0649** | **0.0000** | **202.3267** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.0100e-003 | 1.8600e-003 | 0.0245 | 7.0000e-005 | 7.7100e-003 | 4.0000e-005 | 7.7500e-003 | 2.0500e-003 | 4.0000e-005 | 2.0900e-003 | 0.0000 | 6.1864 | 6.1864 | 2.0000e-004 | 1.8000e-004 | 6.2440 |
| **Total** | **3.0100e-003** | **1.8600e-003** | **0.0245** | **7.0000e-005** | **7.7100e-003** | **4.0000e-005** | **7.7500e-003** | **2.0500e-003** | **4.0000e-005** | **2.0900e-003** | **0.0000** | **6.1864** | **6.1864** | **2.0000e-004** | **1.8000e-004** | **6.2440** |

## 3.3 Grading - 2023

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.5808 | 0.0000 | 0.5808 | 0.2229 | 0.0000 | 0.2229 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.7848 | 8.2374 | 6.2189 | 0.0150 | | 0.3268 | 0.3268 | | 0.3006 | 0.3006 | 0.0000 | 1,319.2625 | 1,319.2625 | 0.4267 | 0.0000 | 1,329.9294 |
| **Total** | **0.7848** | **8.2374** | **6.2189** | **0.0150** | **0.5808** | **0.3268** | **0.9076** | **0.2229** | **0.3006** | **0.5235** | **0.0000** | **1,319.2625** | **1,319.2625** | **0.4267** | **0.0000** | **1,329.9294** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Grading - 2023

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0204 | 1.2213 | 0.2453 | 4.8100e-003 | 0.1298 | 8.9100e-003 | 0.1387 | 0.0357 | 8.5200e-003 | 0.0442 | 0.0000 | 476.6650 | 476.6650 | 0.0190 | 0.0756 | 499.6620 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 8.6100e-003 | 5.3200e-003 | 0.0699 | 1.9000e-004 | 0.0220 | 1.2000e-004 | 0.0222 | 5.8600e-003 | 1.1000e-004 | 5.9700e-003 | 0.0000 | 17.6754 | 17.6754 | 5.6000e-004 | 5.1000e-004 | 17.8400 |
| **Total** | **0.0290** | **1.2267** | **0.3152** | **5.0000e-003** | **0.1518** | **9.0300e-003** | **0.1608** | **0.0415** | **8.6300e-003** | **0.0501** | **0.0000** | **494.3404** | **494.3404** | **0.0195** | **0.0761** | **517.5020** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.5808 | 0.0000 | 0.5808 | 0.2229 | 0.0000 | 0.2229 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.7848 | 8.2374 | 6.2189 | 0.0150 | | 0.3268 | 0.3268 | | 0.3006 | 0.3006 | 0.0000 | 1,319.2609 | 1,319.2609 | 0.4267 | 0.0000 | 1,329.9278 |
| **Total** | **0.7848** | **8.2374** | **6.2189** | **0.0150** | **0.5808** | **0.3268** | **0.9076** | **0.2229** | **0.3006** | **0.5235** | **0.0000** | **1,319.2609** | **1,319.2609** | **0.4267** | **0.0000** | **1,329.9278** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Grading - 2023

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0204 | 1.2213 | 0.2453 | 4.8100e-003 | 0.1298 | 8.9100e-003 | 0.1387 | 0.0357 | 8.5200e-003 | 0.0442 | 0.0000 | 476.6650 | 476.6650 | 0.0190 | 0.0756 | 499.6620 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 8.6100e-003 | 5.3200e-003 | 0.0699 | 1.9000e-004 | 0.0220 | 1.2000e-004 | 0.0222 | 5.8600e-003 | 1.1000e-004 | 5.9700e-003 | 0.0000 | 17.6754 | 17.6754 | 5.6000e-004 | 5.1000e-004 | 17.8400 |
| **Total** | **0.0290** | **1.2267** | **0.3152** | **5.0000e-003** | **0.1518** | **9.0300e-003** | **0.1608** | **0.0415** | **8.6300e-003** | **0.0501** | **0.0000** | **494.3404** | **494.3404** | **0.0195** | **0.0761** | **517.5020** |

## 3.4 Paving - 2023

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0669 | 0.6226 | 1.0265 | 1.5900e-003 | | 0.0309 | 0.0309 | | 0.0284 | 0.0284 | 0.0000 | 139.6675 | 139.6675 | 0.0452 | 0.0000 | 140.7968 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0669** | **0.6226** | **1.0265** | **1.5900e-003** | | **0.0309** | **0.0309** | | **0.0284** | **0.0284** | **0.0000** | **139.6675** | **139.6675** | **0.0452** | **0.0000** | **140.7968** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2023

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 2.7500e-003 | 1.7000e-003 | 0.0224 | 6.0000e-005 | 7.0500e-003 | 4.0000e-005 | 7.0900e-003 | 1.8800e-003 | 3.0000e-005 | 1.9100e-003 | 0.0000 | 5.6561 | 5.6561 | 1.8000e-004 | 1.6000e-004 | 5.7088 |
| **Total** | **2.7500e-003** | **1.7000e-003** | **0.0224** | **6.0000e-005** | **7.0500e-003** | **4.0000e-005** | **7.0900e-003** | **1.8800e-003** | **3.0000e-005** | **1.9100e-003** | **0.0000** | **5.6561** | **5.6561** | **1.8000e-004** | **1.6000e-004** | **5.7088** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0669 | 0.6226 | 1.0265 | 1.5900e-003 | | 0.0309 | 0.0309 | | 0.0284 | 0.0284 | 0.0000 | 139.6674 | 139.6674 | 0.0452 | 0.0000 | 140.7967 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0669** | **0.6226** | **1.0265** | **1.5900e-003** | | **0.0309** | **0.0309** | | **0.0284** | **0.0284** | **0.0000** | **139.6674** | **139.6674** | **0.0452** | **0.0000** | **140.7967** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2023

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 2.7500e-003 | 1.7000e-003 | 0.0224 | 6.0000e-005 | 7.0500e-003 | 4.0000e-005 | 7.0900e-003 | 1.8800e-003 | 3.0000e-005 | 1.9100e-003 | 0.0000 | 5.6561 | 5.6561 | 1.8000e-004 | 1.6000e-004 | 5.7088 |
| **Total** | **2.7500e-003** | **1.7000e-003** | **0.0224** | **6.0000e-005** | **7.0500e-003** | **4.0000e-005** | **7.0900e-003** | **1.8800e-003** | **3.0000e-005** | **1.9100e-003** | **0.0000** | **5.6561** | **5.6561** | **1.8000e-004** | **1.6000e-004** | **5.7088** |

## 3.4 Paving - 2024

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0559 | 0.5049 | 0.9004 | 1.3900e-003 | | 0.0246 | 0.0246 | | 0.0226 | 0.0226 | 0.0000 | 122.2341 | 122.2341 | 0.0395 | 0.0000 | 123.2224 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0559** | **0.5049** | **0.9004** | **1.3900e-003** | | **0.0246** | **0.0246** | | **0.0226** | **0.0226** | **0.0000** | **122.2341** | **122.2341** | **0.0395** | **0.0000** | **123.2224** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2024

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 2.2500e-003 | 1.3300e-003 | 0.0182 | 5.0000e-005 | 6.1700e-003 | 3.0000e-005 | 6.2000e-003 | 1.6400e-003 | 3.0000e-005 | 1.6700e-003 | 0.0000 | 4.8256 | 4.8256 | 1.4000e-004 | 1.3000e-004 | 4.8683 |
| **Total** | **2.2500e-003** | **1.3300e-003** | **0.0182** | **5.0000e-005** | **6.1700e-003** | **3.0000e-005** | **6.2000e-003** | **1.6400e-003** | **3.0000e-005** | **1.6700e-003** | **0.0000** | **4.8256** | **4.8256** | **1.4000e-004** | **1.3000e-004** | **4.8683** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0559 | 0.5049 | 0.9004 | 1.3900e-003 | | 0.0246 | 0.0246 | | 0.0226 | 0.0226 | 0.0000 | 122.2339 | 122.2339 | 0.0395 | 0.0000 | 123.2222 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0559** | **0.5049** | **0.9004** | **1.3900e-003** | | **0.0246** | **0.0246** | | **0.0226** | **0.0226** | **0.0000** | **122.2339** | **122.2339** | **0.0395** | **0.0000** | **123.2222** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2024

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 2.2500e-003 | 1.3300e-003 | 0.0182 | 5.0000e-005 | 6.1700e-003 | 3.0000e-005 | 6.2000e-003 | 1.6400e-003 | 3.0000e-005 | 1.6700e-003 | 0.0000 | 4.8256 | 4.8256 | 1.4000e-004 | 1.3000e-004 | 4.8683 |
| **Total** | **2.2500e-003** | **1.3300e-003** | **0.0182** | **5.0000e-005** | **6.1700e-003** | **3.0000e-005** | **6.2000e-003** | **1.6400e-003** | **3.0000e-005** | **1.6700e-003** | **0.0000** | **4.8256** | **4.8256** | **1.4000e-004** | **1.3000e-004** | **4.8683** |

## 3.5 Building Construction - 2024

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3444 | 3.1458 | 3.7830 | 6.3100e-003 | | 0.1435 | 0.1435 | | 0.1350 | 0.1350 | 0.0000 | 542.5269 | 542.5269 | 0.1283 | 0.0000 | 545.7342 |
| **Total** | **0.3444** | **3.1458** | **3.7830** | **6.3100e-003** | | **0.1435** | **0.1435** | | **0.1350** | **0.1350** | **0.0000** | **542.5269** | **542.5269** | **0.1283** | **0.0000** | **545.7342** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2024

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1164 | 4.4610 | 1.3294 | 0.0175 | 0.5465 | 0.0239 | 0.5704 | 0.1580 | 0.0229 | 0.1808 | 0.0000 | 1,698.7645 | 1,698.7645 | 0.0415 | 0.2498 | 1,774.2471 |
| Worker | 0.9301 | 0.5477 | 7.5246 | 0.0213 | 2.5469 | 0.0130 | 2.5599 | 0.6774 | 0.0119 | 0.6893 | 0.0000 | 1,992.2068 | 1,992.2068 | 0.0586 | 0.0543 | 2,009.8532 |
| **Total** | **1.0465** | **5.0087** | **8.8540** | **0.0387** | **3.0934** | **0.0368** | **3.1303** | **0.8354** | **0.0348** | **0.8702** | **0.0000** | **3,690.9714** | **3,690.9714** | **0.1001** | **0.3041** | **3,784.1004** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3444 | 3.1458 | 3.7830 | 6.3100e-003 | | 0.1435 | 0.1435 | | 0.1350 | 0.1350 | 0.0000 | 542.5263 | 542.5263 | 0.1283 | 0.0000 | 545.7336 |
| **Total** | **0.3444** | **3.1458** | **3.7830** | **6.3100e-003** | | **0.1435** | **0.1435** | | **0.1350** | **0.1350** | **0.0000** | **542.5263** | **542.5263** | **0.1283** | **0.0000** | **545.7336** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2024

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1164 | 4.4610 | 1.3294 | 0.0175 | 0.5465 | 0.0239 | 0.5704 | 0.1580 | 0.0229 | 0.1808 | 0.0000 | 1,698.7645 | 1,698.7645 | 0.0415 | 0.2498 | 1,774.2471 |
| Worker | 0.9301 | 0.5477 | 7.5246 | 0.0213 | 2.5469 | 0.0130 | 2.5599 | 0.6774 | 0.0119 | 0.6893 | 0.0000 | 1,992.2068 | 1,992.2068 | 0.0586 | 0.0543 | 2,009.8532 |
| **Total** | **1.0465** | **5.0087** | **8.8540** | **0.0387** | **3.0934** | **0.0368** | **3.1303** | **0.8354** | **0.0348** | **0.8702** | **0.0000** | **3,690.9714** | **3,690.9714** | **0.1001** | **0.3041** | **3,784.1004** |

## 3.5 Building Construction - 2025

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3569 | 3.2546 | 4.1981 | 7.0400e-003 | | 0.1377 | 0.1377 | | 0.1295 | 0.1295 | 0.0000 | 605.3098 | 605.3098 | 0.1423 | 0.0000 | 608.8670 |
| **Total** | **0.3569** | **3.2546** | **4.1981** | **7.0400e-003** | | **0.1377** | **0.1377** | | **0.1295** | **0.1295** | **0.0000** | **605.3098** | **605.3098** | **0.1423** | **0.0000** | **608.8670** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2025

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1252 | 4.8746 | 1.4480 | 0.0191 | 0.6095 | 0.0261 | 0.6356 | 0.1762 | 0.0250 | 0.2012 | 0.0000 | 1,856.4428 | 1,856.4428 | 0.0453 | 0.2735 | 1,939.0786 |
| Worker | 0.9743 | 0.5481 | 7.8508 | 0.0229 | 2.8408 | 0.0138 | 2.8546 | 0.7556 | 0.0127 | 0.7683 | 0.0000 | 2,168.3379 | 2,168.3379 | 0.0594 | 0.0566 | 2,186.6941 |
| **Total** | **1.0995** | **5.4227** | **9.2989** | **0.0420** | **3.4503** | **0.0399** | **3.4902** | **0.9317** | **0.0377** | **0.9694** | **0.0000** | **4,024.7808** | **4,024.7808** | **0.1047** | **0.3301** | **4,125.7727** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3569 | 3.2546 | 4.1981 | 7.0400e-003 | | 0.1377 | 0.1377 | | 0.1295 | 0.1295 | 0.0000 | 605.3091 | 605.3091 | 0.1423 | 0.0000 | 608.8663 |
| **Total** | **0.3569** | **3.2546** | **4.1981** | **7.0400e-003** | | **0.1377** | **0.1377** | | **0.1295** | **0.1295** | **0.0000** | **605.3091** | **605.3091** | **0.1423** | **0.0000** | **608.8663** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2025

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1252 | 4.8746 | 1.4480 | 0.0191 | 0.6095 | 0.0261 | 0.6356 | 0.1762 | 0.0250 | 0.2012 | 0.0000 | 1,856.4428 | 1,856.4428 | 0.0453 | 0.2735 | 1,939.0786 |
| Worker | 0.9743 | 0.5481 | 7.8508 | 0.0229 | 2.8408 | 0.0138 | 2.8546 | 0.7556 | 0.0127 | 0.7683 | 0.0000 | 2,168.3379 | 2,168.3379 | 0.0594 | 0.0566 | 2,186.6941 |
| **Total** | **1.0995** | **5.4227** | **9.2989** | **0.0420** | **3.4503** | **0.0399** | **3.4902** | **0.9317** | **0.0377** | **0.9694** | **0.0000** | **4,024.7808** | **4,024.7808** | **0.1047** | **0.3301** | **4,125.7727** |

## 3.5 Building Construction - 2026

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3569 | 3.2546 | 4.1981 | 7.0400e-003 | | 0.1377 | 0.1377 | | 0.1295 | 0.1295 | 0.0000 | 605.3098 | 605.3098 | 0.1423 | 0.0000 | 608.8670 |
| **Total** | **0.3569** | **3.2546** | **4.1981** | **7.0400e-003** | | **0.1377** | **0.1377** | | **0.1295** | **0.1295** | **0.0000** | **605.3098** | **605.3098** | **0.1423** | **0.0000** | **608.8670** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2026

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1208 | 4.7756 | 1.4193 | 0.0187 | 0.6094 | 0.0255 | 0.6349 | 0.1762 | 0.0244 | 0.2005 | 0.0000 | 1,819.0886 | 1,819.0886 | 0.0443 | 0.2685 | 1,900.2159 |
| Worker | 0.9191 | 0.4968 | 7.3934 | 0.0222 | 2.8408 | 0.0132 | 2.8540 | 0.7556 | 0.0121 | 0.7677 | 0.0000 | 2,116.8510 | 2,116.8510 | 0.0542 | 0.0533 | 2,134.1015 |
| **Total** | **1.0399** | **5.2723** | **8.8127** | **0.0409** | **3.4503** | **0.0386** | **3.4889** | **0.9317** | **0.0365** | **0.9682** | **0.0000** | **3,935.9396** | **3,935.9396** | **0.0985** | **0.3219** | **4,034.3174** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3569 | 3.2546 | 4.1981 | 7.0400e-003 | | 0.1377 | 0.1377 | | 0.1295 | 0.1295 | 0.0000 | 605.3091 | 605.3091 | 0.1423 | 0.0000 | 608.8663 |
| **Total** | **0.3569** | **3.2546** | **4.1981** | **7.0400e-003** | | **0.1377** | **0.1377** | | **0.1295** | **0.1295** | **0.0000** | **605.3091** | **605.3091** | **0.1423** | **0.0000** | **608.8663** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2026

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1208 | 4.7756 | 1.4193 | 0.0187 | 0.6094 | 0.0255 | 0.6349 | 0.1762 | 0.0244 | 0.2005 | 0.0000 | 1,819.0886 | 1,819.0886 | 0.0443 | 0.2685 | 1,900.2159 |
| Worker | 0.9191 | 0.4968 | 7.3934 | 0.0222 | 2.8408 | 0.0132 | 2.8540 | 0.7556 | 0.0121 | 0.7677 | 0.0000 | 2,116.8510 | 2,116.8510 | 0.0542 | 0.0533 | 2,134.1015 |
| **Total** | **1.0399** | **5.2723** | **8.8127** | **0.0409** | **3.4503** | **0.0386** | **3.4889** | **0.9317** | **0.0365** | **0.9682** | **0.0000** | **3,935.9396** | **3,935.9396** | **0.0985** | **0.3219** | **4,034.3174** |

## 3.5 Building Construction - 2027

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3569 | 3.2546 | 4.1981 | 7.0400e-003 | | 0.1377 | 0.1377 | | 0.1295 | 0.1295 | 0.0000 | 605.3098 | 605.3098 | 0.1423 | 0.0000 | 608.8670 |
| **Total** | **0.3569** | **3.2546** | **4.1981** | **7.0400e-003** | | **0.1377** | **0.1377** | | **0.1295** | **0.1295** | **0.0000** | **605.3098** | **605.3098** | **0.1423** | **0.0000** | **608.8670** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2027

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1169 | 4.6848 | 1.3947 | 0.0183 | 0.6094 | 0.0249 | 0.6342 | 0.1761 | 0.0238 | 0.1999 | 0.0000 | 1,780.0892 | 1,780.0892 | 0.0432 | 0.2633 | 1,859.6188 |
| Worker | 0.8680 | 0.4538 | 7.0026 | 0.0216 | 2.8408 | 0.0125 | 2.8533 | 0.7556 | 0.0115 | 0.7670 | 0.0000 | 2,069.3499 | 2,069.3499 | 0.0497 | 0.0506 | 2,085.6693 |
| **Total** | **0.9849** | **5.1386** | **8.3973** | **0.0398** | **3.4502** | **0.0373** | **3.4875** | **0.9317** | **0.0353** | **0.9669** | **0.0000** | **3,849.4391** | **3,849.4391** | **0.0929** | **0.3138** | **3,945.2881** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3569 | 3.2546 | 4.1981 | 7.0400e-003 | | 0.1377 | 0.1377 | | 0.1295 | 0.1295 | 0.0000 | 605.3091 | 605.3091 | 0.1423 | 0.0000 | 608.8663 |
| **Total** | **0.3569** | **3.2546** | **4.1981** | **7.0400e-003** | | **0.1377** | **0.1377** | | **0.1295** | **0.1295** | **0.0000** | **605.3091** | **605.3091** | **0.1423** | **0.0000** | **608.8663** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2027

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1169 | 4.6848 | 1.3947 | 0.0183 | 0.6094 | 0.0249 | 0.6342 | 0.1761 | 0.0238 | 0.1999 | 0.0000 | 1,780.0892 | 1,780.0892 | 0.0432 | 0.2633 | 1,859.6188 |
| Worker | 0.8680 | 0.4538 | 7.0026 | 0.0216 | 2.8408 | 0.0125 | 2.8533 | 0.7556 | 0.0115 | 0.7670 | 0.0000 | 2,069.3499 | 2,069.3499 | 0.0497 | 0.0506 | 2,085.6693 |
| **Total** | **0.9849** | **5.1386** | **8.3973** | **0.0398** | **3.4502** | **0.0373** | **3.4875** | **0.9317** | **0.0353** | **0.9669** | **0.0000** | **3,849.4391** | **3,849.4391** | **0.0929** | **0.3138** | **3,945.2881** |

## 3.5 Building Construction - 2028

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3555 | 3.2421 | 4.1820 | 7.0100e-003 | | 0.1372 | 0.1372 | | 0.1290 | 0.1290 | 0.0000 | 602.9906 | 602.9906 | 0.1417 | 0.0000 | 606.5342 |
| **Total** | **0.3555** | **3.2421** | **4.1820** | **7.0100e-003** | | **0.1372** | **0.1372** | | **0.1290** | **0.1290** | **0.0000** | **602.9906** | **602.9906** | **0.1417** | **0.0000** | **606.5342** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2028

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1130 | 4.5916 | 1.3697 | 0.0178 | 0.6070 | 0.0243 | 0.6312 | 0.1754 | 0.0232 | 0.1986 | 0.0000 | 1,736.8563 | 1,736.8563 | 0.0422 | 0.2573 | 1,814.5760 |
| Worker | 0.8181 | 0.4168 | 6.6508 | 0.0209 | 2.8299 | 0.0116 | 2.8416 | 0.7527 | 0.0107 | 0.7634 | 0.0000 | 2,019.0271 | 2,019.0271 | 0.0456 | 0.0481 | 2,034.5105 |
| **Total** | **0.9310** | **5.0084** | **8.0205** | **0.0387** | **3.4369** | **0.0359** | **3.4728** | **0.9281** | **0.0339** | **0.9620** | **0.0000** | **3,755.8833** | **3,755.8833** | **0.0878** | **0.3054** | **3,849.0865** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3555 | 3.2421 | 4.1820 | 7.0100e-003 | | 0.1372 | 0.1372 | | 0.1290 | 0.1290 | 0.0000 | 602.9899 | 602.9899 | 0.1417 | 0.0000 | 606.5335 |
| **Total** | **0.3555** | **3.2421** | **4.1820** | **7.0100e-003** | | **0.1372** | **0.1372** | | **0.1290** | **0.1290** | **0.0000** | **602.9899** | **602.9899** | **0.1417** | **0.0000** | **606.5335** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2028

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1130 | 4.5916 | 1.3697 | 0.0178 | 0.6070 | 0.0243 | 0.6312 | 0.1754 | 0.0232 | 0.1986 | 0.0000 | 1,736.8563 | 1,736.8563 | 0.0422 | 0.2573 | 1,814.5760 |
| Worker | 0.8181 | 0.4168 | 6.6508 | 0.0209 | 2.8299 | 0.0116 | 2.8416 | 0.7527 | 0.0107 | 0.7634 | 0.0000 | 2,019.0271 | 2,019.0271 | 0.0456 | 0.0481 | 2,034.5105 |
| **Total** | **0.9310** | **5.0084** | **8.0205** | **0.0387** | **3.4369** | **0.0359** | **3.4728** | **0.9281** | **0.0339** | **0.9620** | **0.0000** | **3,755.8833** | **3,755.8833** | **0.0878** | **0.3054** | **3,849.0865** |

## 3.5 Building Construction - 2029

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3569 | 3.2546 | 4.1981 | 7.0400e-003 | | 0.1377 | 0.1377 | | 0.1295 | 0.1295 | 0.0000 | 605.3098 | 605.3098 | 0.1423 | 0.0000 | 608.8670 |
| **Total** | **0.3569** | **3.2546** | **4.1981** | **7.0400e-003** | | **0.1377** | **0.1377** | | **0.1295** | **0.1295** | **0.0000** | **605.3098** | **605.3098** | **0.1423** | **0.0000** | **608.8670** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2029

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1102 | 4.5389 | 1.3578 | 0.0175 | 0.6093 | 0.0238 | 0.6331 | 0.1761 | 0.0228 | 0.1989 | 0.0000 | 1,709.3280 | 1,709.3280 | 0.0416 | 0.2535 | 1,785.9235 |
| Worker | 0.7756 | 0.3884 | 6.3936 | 0.0204 | 2.8408 | 0.0110 | 2.8518 | 0.7556 | 0.0101 | 0.7657 | 0.0000 | 1,988.5387 | 1,988.5387 | 0.0424 | 0.0464 | 2,003.4247 |
| **Total** | **0.8858** | **4.9274** | **7.7514** | **0.0380** | **3.4501** | **0.0348** | **3.4849** | **0.9317** | **0.0329** | **0.9646** | **0.0000** | **3,697.8667** | **3,697.8667** | **0.0840** | **0.2999** | **3,789.3482** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3569 | 3.2546 | 4.1981 | 7.0400e-003 | | 0.1377 | 0.1377 | | 0.1295 | 0.1295 | 0.0000 | 605.3091 | 605.3091 | 0.1423 | 0.0000 | 608.8663 |
| **Total** | **0.3569** | **3.2546** | **4.1981** | **7.0400e-003** | | **0.1377** | **0.1377** | | **0.1295** | **0.1295** | **0.0000** | **605.3091** | **605.3091** | **0.1423** | **0.0000** | **608.8663** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2029

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1102 | 4.5389 | 1.3578 | 0.0175 | 0.6093 | 0.0238 | 0.6331 | 0.1761 | 0.0228 | 0.1989 | 0.0000 | 1,709.3280 | 1,709.3280 | 0.0416 | 0.2535 | 1,785.9235 |
| Worker | 0.7756 | 0.3884 | 6.3936 | 0.0204 | 2.8408 | 0.0110 | 2.8518 | 0.7556 | 0.0101 | 0.7657 | 0.0000 | 1,988.5387 | 1,988.5387 | 0.0424 | 0.0464 | 2,003.4247 |
| **Total** | **0.8858** | **4.9274** | **7.7514** | **0.0380** | **3.4501** | **0.0348** | **3.4849** | **0.9317** | **0.0329** | **0.9646** | **0.0000** | **3,697.8667** | **3,697.8667** | **0.0840** | **0.2999** | **3,789.3482** |

## 3.5 Building Construction - 2030

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.1859 | 1.1267 | 2.2943 | 4.4000e-003 | | 0.0210 | 0.0210 | | 0.0210 | 0.0210 | 0.0000 | 373.2627 | 373.2627 | 0.0150 | 0.0000 | 373.6370 |
| **Total** | **0.1859** | **1.1267** | **2.2943** | **4.4000e-003** | | **0.0210** | **0.0210** | | **0.0210** | **0.0210** | **0.0000** | **373.2627** | **373.2627** | **0.0150** | **0.0000** | **373.6370** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2030

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0584 | 2.4343 | 0.7313 | 9.3600e-003 | 0.3315 | 0.0127 | 0.3442 | 0.0958 | 0.0122 | 0.1080 | 0.0000 | 912.8827 | 912.8827 | 0.0223 | 0.1356 | 953.8443 |
| Worker | 0.3983 | 0.1976 | 3.3490 | 0.0108 | 1.5456 | 5.5800e-003 | 1.5512 | 0.4111 | 5.1300e-003 | 0.4162 | 0.0000 | 1,063.5665 | 1,063.5665 | 0.0214 | 0.0244 | 1,071.3650 |
| **Total** | **0.4566** | **2.6320** | **4.0802** | **0.0202** | **1.8770** | **0.0183** | **1.8953** | **0.5069** | **0.0173** | **0.5242** | **0.0000** | **1,976.4493** | **1,976.4493** | **0.0437** | **0.1600** | **2,025.2093** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.1859 | 1.1267 | 2.2943 | 4.4000e-003 | | 0.0210 | 0.0210 | | 0.0210 | 0.0210 | 0.0000 | 373.2622 | 373.2622 | 0.0150 | 0.0000 | 373.6366 |
| **Total** | **0.1859** | **1.1267** | **2.2943** | **4.4000e-003** | | **0.0210** | **0.0210** | | **0.0210** | **0.0210** | **0.0000** | **373.2622** | **373.2622** | **0.0150** | **0.0000** | **373.6366** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2030

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0584 | 2.4343 | 0.7313 | 9.3600e-003 | 0.3315 | 0.0127 | 0.3442 | 0.0958 | 0.0122 | 0.1080 | 0.0000 | 912.8827 | 912.8827 | 0.0223 | 0.1356 | 953.8443 |
| Worker | 0.3983 | 0.1976 | 3.3490 | 0.0108 | 1.5456 | 5.5800e-003 | 1.5512 | 0.4111 | 5.1300e-003 | 0.4162 | 0.0000 | 1,063.5665 | 1,063.5665 | 0.0214 | 0.0244 | 1,071.3650 |
| **Total** | **0.4566** | **2.6320** | **4.0802** | **0.0202** | **1.8770** | **0.0183** | **1.8953** | **0.5069** | **0.0173** | **0.5242** | **0.0000** | **1,976.4493** | **1,976.4493** | **0.0437** | **0.1600** | **2,025.2093** |

## 3.6 Architectural Coating - 2024

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.2004 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0405 | 0.2730 | 0.4055 | 6.7000e-004 | | 0.0137 | 0.0137 | | 0.0137 | 0.0137 | 0.0000 | 57.1929 | 57.1929 | 3.2200e-003 | 0.0000 | 57.2734 |
| **Total** | **4.2409** | **0.2730** | **0.4055** | **6.7000e-004** | | **0.0137** | **0.0137** | | **0.0137** | **0.0137** | **0.0000** | **57.1929** | **57.1929** | **3.2200e-003** | **0.0000** | **57.2734** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2024

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1781 | 0.1049 | 1.4411 | 4.0800e-003 | 0.4878 | 2.4800e-003 | 0.4903 | 0.1297 | 2.2800e-003 | 0.1320 | 0.0000 | 381.5426 | 381.5426 | 0.0112 | 0.0104 | 384.9222 |
| **Total** | **0.1781** | **0.1049** | **1.4411** | **4.0800e-003** | **0.4878** | **2.4800e-003** | **0.4903** | **0.1297** | **2.2800e-003** | **0.1320** | **0.0000** | **381.5426** | **381.5426** | **0.0112** | **0.0104** | **384.9222** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.2004 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0405 | 0.2730 | 0.4055 | 6.7000e-004 | | 0.0137 | 0.0137 | | 0.0137 | 0.0137 | 0.0000 | 57.1928 | 57.1928 | 3.2200e-003 | 0.0000 | 57.2733 |
| **Total** | **4.2409** | **0.2730** | **0.4055** | **6.7000e-004** | | **0.0137** | **0.0137** | | **0.0137** | **0.0137** | **0.0000** | **57.1928** | **57.1928** | **3.2200e-003** | **0.0000** | **57.2733** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2024

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1781 | 0.1049 | 1.4411 | 4.0800e-003 | 0.4878 | 2.4800e-003 | 0.4903 | 0.1297 | 2.2800e-003 | 0.1320 | 0.0000 | 381.5426 | 381.5426 | 0.0112 | 0.0104 | 384.9222 |
| **Total** | **0.1781** | **0.1049** | **1.4411** | **4.0800e-003** | **0.4878** | **2.4800e-003** | **0.4903** | **0.1297** | **2.2800e-003** | **0.1320** | **0.0000** | **381.5426** | **381.5426** | **0.0112** | **0.0104** | **384.9222** |

## 3.6 Architectural Coating - 2025

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.8942 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0446 | 0.2990 | 0.4722 | 7.8000e-004 | | 0.0134 | 0.0134 | | 0.0134 | 0.0134 | 0.0000 | 66.6399 | 66.6399 | 3.6400e-003 | 0.0000 | 66.7308 |
| **Total** | **4.9388** | **0.2990** | **0.4722** | **7.8000e-004** | | **0.0134** | **0.0134** | | **0.0134** | **0.0134** | **0.0000** | **66.6399** | **66.6399** | **3.6400e-003** | **0.0000** | **66.7308** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2025

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1949 | 0.1097 | 1.5707 | 4.5900e-003 | 0.5684 | 2.7600e-003 | 0.5711 | 0.1512 | 2.5400e-003 | 0.1537 | 0.0000 | 433.8139 | 433.8139 | 0.0119 | 0.0113 | 437.4864 |
| **Total** | **0.1949** | **0.1097** | **1.5707** | **4.5900e-003** | **0.5684** | **2.7600e-003** | **0.5711** | **0.1512** | **2.5400e-003** | **0.1537** | **0.0000** | **433.8139** | **433.8139** | **0.0119** | **0.0113** | **437.4864** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.8942 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0446 | 0.2990 | 0.4722 | 7.8000e-004 | | 0.0134 | 0.0134 | | 0.0134 | 0.0134 | 0.0000 | 66.6398 | 66.6398 | 3.6400e-003 | 0.0000 | 66.7307 |
| **Total** | **4.9388** | **0.2990** | **0.4722** | **7.8000e-004** | | **0.0134** | **0.0134** | | **0.0134** | **0.0134** | **0.0000** | **66.6398** | **66.6398** | **3.6400e-003** | **0.0000** | **66.7307** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2025

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1949 | 0.1097 | 1.5707 | 4.5900e-003 | 0.5684 | 2.7600e-003 | 0.5711 | 0.1512 | 2.5400e-003 | 0.1537 | 0.0000 | 433.8139 | 433.8139 | 0.0119 | 0.0113 | 437.4864 |
| **Total** | **0.1949** | **0.1097** | **1.5707** | **4.5900e-003** | **0.5684** | **2.7600e-003** | **0.5711** | **0.1512** | **2.5400e-003** | **0.1537** | **0.0000** | **433.8139** | **433.8139** | **0.0119** | **0.0113** | **437.4864** |

## 3.6 Architectural Coating - 2026

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.8942 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0446 | 0.2990 | 0.4722 | 7.8000e-004 | | 0.0134 | 0.0134 | | 0.0134 | 0.0134 | 0.0000 | 66.6399 | 66.6399 | 3.6400e-003 | 0.0000 | 66.7308 |
| **Total** | **4.9388** | **0.2990** | **0.4722** | **7.8000e-004** | | **0.0134** | **0.0134** | | **0.0134** | **0.0134** | **0.0000** | **66.6399** | **66.6399** | **3.6400e-003** | **0.0000** | **66.7308** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2026

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1839 | 0.0994 | 1.4792 | 4.4400e-003 | 0.5684 | 2.6300e-003 | 0.5710 | 0.1512 | 2.4200e-003 | 0.1536 | 0.0000 | 423.5130 | 423.5130 | 0.0109 | 0.0107 | 426.9643 |
| **Total** | **0.1839** | **0.0994** | **1.4792** | **4.4400e-003** | **0.5684** | **2.6300e-003** | **0.5710** | **0.1512** | **2.4200e-003** | **0.1536** | **0.0000** | **423.5130** | **423.5130** | **0.0109** | **0.0107** | **426.9643** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.8942 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0446 | 0.2990 | 0.4722 | 7.8000e-004 | | 0.0134 | 0.0134 | | 0.0134 | 0.0134 | 0.0000 | 66.6398 | 66.6398 | 3.6400e-003 | 0.0000 | 66.7307 |
| **Total** | **4.9388** | **0.2990** | **0.4722** | **7.8000e-004** | | **0.0134** | **0.0134** | | **0.0134** | **0.0134** | **0.0000** | **66.6398** | **66.6398** | **3.6400e-003** | **0.0000** | **66.7307** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2026

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1839 | 0.0994 | 1.4792 | 4.4400e-003 | 0.5684 | 2.6300e-003 | 0.5710 | 0.1512 | 2.4200e-003 | 0.1536 | 0.0000 | 423.5130 | 423.5130 | 0.0109 | 0.0107 | 426.9643 |
| **Total** | **0.1839** | **0.0994** | **1.4792** | **4.4400e-003** | **0.5684** | **2.6300e-003** | **0.5710** | **0.1512** | **2.4200e-003** | **0.1536** | **0.0000** | **423.5130** | **423.5130** | **0.0109** | **0.0107** | **426.9643** |

## 3.6 Architectural Coating - 2027

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.8942 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0446 | 0.2990 | 0.4722 | 7.8000e-004 | | 0.0134 | 0.0134 | | 0.0134 | 0.0134 | 0.0000 | 66.6399 | 66.6399 | 3.6400e-003 | 0.0000 | 66.7308 |
| **Total** | **4.9388** | **0.2990** | **0.4722** | **7.8000e-004** | | **0.0134** | **0.0134** | | **0.0134** | **0.0134** | **0.0000** | **66.6399** | **66.6399** | **3.6400e-003** | **0.0000** | **66.7308** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2027

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1737 | 0.0908 | 1.4010 | 4.3100e-003 | 0.5684 | 2.4900e-003 | 0.5709 | 0.1512 | 2.2900e-003 | 0.1535 | 0.0000 | 414.0096 | 414.0096 | 9.9400e-003 | 0.0101 | 417.2746 |
| **Total** | **0.1737** | **0.0908** | **1.4010** | **4.3100e-003** | **0.5684** | **2.4900e-003** | **0.5709** | **0.1512** | **2.2900e-003** | **0.1535** | **0.0000** | **414.0096** | **414.0096** | **9.9400e-003** | **0.0101** | **417.2746** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.8942 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0446 | 0.2990 | 0.4722 | 7.8000e-004 | | 0.0134 | 0.0134 | | 0.0134 | 0.0134 | 0.0000 | 66.6398 | 66.6398 | 3.6400e-003 | 0.0000 | 66.7307 |
| **Total** | **4.9388** | **0.2990** | **0.4722** | **7.8000e-004** | | **0.0134** | **0.0134** | | **0.0134** | **0.0134** | **0.0000** | **66.6398** | **66.6398** | **3.6400e-003** | **0.0000** | **66.7307** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2027

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1737 | 0.0908 | 1.4010 | 4.3100e-003 | 0.5684 | 2.4900e-003 | 0.5709 | 0.1512 | 2.2900e-003 | 0.1535 | 0.0000 | 414.0096 | 414.0096 | 9.9400e-003 | 0.0101 | 417.2746 |
| **Total** | **0.1737** | **0.0908** | **1.4010** | **4.3100e-003** | **0.5684** | **2.4900e-003** | **0.5709** | **0.1512** | **2.2900e-003** | **0.1535** | **0.0000** | **414.0096** | **414.0096** | **9.9400e-003** | **0.0101** | **417.2746** |

## 3.6 Architectural Coating - 2028

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.8755 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0444 | 0.2978 | 0.4704 | 7.7000e-004 | | 0.0134 | 0.0134 | | 0.0134 | 0.0134 | 0.0000 | 66.3846 | 66.3846 | 3.6200e-003 | 0.0000 | 66.4751 |
| **Total** | **4.9199** | **0.2978** | **0.4704** | **7.7000e-004** | | **0.0134** | **0.0134** | | **0.0134** | **0.0134** | **0.0000** | **66.3846** | **66.3846** | **3.6200e-003** | **0.0000** | **66.4751** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2028

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1637 | 0.0834 | 1.3306 | 4.1800e-003 | 0.5662 | 2.3300e-003 | 0.5685 | 0.1506 | 2.1400e-003 | 0.1527 | 0.0000 | 403.9417 | 403.9417 | 9.1300e-003 | 9.6300e-003 | 407.0394 |
| **Total** | **0.1637** | **0.0834** | **1.3306** | **4.1800e-003** | **0.5662** | **2.3300e-003** | **0.5685** | **0.1506** | **2.1400e-003** | **0.1527** | **0.0000** | **403.9417** | **403.9417** | **9.1300e-003** | **9.6300e-003** | **407.0394** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.8755 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0444 | 0.2978 | 0.4704 | 7.7000e-004 | | 0.0134 | 0.0134 | | 0.0134 | 0.0134 | 0.0000 | 66.3845 | 66.3845 | 3.6200e-003 | 0.0000 | 66.4751 |
| **Total** | **4.9199** | **0.2978** | **0.4704** | **7.7000e-004** | | **0.0134** | **0.0134** | | **0.0134** | **0.0134** | **0.0000** | **66.3845** | **66.3845** | **3.6200e-003** | **0.0000** | **66.4751** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2028

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1637 | 0.0834 | 1.3306 | 4.1800e-003 | 0.5662 | 2.3300e-003 | 0.5685 | 0.1506 | 2.1400e-003 | 0.1527 | 0.0000 | 403.9417 | 403.9417 | 9.1300e-003 | 9.6300e-003 | 407.0394 |
| **Total** | **0.1637** | **0.0834** | **1.3306** | **4.1800e-003** | **0.5662** | **2.3300e-003** | **0.5685** | **0.1506** | **2.1400e-003** | **0.1527** | **0.0000** | **403.9417** | **403.9417** | **9.1300e-003** | **9.6300e-003** | **407.0394** |

## 3.6 Architectural Coating - 2029

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.8942 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0446 | 0.2990 | 0.4722 | 7.8000e-004 | | 0.0134 | 0.0134 | | 0.0134 | 0.0134 | 0.0000 | 66.6399 | 66.6399 | 3.6400e-003 | 0.0000 | 66.7308 |
| **Total** | **4.9388** | **0.2990** | **0.4722** | **7.8000e-004** | | **0.0134** | **0.0134** | | **0.0134** | **0.0134** | **0.0000** | **66.6399** | **66.6399** | **3.6400e-003** | **0.0000** | **66.7308** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2029

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1552 | 0.0777 | 1.2792 | 4.0800e-003 | 0.5684 | 2.1900e-003 | 0.5706 | 0.1512 | 2.0200e-003 | 0.1532 | 0.0000 | 397.8419 | 397.8419 | 8.4800e-003 | 9.2800e-003 | 400.8201 |
| **Total** | **0.1552** | **0.0777** | **1.2792** | **4.0800e-003** | **0.5684** | **2.1900e-003** | **0.5706** | **0.1512** | **2.0200e-003** | **0.1532** | **0.0000** | **397.8419** | **397.8419** | **8.4800e-003** | **9.2800e-003** | **400.8201** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.8942 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0446 | 0.2990 | 0.4722 | 7.8000e-004 | | 0.0134 | 0.0134 | | 0.0134 | 0.0134 | 0.0000 | 66.6398 | 66.6398 | 3.6400e-003 | 0.0000 | 66.7307 |
| **Total** | **4.9388** | **0.2990** | **0.4722** | **7.8000e-004** | | **0.0134** | **0.0134** | | **0.0134** | **0.0134** | **0.0000** | **66.6398** | **66.6398** | **3.6400e-003** | **0.0000** | **66.7307** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2029

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1552 | 0.0777 | 1.2792 | 4.0800e-003 | 0.5684 | 2.1900e-003 | 0.5706 | 0.1512 | 2.0200e-003 | 0.1532 | 0.0000 | 397.8419 | 397.8419 | 8.4800e-003 | 9.2800e-003 | 400.8201 |
| **Total** | **0.1552** | **0.0777** | **1.2792** | **4.0800e-003** | **0.5684** | **2.1900e-003** | **0.5706** | **0.1512** | **2.0200e-003** | **0.1532** | **0.0000** | **397.8419** | **397.8419** | **8.4800e-003** | **9.2800e-003** | **400.8201** |

## 3.6 Architectural Coating - 2030

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 2.8503 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0199 | 0.1302 | 0.2733 | 4.5000e-004 | | 3.0900e-003 | 3.0900e-003 | | 3.0900e-003 | 3.0900e-003 | 0.0000 | 38.8095 | 38.8095 | 1.5700e-003 | 0.0000 | 38.8487 |
| **Total** | **2.8702** | **0.1302** | **0.2733** | **4.5000e-004** | | **3.0900e-003** | **3.0900e-003** | | **3.0900e-003** | **3.0900e-003** | **0.0000** | **38.8095** | **38.8095** | **1.5700e-003** | **0.0000** | **38.8487** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2030

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0853 | 0.0423 | 0.7172 | 2.3200e-003 | 0.3310 | 1.1900e-003 | 0.3322 | 0.0880 | 1.1000e-003 | 0.0891 | 0.0000 | 227.7699 | 227.7699 | 4.5800e-003 | 5.2200e-003 | 229.4400 |
| **Total** | **0.0853** | **0.0423** | **0.7172** | **2.3200e-003** | **0.3310** | **1.1900e-003** | **0.3322** | **0.0880** | **1.1000e-003** | **0.0891** | **0.0000** | **227.7699** | **227.7699** | **4.5800e-003** | **5.2200e-003** | **229.4400** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 2.8503 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0199 | 0.1302 | 0.2733 | 4.5000e-004 | | 3.0900e-003 | 3.0900e-003 | | 3.0900e-003 | 3.0900e-003 | 0.0000 | 38.8094 | 38.8094 | 1.5700e-003 | 0.0000 | 38.8487 |
| **Total** | **2.8702** | **0.1302** | **0.2733** | **4.5000e-004** | | **3.0900e-003** | **3.0900e-003** | | **3.0900e-003** | **3.0900e-003** | **0.0000** | **38.8094** | **38.8094** | **1.5700e-003** | **0.0000** | **38.8487** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

### 3.6 Architectural Coating - 2030

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0853 | 0.0423 | 0.7172 | 2.3200e-003 | 0.3310 | 1.1900e-003 | 0.3322 | 0.0880 | 1.1000e-003 | 0.0891 | 0.0000 | 227.7699 | 227.7699 | 4.5800e-003 | 5.2200e-003 | 229.4400 |
| **Total** | **0.0853** | **0.0423** | **0.7172** | **2.3200e-003** | **0.3310** | **1.1900e-003** | **0.3322** | **0.0880** | **1.1000e-003** | **0.0891** | **0.0000** | **227.7699** | **227.7699** | **4.5800e-003** | **5.2200e-003** | **229.4400** |

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 9.0125 | 10.7792 | 95.4797 | 0.2015 | 29.2695 | 0.0970 | 29.3665 | 7.8141 | 0.0908 | 7.9049 | 0.0000 | 20,537.1235 | 20,537.1235 | 1.3004 | 0.9455 | 20,851.3887 |
| Unmitigated | 9.0125 | 10.7792 | 95.4797 | 0.2015 | 29.2695 | 0.0970 | 29.3665 | 7.8141 | 0.0908 | 7.9049 | 0.0000 | 20,537.1235 | 20,537.1235 | 1.3004 | 0.9455 | 20,851.3887 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments High Rise | 3,631.20 | 3,696.48 | 2929.44 | 9,084,730 | 9,084,730 |
| Apartments Low Rise | 2,957.28 | 3,288.56 | 2537.12 | 7,556,121 | 7,556,121 |
| Apartments Mid Rise | 4,972.16 | 4,487.74 | 3738.26 | 12,129,191 | 12,129,191 |
| City Park | 26.13 | 65.66 | 73.37 | 71,077 | 71,077 |
| Elementary School | 1,606.50 | 0.00 | 0.00 | 2,413,021 | 2,413,021 |
| Office Park | 13,859.64 | 2,053.28 | 951.52 | 22,369,655 | 22,369,655 |
| Single Family Housing | 10,072.48 | 10,179.18 | 9122.85 | 25,538,074 | 25,538,074 |
| Total | 37,125.39 | 23,770.90 | 19,352.56 | 79,161,869 | 79,161,869 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments High Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Apartments Low Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Apartments Mid Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| City Park | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 66 | 28 | 6 |
| Elementary School | 10.00 | 5.00 | 6.50 | 65.00 | 30.00 | 5.00 | 63 | 25 | 12 |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Office Park | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 82 | 15 | 3 |
| Single Family Housing | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |

### 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apartments High Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Apartments Low Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Apartments Mid Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| City Park | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Elementary School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Office Park | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Single Family Housing | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 5,989.6443 | 5,989.6443 | 0.5522 | 0.0669 | 6,023.3923 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 5,989.6443 | 5,989.6443 | 0.5522 | 0.0669 | 6,023.3923 |
| NaturalGas Mitigated | 0.3619 | 3.1544 | 1.7665 | 0.0197 | | 0.2501 | 0.2501 | | 0.2501 | 0.2501 | 0.0000 | 3,582.0089 | 3,582.0089 | 0.0687 | 0.0657 | 3,603.2950 |
| NaturalGas Unmitigated | 0.3619 | 3.1544 | 1.7665 | 0.0197 | | 0.2501 | 0.2501 | | 0.2501 | 0.2501 | 0.0000 | 3,582.0089 | 3,582.0089 | 0.0687 | 0.0657 | 3,603.2950 |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Apartments High Rise | 7.68364e+006 | 0.0414 | 0.3541 | 0.1507 | 2.2600e-003 | | 0.0286 | 0.0286 | | 0.0286 | 0.0286 | 0.0000 | 410.0285 | 410.0285 | 7.8600e-003 | 7.5200e-003 | 412.4651 |
| Apartments Low Rise | 4.70917e+006 | 0.0254 | 0.2170 | 0.0923 | 1.3900e-003 | | 0.0175 | 0.0175 | | 0.0175 | 0.0175 | 0.0000 | 251.2994 | 251.2994 | 4.8200e-003 | 4.6100e-003 | 252.7928 |
| Apartments Mid Rise | 8.60643e+006 | 0.0464 | 0.3966 | 0.1688 | 2.5300e-003 | | 0.0321 | 0.0321 | | 0.0321 | 0.0321 | 0.0000 | 459.2721 | 459.2721 | 8.8000e-003 | 8.4200e-003 | 462.0013 |
| City Park | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Elementary School | 1.07447e+006 | 5.7900e-003 | 0.0527 | 0.0442 | 3.2000e-004 | | 4.0000e-003 | 4.0000e-003 | | 4.0000e-003 | 4.0000e-003 | 0.0000 | 57.3378 | 57.3378 | 1.1000e-003 | 1.0500e-003 | 57.6786 |
| Office Park | 1.98066e+007 | 0.1068 | 0.9709 | 0.8156 | 5.8300e-003 | | 0.0738 | 0.0738 | | 0.0738 | 0.0738 | 0.0000 | 1,056.9577 | 1,056.9577 | 0.0203 | 0.0194 | 1,063.2387 |
| Single Family Housing | 2.5244e+007 | 0.1361 | 1.1632 | 0.4950 | 7.4200e-003 | | 0.0941 | 0.0941 | | 0.0941 | 0.0941 | 0.0000 | 1,347.1133 | 1,347.1133 | 0.0258 | 0.0247 | 1,355.1185 |
| **Total** | | **0.3619** | **3.1544** | **1.7665** | **0.0198** | | **0.2501** | **0.2501** | | **0.2501** | **0.2501** | **0.0000** | **3,582.0089** | **3,582.0089** | **0.0687** | **0.0657** | **3,603.2950** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Apartments High Rise | 7.68364e+006 | 0.0414 | 0.3541 | 0.1507 | 2.2600e-003 | | 0.0286 | 0.0286 | | 0.0286 | 0.0286 | 0.0000 | 410.0285 | 410.0285 | 7.8600e-003 | 7.5200e-003 | 412.4651 |
| Apartments Low Rise | 4.70917e+006 | 0.0254 | 0.2170 | 0.0923 | 1.3900e-003 | | 0.0175 | 0.0175 | | 0.0175 | 0.0175 | 0.0000 | 251.2994 | 251.2994 | 4.8200e-003 | 4.6100e-003 | 252.7928 |
| Apartments Mid Rise | 8.60643e+006 | 0.0464 | 0.3966 | 0.1688 | 2.5300e-003 | | 0.0321 | 0.0321 | | 0.0321 | 0.0321 | 0.0000 | 459.2721 | 459.2721 | 8.8000e-003 | 8.4200e-003 | 462.0013 |
| City Park | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Elementary School | 1.07447e+006 | 5.7900e-003 | 0.0527 | 0.0442 | 3.2000e-004 | | 4.0000e-003 | 4.0000e-003 | | 4.0000e-003 | 4.0000e-003 | 0.0000 | 57.3378 | 57.3378 | 1.1000e-003 | 1.0500e-003 | 57.6786 |
| Office Park | 1.98066e+007 | 0.1068 | 0.9709 | 0.8156 | 5.8300e-003 | | 0.0738 | 0.0738 | | 0.0738 | 0.0738 | 0.0000 | 1,056.9577 | 1,056.9577 | 0.0203 | 0.0194 | 1,063.2387 |
| Single Family Housing | 2.5244e+007 | 0.1361 | 1.1632 | 0.4950 | 7.4200e-003 | | 0.0941 | 0.0941 | | 0.0941 | 0.0941 | 0.0000 | 1,347.1133 | 1,347.1133 | 0.0258 | 0.0247 | 1,355.1185 |
| **Total** | | **0.3619** | **3.1544** | **1.7665** | **0.0198** | | **0.2501** | **0.2501** | | **0.2501** | **0.2501** | **0.0000** | **3,582.0089** | **3,582.0089** | **0.0687** | **0.0657** | **3,603.2950** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Apartments High Rise | 3.17728e+006 | 515.9165 | 0.0476 | 5.7600e-003 | 518.8233 |
| Apartments Low Rise | 1.65316e+006 | 268.4358 | 0.0248 | 3.0000e-003 | 269.9483 |
| Apartments Mid Rise | 3.55886e+006 | 577.8770 | 0.0533 | 6.4600e-003 | 581.1330 |
| City Park | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Elementary School | 504546 | 81.9267 | 7.5500e-003 | 9.2000e-004 | 82.3883 |
| Office Park | 1.95562e+007 | 3,175.4835 | 0.2927 | 0.0355 | 3,193.3754 |
| Single Family Housing | 8.43719e+006 | 1,370.0048 | 0.1263 | 0.0153 | 1,377.7239 |
| **Total** | | **5,989.6443** | **0.5522** | **0.0669** | **6,023.3923** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.3 Energy by Land Use - Electricity

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Apartments High Rise | 3.17728e+006 | 515.9165 | 0.0476 | 5.7600e-003 | 518.8233 |
| Apartments Low Rise | 1.65316e+006 | 268.4358 | 0.0248 | 3.0000e-003 | 269.9483 |
| Apartments Mid Rise | 3.55886e+006 | 577.8770 | 0.0533 | 6.4600e-003 | 581.1330 |
| City Park | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Elementary School | 504546 | 81.9267 | 7.5500e-003 | 9.2000e-004 | 82.3883 |
| Office Park | 1.95562e+007 | 3,175.4835 | 0.2927 | 0.0355 | 3,193.3754 |
| Single Family Housing | 8.43719e+006 | 1,370.0048 | 0.1263 | 0.0153 | 1,377.7239 |
| **Total** | | **5,989.6443** | **0.5522** | **0.0669** | **6,023.3923** |

## 6.0 Area Detail

## 6.1 Mitigation Measures Area

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 25.1520 | 0.3796 | 32.8929 | 1.7500e-003 | | 0.1832 | 0.1832 | | 0.1832 | 0.1832 | 0.0000 | 53.9756 | 53.9756 | 0.0515 | 0.0000 | 55.2622 |
| Unmitigated | 25.1520 | 0.3796 | 32.8929 | 1.7500e-003 | | 0.1832 | 0.1832 | | 0.1832 | 0.1832 | 0.0000 | 53.9756 | 53.9756 | 0.0515 | 0.0000 | 55.2622 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 3.1503 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 21.0162 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 0.9855 | 0.3796 | 32.8929 | 1.7500e-003 | | 0.1832 | 0.1832 | | 0.1832 | 0.1832 | 0.0000 | 53.9756 | 53.9756 | 0.0515 | 0.0000 | 55.2622 |
| **Total** | **25.1520** | **0.3796** | **32.8929** | **1.7500e-003** | | **0.1832** | **0.1832** | | **0.1832** | **0.1832** | **0.0000** | **53.9756** | **53.9756** | **0.0515** | **0.0000** | **55.2622** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 3.1503 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 21.0162 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 0.9855 | 0.3796 | 32.8929 | 1.7500e-003 | | 0.1832 | 0.1832 | | 0.1832 | 0.1832 | 0.0000 | 53.9756 | 53.9756 | 0.0515 | 0.0000 | 55.2622 |
| **Total** | **25.1520** | **0.3796** | **32.8929** | **1.7500e-003** | | **0.1832** | **0.1832** | | **0.1832** | **0.1832** | **0.0000** | **53.9756** | **53.9756** | **0.0515** | **0.0000** | **55.2622** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 681.6129 | 0.5762 | 0.3392 | 797.0879 |
| Unmitigated | 681.6129 | 0.5762 | 0.3392 | 797.0879 |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Apartments High Rise | 53.1657 / 33.5175 | 80.8730 | 0.0705 | 0.0416 | 95.0311 |
| Apartments Low Rise | 26.3222 / 16.5944 | 40.0400 | 0.0349 | 0.0206 | 47.0497 |
| Apartments Mid Rise | 59.5508 / 37.5429 | 90.5856 | 0.0789 | 0.0466 | 106.4442 |
| City Park | 0 / 39.9146 | 22.6843 | 2.0900e-003 | 2.5000e-004 | 22.8121 |
| Elementary School | 2.0606 / 5.2987 | 5.4076 | 2.9400e-003 | 1.6400e-003 | 5.9691 |
| Office Park | 222.523 / 136.385 | 336.2731 | 0.2947 | 0.1741 | 395.5191 |
| Single Family Housing | 69.5193 / 43.8274 | 105.7493 | 0.0921 | 0.0544 | 124.2625 |
| **Total** | | **681.6129** | **0.5762** | **0.3392** | **797.0879** |

## 7.2 Water by Land Use

**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Apartments High Rise | 53.1657 / 33.5175 | 80.8730 | 0.0705 | 0.0416 | 95.0311 |
| Apartments Low Rise | 26.3222 / 16.5944 | 40.0400 | 0.0349 | 0.0206 | 47.0497 |
| Apartments Mid Rise | 59.5508 / 37.5429 | 90.5856 | 0.0789 | 0.0466 | 106.4442 |
| City Park | 0 / 39.9146 | 22.6843 | 2.0900e-003 | 2.5000e-004 | 22.8121 |
| Elementary School | 2.0606 / 5.2987 | 5.4076 | 2.9400e-003 | 1.6400e-003 | 5.9691 |
| Office Park | 222.523 / 136.385 | 336.2731 | 0.2947 | 0.1741 | 395.5191 |
| Single Family Housing | 69.5193 / 43.8274 | 105.7493 | 0.0921 | 0.0544 | 124.2625 |
| **Total** | | **681.6129** | **0.5762** | **0.3392** | **797.0879** |

# 8.0 Waste Detail

## 8.1 Mitigation Measures Waste

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 675.8889 | 39.9439 | 0.0000 | 1,674.4860 |
| Unmitigated | 675.8889 | 39.9439 | 0.0000 | 1,674.4860 |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Apartments High Rise | 375.36 | 76.1947 | 4.5030 | 0.0000 | 188.7691 |
| Apartments Low Rise | 185.84 | 37.7238 | 2.2294 | 0.0000 | 93.4592 |
| Apartments Mid Rise | 420.44 | 85.3455 | 5.0438 | 0.0000 | 211.4399 |
| City Park | 2.88 | 0.5846 | 0.0346 | 0.0000 | 1.4484 |
| Elementary School | 155.13 | 31.4900 | 1.8610 | 0.0000 | 78.0151 |
| Office Park | 1164.36 | 236.3546 | 13.9682 | 0.0000 | 585.5584 |
| Single Family Housing | 1025.64 | 208.1957 | 12.3040 | 0.0000 | 515.7959 |
| **Total** | | **675.8889** | **39.9439** | **0.0000** | **1,674.4860** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 8.2 Waste by Land Use

**Mitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Apartments High Rise | 375.36 | 76.1947 | 4.5030 | 0.0000 | 188.7691 |
| Apartments Low Rise | 185.84 | 37.7238 | 2.2294 | 0.0000 | 93.4592 |
| Apartments Mid Rise | 420.44 | 85.3455 | 5.0438 | 0.0000 | 211.4399 |
| City Park | 2.88 | 0.5846 | 0.0346 | 0.0000 | 1.4484 |
| Elementary School | 155.13 | 31.4900 | 1.8610 | 0.0000 | 78.0151 |
| Office Park | 1164.36 | 236.3546 | 13.9682 | 0.0000 | 585.5584 |
| Single Family Housing | 1025.64 | 208.1957 | 12.3040 | 0.0000 | 515.7959 |
| **Total** | | **675.8889** | **39.9439** | **0.0000** | **1,674.4860** |

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# UWSP - Phase 1 Construction

**Sacramento Metropolitan AQMD Air District, Summer**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Office Park | 1,252.00 | 1000sqft | 47.90 | 1,252,000.00 | 0 |
| Elementary School | 850.00 | Student | 17.00 | 71,062.86 | 0 |
| City Park | 33.50 | Acre | 33.50 | 1,459,260.00 | 0 |
| Apartments High Rise | 816.00 | Dwelling Unit | 25.10 | 816,000.00 | 2179 |
| Apartments Low Rise | 404.00 | Dwelling Unit | 33.70 | 404,000.00 | 1079 |
| Apartments Mid Rise | 914.00 | Dwelling Unit | 40.60 | 914,000.00 | 2440 |
| Single Family Housing | 1,067.00 | Dwelling Unit | 173.50 | 1,920,600.00 | 2849 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 3.5 | **Precipitation Freq (Days)** | 58 |
| **Climate Zone** | 6 | | | **Operational Year** | 2045 |
| **Utility Company** | Sacramento Municipal Utility District | | | | |
| **CO2 Intensity (lb/MWhr)** | 357.98 | **CH4 Intensity (lb/MWhr)** | 0.033 | **N2O Intensity (lb/MWhr)** | 0.004 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreages updated based on preliminary land use summary.

Construction Phase - Construction phase timing adjusted based on applicant-provided information.

Off-road Equipment - Architectural coating equipment doubled.

Off-road Equipment - Building construction phase equipment doubled.

Off-road Equipment - Construction equipment updated per engineer information.

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Off-road Equipment - Construction equipment updated per engineer information.

Off-road Equipment - Number of equipment has been updated.

Grading -

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 440.00 | 1,680.00 |
| tblConstructionPhase | NumDays | 6,200.00 | 1,680.00 |
| tblConstructionPhase | NumDays | 620.00 | 60.00 |
| tblConstructionPhase | NumDays | 440.00 | 60.00 |
| tblConstructionPhase | NumDays | 240.00 | 60.00 |
| tblGrading | AcresOfGrading | 1,860.00 | 390.00 |
| tblGrading | AcresOfGrading | 180.00 | 90.00 |
| tblGrading | MaterialExported | 0.00 | 122,750.00 |
| tblLandUse | LotAcreage | 28.74 | 47.90 |
| tblLandUse | LotAcreage | 1.63 | 17.00 |
| tblLandUse | LotAcreage | 13.16 | 25.10 |
| tblLandUse | LotAcreage | 25.25 | 33.70 |
| tblLandUse | LotAcreage | 24.05 | 40.60 |
| tblLandUse | LotAcreage | 346.43 | 173.50 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 29.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 3.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 4.00 | 8.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |

## 2.0 Emissions Summary

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.1 Overall Construction (Maximum Daily Emission)

**Unmitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 27.1921 | 313.1819 | 218.1353 | 0.6681 | 37.9895 | 11.1932 | 40.5229 | 20.1038 | 10.3087 | 22.4345 | 0.0000 | 66,696.5571 | 66,696.5571 | 16.3955 | 2.7938 | 67,938.9869 |
| 2024 | 53.0253 | 70.6723 | 137.0829 | 0.4481 | 31.8653 | 1.7579 | 33.5499 | 8.5610 | 1.6173 | 10.1534 | 0.0000 | 46,350.3214 | 46,350.3214 | 3.1233 | 2.9291 | 47,279.6726 |
| 2025 | 52.0752 | 67.3156 | 130.6709 | 0.4369 | 31.8647 | 1.4844 | 33.3491 | 8.5608 | 1.4030 | 9.9639 | 0.0000 | 45,425.1217 | 45,425.1217 | 2.1844 | 2.8483 | 46,328.5111 |
| 2026 | 51.4396 | 66.1643 | 125.4431 | 0.4266 | 31.8643 | 1.4736 | 33.3378 | 8.5606 | 1.3929 | 9.9535 | 0.0000 | 44,533.1539 | 44,533.1539 | 2.1249 | 2.7752 | 45,413.2818 |
| 2027 | 50.8546 | 65.1434 | 121.0018 | 0.4168 | 31.8638 | 1.4625 | 33.3263 | 8.5605 | 1.3825 | 9.9430 | 0.0000 | 43,672.9565 | 43,672.9565 | 2.0711 | 2.7047 | 44,530.7302 |
| 2028 | 50.3230 | 64.2961 | 117.3142 | 0.4078 | 31.8634 | 1.4516 | 33.3150 | 8.5603 | 1.3723 | 9.9327 | 0.0000 | 42,889.4385 | 42,889.4385 | 2.0261 | 2.6409 | 43,727.0642 |
| 2029 | 49.8048 | 63.5325 | 114.1369 | 0.3996 | 31.8630 | 1.4410 | 33.3040 | 8.5602 | 1.3625 | 9.9227 | 0.0000 | 42,174.4795 | 42,174.4795 | 1.9862 | 2.5829 | 42,993.8353 |
| 2030 | 49.1103 | 53.2019 | 111.5897 | 0.4003 | 31.8627 | 0.6096 | 32.4723 | 8.5601 | 0.5943 | 9.1544 | 0.0000 | 42,216.7210 | 42,216.7210 | 0.9740 | 2.5311 | 42,995.3507 |
| **Maximum** | **53.0253** | **313.1819** | **218.1353** | **0.6681** | **37.9895** | **11.1932** | **40.5229** | **20.1038** | **10.3087** | **22.4345** | **0.0000** | **66,696.5571** | **66,696.5571** | **16.3955** | **2.9291** | **67,938.9869** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.1 Overall Construction (Maximum Daily Emission)

**Mitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 27.1921 | 313.1819 | 218.1353 | 0.6681 | 37.9895 | 11.1932 | 40.5229 | 20.1038 | 10.3087 | 22.4345 | 0.0000 | 66,696.5571 | 66,696.5571 | 16.3955 | 2.7938 | 67,938.9868 |
| 2024 | 53.0253 | 70.6723 | 137.0829 | 0.4481 | 31.8653 | 1.7579 | 33.5499 | 8.5610 | 1.6173 | 10.1534 | 0.0000 | 46,350.3214 | 46,350.3214 | 3.1233 | 2.9291 | 47,279.6726 |
| 2025 | 52.0752 | 67.3156 | 130.6709 | 0.4369 | 31.8647 | 1.4844 | 33.3491 | 8.5608 | 1.4030 | 9.9639 | 0.0000 | 45,425.1217 | 45,425.1217 | 2.1844 | 2.8483 | 46,328.5111 |
| 2026 | 51.4396 | 66.1643 | 125.4431 | 0.4266 | 31.8643 | 1.4736 | 33.3378 | 8.5606 | 1.3929 | 9.9535 | 0.0000 | 44,533.1539 | 44,533.1539 | 2.1249 | 2.7752 | 45,413.2818 |
| 2027 | 50.8546 | 65.1434 | 121.0018 | 0.4168 | 31.8638 | 1.4625 | 33.3263 | 8.5605 | 1.3825 | 9.9430 | 0.0000 | 43,672.9565 | 43,672.9565 | 2.0711 | 2.7047 | 44,530.7302 |
| 2028 | 50.3230 | 64.2961 | 117.3142 | 0.4078 | 31.8634 | 1.4516 | 33.3150 | 8.5603 | 1.3723 | 9.9327 | 0.0000 | 42,889.4385 | 42,889.4385 | 2.0261 | 2.6409 | 43,727.0642 |
| 2029 | 49.8048 | 63.5325 | 114.1369 | 0.3996 | 31.8630 | 1.4410 | 33.3040 | 8.5602 | 1.3625 | 9.9227 | 0.0000 | 42,174.4795 | 42,174.4795 | 1.9862 | 2.5829 | 42,993.8353 |
| 2030 | 49.1103 | 53.2019 | 111.5897 | 0.4003 | 31.8627 | 0.6096 | 32.4723 | 8.5601 | 0.5943 | 9.1544 | 0.0000 | 42,216.7209 | 42,216.7209 | 0.9740 | 2.5311 | 42,995.3507 |
| **Maximum** | **53.0253** | **313.1819** | **218.1353** | **0.6681** | **37.9895** | **11.1932** | **40.5229** | **20.1038** | **10.3087** | **22.4345** | **0.0000** | **66,696.5571** | **66,696.5571** | **16.3955** | **2.9291** | **67,938.9868** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 140.3028 | 3.0368 | 263.1431 | 0.0140 | | 1.4653 | 1.4653 | | 1.4653 | 1.4653 | 0.0000 | 475.9833 | 475.9833 | 0.4538 | 0.0000 | 487.3287 |
| Energy | 1.9833 | 17.2844 | 9.6797 | 0.1082 | | 1.3703 | 1.3703 | | 1.3703 | 1.3703 | | 21,635.5559 | 21,635.5559 | 0.4147 | 0.3967 | 21,764.1252 |
| Mobile | 70.3962 | 62.2346 | 639.8722 | 1.3595 | 190.0352 | 0.6095 | 190.6447 | 50.5937 | 0.5702 | 51.1639 | | 152,880.1138 | 152,880.1138 | 8.7284 | 6.2916 | 154,973.2142 |
| **Total** | **212.6823** | **82.5558** | **912.6950** | **1.4816** | **190.0352** | **3.4450** | **193.4802** | **50.5937** | **3.4057** | **53.9994** | **0.0000** | **174,991.6529** | **174,991.6529** | **9.5969** | **6.6882** | **177,224.6681** |

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 140.3028 | 3.0368 | 263.1431 | 0.0140 | | 1.4653 | 1.4653 | | 1.4653 | 1.4653 | 0.0000 | 475.9833 | 475.9833 | 0.4538 | 0.0000 | 487.3287 |
| Energy | 1.9833 | 17.2844 | 9.6797 | 0.1082 | | 1.3703 | 1.3703 | | 1.3703 | 1.3703 | | 21,635.5559 | 21,635.5559 | 0.4147 | 0.3967 | 21,764.1252 |
| Mobile | 70.3962 | 62.2346 | 639.8722 | 1.3595 | 190.0352 | 0.6095 | 190.6447 | 50.5937 | 0.5702 | 51.1639 | | 152,880.1138 | 152,880.1138 | 8.7284 | 6.2916 | 154,973.2142 |
| **Total** | **212.6823** | **82.5558** | **912.6950** | **1.4816** | **190.0352** | **3.4450** | **193.4802** | **50.5937** | **3.4057** | **53.9994** | **0.0000** | **174,991.6529** | **174,991.6529** | **9.5969** | **6.6882** | **177,224.6681** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 6/1/2023 | 8/23/2023 | 5 | 60 | |
| 2 | Grading | Grading | 8/24/2023 | 11/15/2023 | 5 | 60 | |
| 3 | Paving | Paving | 11/16/2023 | 2/7/2024 | 5 | 60 | |
| 4 | Building Construction | Building Construction | 2/8/2024 | 7/17/2030 | 5 | 1680 | |
| 5 | Architectural Coating | Architectural Coating | 2/22/2024 | 7/31/2030 | 5 | 1680 | |

**Acres of Grading (Site Preparation Phase): 90**

**Acres of Grading (Grading Phase): 390**

**Acres of Paving: 0**

**Residential Indoor: 8,210,565; Residential Outdoor: 2,736,855; Non-Residential Indoor: 1,984,594; Non-Residential Outdoor: 661,531; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | 6 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 8 | 8.00 | 97 | 0.37 |
| Grading | Excavators | 4 | 8.00 | 158 | 0.38 |
| Grading | Graders | 2 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 2 | 8.00 | 247 | 0.40 |
| Grading | Scrapers | 29 | 8.00 | 367 | 0.48 |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | |
|---|---|---|---|---|---|
| Grading | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Paving | Excavators | 8 | 8.00 | 158 | 0.38 |
| Paving | Pavers | 4 | 8.00 | 130 | 0.42 |
| Paving | Paving Equipment | 4 | 8.00 | 132 | 0.36 |
| Paving | Rollers | 4 | 8.00 | 80 | 0.38 |
| Paving | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Building Construction | Cranes | 2 | 7.00 | 231 | 0.29 |
| Building Construction | Forklifts | 6 | 8.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 2 | 8.00 | 84 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | 6 | 7.00 | 97 | 0.37 |
| Building Construction | Welders | 2 | 8.00 | 46 | 0.45 |
| Architectural Coating | Air Compressors | 2 | 6.00 | 78 | 0.48 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 14 | 35.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 40 | 100.00 | 0.00 | 15,344.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 24 | 60.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 18 | 2,964.00 | 798.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 2 | 593.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 37.7233 | 0.0000 | 37.7233 | 20.0331 | 0.0000 | 20.0331 | | | 0.0000 | | | 0.0000 |
| Off-Road | 5.3189 | 55.0484 | 36.4886 | 0.0761 | | 2.5320 | 2.5320 | | 2.3295 | 2.3295 | | 7,374.6162 | 7,374.6162 | 2.3851 | | 7,434.2437 |
| **Total** | **5.3189** | **55.0484** | **36.4886** | **0.0761** | **37.7233** | **2.5320** | **40.2553** | **20.0331** | **2.3295** | **22.3626** | | **7,374.6162** | **7,374.6162** | **2.3851** | | **7,434.2437** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1179 | 0.0567 | 0.9539 | 2.4300e-003 | 0.2662 | 1.3700e-003 | 0.2676 | 0.0706 | 1.2600e-003 | 0.0719 | | 249.0946 | 249.0946 | 6.8400e-003 | 6.1200e-003 | 251.0884 |
| **Total** | **0.1179** | **0.0567** | **0.9539** | **2.4300e-003** | **0.2662** | **1.3700e-003** | **0.2676** | **0.0706** | **1.2600e-003** | **0.0719** | | **249.0946** | **249.0946** | **6.8400e-003** | **6.1200e-003** | **251.0884** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 37.7233 | 0.0000 | 37.7233 | 20.0331 | 0.0000 | 20.0331 | | | 0.0000 | | | 0.0000 |
| Off-Road | 5.3189 | 55.0483 | 36.4886 | 0.0761 | | 2.5320 | 2.5320 | | 2.3295 | 2.3295 | 0.0000 | 7,374.6162 | 7,374.6162 | 2.3851 | | 7,434.2437 |
| **Total** | **5.3189** | **55.0483** | **36.4886** | **0.0761** | **37.7233** | **2.5320** | **40.2553** | **20.0331** | **2.3295** | **22.3626** | **0.0000** | **7,374.6162** | **7,374.6162** | **2.3851** | | **7,434.2437** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1179 | 0.0567 | 0.9539 | 2.4300e-003 | 0.2662 | 1.3700e-003 | 0.2676 | 0.0706 | 1.2600e-003 | 0.0719 | | 249.0946 | 249.0946 | 6.8400e-003 | 6.1200e-003 | 251.0884 |
| **Total** | **0.1179** | **0.0567** | **0.9539** | **2.4300e-003** | **0.2662** | **1.3700e-003** | **0.2676** | **0.0706** | **1.2600e-003** | **0.0719** | | **249.0946** | **249.0946** | **6.8400e-003** | **6.1200e-003** | **251.0884** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Grading - 2023

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.3605 | 0.0000 | 19.3605 | 7.4288 | 0.0000 | 7.4288 | | | 0.0000 | | | 0.0000 |
| Off-Road | 26.1612 | 274.5806 | 207.2964 | 0.5007 | | 10.8929 | 10.8929 | | 10.0215 | 10.0215 | | 48,474.5989 | 48,474.5989 | 15.6777 | | 48,866.5406 |
| **Total** | **26.1612** | **274.5806** | **207.2964** | **0.5007** | **19.3605** | **10.8929** | **30.2534** | **7.4288** | **10.0215** | **17.4503** | | **48,474.5989** | **48,474.5989** | **15.6777** | | **48,866.5406** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.6939 | 38.4393 | 8.1136 | 0.1604 | 4.4595 | 0.2964 | 4.7559 | 1.2212 | 0.2836 | 1.5048 | | 17,510.2594 | 17,510.2594 | 0.6983 | 2.7763 | 18,355.0508 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.3370 | 0.1619 | 2.7253 | 6.9500e-003 | 0.7607 | 3.9200e-003 | 0.7646 | 0.2018 | 3.6100e-003 | 0.2054 | | 711.6989 | 711.6989 | 0.0195 | 0.0175 | 717.3955 |
| **Total** | **1.0309** | **38.6012** | **10.8389** | **0.1674** | **5.2202** | **0.3003** | **5.5205** | **1.4229** | **0.2872** | **1.7101** | | **18,221.9583** | **18,221.9583** | **0.7178** | **2.7938** | **19,072.4463** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Grading - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.3605 | 0.0000 | 19.3605 | 7.4288 | 0.0000 | 7.4288 | | | 0.0000 | | | 0.0000 |
| Off-Road | 26.1612 | 274.5806 | 207.2964 | 0.5007 | | 10.8929 | 10.8929 | | 10.0215 | 10.0215 | 0.0000 | 48,474.5988 | 48,474.5988 | 15.6777 | | 48,866.5405 |
| **Total** | **26.1612** | **274.5806** | **207.2964** | **0.5007** | **19.3605** | **10.8929** | **30.2534** | **7.4288** | **10.0215** | **17.4503** | **0.0000** | **48,474.5988** | **48,474.5988** | **15.6777** | | **48,866.5405** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.6939 | 38.4393 | 8.1136 | 0.1604 | 4.4595 | 0.2964 | 4.7559 | 1.2212 | 0.2836 | 1.5048 | | 17,510.2594 | 17,510.2594 | 0.6983 | 2.7763 | 18,355.0508 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.3370 | 0.1619 | 2.7253 | 6.9500e-003 | 0.7607 | 3.9200e-003 | 0.7646 | 0.2018 | 3.6100e-003 | 0.2054 | | 711.6989 | 711.6989 | 0.0195 | 0.0175 | 717.3955 |
| **Total** | **1.0309** | **38.6012** | **10.8389** | **0.1674** | **5.2202** | **0.3003** | **5.5205** | **1.4229** | **0.2872** | **1.7101** | | **18,221.9583** | **18,221.9583** | **0.7178** | **2.7938** | **19,072.4463** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2023

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 4.1803 | 38.9150 | 64.1558 | 0.0994 | | 1.9301 | 1.9301 | | 1.7757 | 1.7757 | | 9,622.3194 | 9,622.3194 | 3.1121 | | 9,700.1207 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **4.1803** | **38.9150** | **64.1558** | **0.0994** | | **1.9301** | **1.9301** | | **1.7757** | **1.7757** | | **9,622.3194** | **9,622.3194** | **3.1121** | | **9,700.1207** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.2022 | 0.0971 | 1.6352 | 4.1700e-003 | 0.4564 | 2.3500e-003 | 0.4588 | 0.1211 | 2.1700e-003 | 0.1232 | | 427.0193 | 427.0193 | 0.0117 | 0.0105 | 430.4373 |
| **Total** | **0.2022** | **0.0971** | **1.6352** | **4.1700e-003** | **0.4564** | **2.3500e-003** | **0.4588** | **0.1211** | **2.1700e-003** | **0.1232** | | **427.0193** | **427.0193** | **0.0117** | **0.0105** | **430.4373** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 4.1803 | 38.9150 | 64.1558 | 0.0994 | | 1.9301 | 1.9301 | | 1.7757 | 1.7757 | 0.0000 | 9,622.3194 | 9,622.3194 | 3.1121 | | 9,700.1207 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **4.1803** | **38.9150** | **64.1558** | **0.0994** | | **1.9301** | **1.9301** | | **1.7757** | **1.7757** | **0.0000** | **9,622.3194** | **9,622.3194** | **3.1121** | | **9,700.1207** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.2022 | 0.0971 | 1.6352 | 4.1700e-003 | 0.4564 | 2.3500e-003 | 0.4588 | 0.1211 | 2.1700e-003 | 0.1232 | | 427.0193 | 427.0193 | 0.0117 | 0.0105 | 430.4373 |
| **Total** | **0.2022** | **0.0971** | **1.6352** | **4.1700e-003** | **0.4564** | **2.3500e-003** | **0.4588** | **0.1211** | **2.1700e-003** | **0.1232** | | **427.0193** | **427.0193** | **0.0117** | **0.0105** | **430.4373** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2024

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.9940 | 36.0650 | 64.3143 | 0.0994 | | 1.7557 | 1.7557 | | 1.6152 | 1.6152 | | 9,624.2843 | 9,624.2843 | 3.1127 | | 9,702.1015 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **3.9940** | **36.0650** | **64.3143** | **0.0994** | | **1.7557** | **1.7557** | | **1.6152** | **1.6152** | | **9,624.2843** | **9,624.2843** | **3.1127** | | **9,702.1015** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1889 | 0.0865 | 1.5179 | 4.0400e-003 | 0.4564 | 2.2400e-003 | 0.4587 | 0.1211 | 2.0600e-003 | 0.1231 | | 416.2517 | 416.2517 | 0.0106 | 9.7600e-003 | 419.4234 |
| **Total** | **0.1889** | **0.0865** | **1.5179** | **4.0400e-003** | **0.4564** | **2.2400e-003** | **0.4587** | **0.1211** | **2.0600e-003** | **0.1231** | | **416.2517** | **416.2517** | **0.0106** | **9.7600e-003** | **419.4234** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2024

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.9940 | 36.0650 | 64.3143 | 0.0994 | | 1.7557 | 1.7557 | | 1.6152 | 1.6152 | 0.0000 | 9,624.2843 | 9,624.2843 | 3.1127 | | 9,702.1015 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **3.9940** | **36.0650** | **64.3143** | **0.0994** | | **1.7557** | **1.7557** | | **1.6152** | **1.6152** | **0.0000** | **9,624.2843** | **9,624.2843** | **3.1127** | | **9,702.1015** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1889 | 0.0865 | 1.5179 | 4.0400e-003 | 0.4564 | 2.2400e-003 | 0.4587 | 0.1211 | 2.0600e-003 | 0.1231 | | 416.2517 | 416.2517 | 0.0106 | 9.7600e-003 | 419.4234 |
| **Total** | **0.1889** | **0.0865** | **1.5179** | **4.0400e-003** | **0.4564** | **2.2400e-003** | **0.4587** | **0.1211** | **2.0600e-003** | **0.1231** | | **416.2517** | **416.2517** | **0.0106** | **9.7600e-003** | **419.4234** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2024

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.9431 | 26.8876 | 32.3336 | 0.0539 | | 1.2266 | 1.2266 | | 1.1538 | 1.1538 | | 5,111.3978 | 5,111.3978 | 1.2087 | | 5,141.6153 |
| **Total** | **2.9431** | **26.8876** | **32.3336** | **0.0539** | | **1.2266** | **1.2266** | | **1.1538** | **1.1538** | | **5,111.3978** | **5,111.3978** | **1.2087** | | **5,141.6153** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0214 | 36.2168 | 11.1421 | 0.1491 | 4.8072 | 0.2033 | 5.0105 | 1.3836 | 0.1945 | 1.5781 | | 15,999.2408 | 15,999.2408 | 0.3918 | 2.3507 | 16,709.5507 |
| Worker | 9.3291 | 4.2750 | 74.9849 | 0.1993 | 22.5471 | 0.1107 | 22.6578 | 5.9808 | 0.1019 | 6.0827 | | 20,562.8327 | 20,562.8327 | 0.5229 | 0.4819 | 20,719.5166 |
| **Total** | **10.3505** | **40.4918** | **86.1270** | **0.3484** | **27.3543** | **0.3140** | **27.6683** | **7.3644** | **0.2964** | **7.6608** | | **36,562.0735** | **36,562.0735** | **0.9146** | **2.8327** | **37,429.0674** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2024

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.9431 | 26.8876 | 32.3336 | 0.0539 | | 1.2266 | 1.2266 | | 1.1538 | 1.1538 | 0.0000 | 5,111.3978 | 5,111.3978 | 1.2087 | | 5,141.6153 |
| **Total** | **2.9431** | **26.8876** | **32.3336** | **0.0539** | | **1.2266** | **1.2266** | | **1.1538** | **1.1538** | **0.0000** | **5,111.3978** | **5,111.3978** | **1.2087** | | **5,141.6153** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0214 | 36.2168 | 11.1421 | 0.1491 | 4.8072 | 0.2033 | 5.0105 | 1.3836 | 0.1945 | 1.5781 | | 15,999.2408 | 15,999.2408 | 0.3918 | 2.3507 | 16,709.5507 |
| Worker | 9.3291 | 4.2750 | 74.9849 | 0.1993 | 22.5471 | 0.1107 | 22.6578 | 5.9808 | 0.1019 | 6.0827 | | 20,562.8327 | 20,562.8327 | 0.5229 | 0.4819 | 20,719.5166 |
| **Total** | **10.3505** | **40.4918** | **86.1270** | **0.3484** | **27.3543** | **0.3140** | **27.6683** | **7.3644** | **0.2964** | **7.6608** | | **36,562.0735** | **36,562.0735** | **0.9146** | **2.8327** | **37,429.0674** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2025

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9847 | 35.4796 | 10.8808 | 0.1460 | 4.8067 | 0.1993 | 5.0059 | 1.3834 | 0.1906 | 1.5740 | | 15,674.8163 | 15,674.8163 | 0.3836 | 2.3074 | 16,372.0187 |
| Worker | 8.7582 | 3.8378 | 69.9982 | 0.1926 | 22.5471 | 0.1058 | 22.6529 | 5.9808 | 0.0974 | 6.0783 | | 20,060.9225 | 20,060.9225 | 0.4734 | 0.4507 | 20,207.0575 |
| **Total** | **9.7429** | **39.3174** | **80.8790** | **0.3386** | **27.3538** | **0.3051** | **27.6589** | **7.3642** | **0.2880** | **7.6523** | | **35,735.7388** | **35,735.7388** | **0.8571** | **2.7581** | **36,579.0763** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2025

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | 0.0000 | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | **0.0000** | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9847 | 35.4796 | 10.8808 | 0.1460 | 4.8067 | 0.1993 | 5.0059 | 1.3834 | 0.1906 | 1.5740 | | 15,674.8163 | 15,674.8163 | 0.3836 | 2.3074 | 16,372.0187 |
| Worker | 8.7582 | 3.8378 | 69.9982 | 0.1926 | 22.5471 | 0.1058 | 22.6529 | 5.9808 | 0.0974 | 6.0783 | | 20,060.9225 | 20,060.9225 | 0.4734 | 0.4507 | 20,207.0575 |
| **Total** | **9.7429** | **39.3174** | **80.8790** | **0.3386** | **27.3538** | **0.3051** | **27.6589** | **7.3642** | **0.2880** | **7.6523** | | **35,735.7388** | **35,735.7388** | **0.8571** | **2.7581** | **36,579.0763** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2026

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9504 | 34.7576 | 10.6662 | 0.1430 | 4.8062 | 0.1944 | 5.0006 | 1.3832 | 0.1859 | 1.5692 | | 15,358.7233 | 15,358.7233 | 0.3752 | 2.2655 | 16,043.2163 |
| Worker | 8.2570 | 3.4800 | 65.8207 | 0.1864 | 22.5471 | 0.1009 | 22.6480 | 5.9808 | 0.0929 | 6.0737 | | 19,581.0538 | 19,581.0538 | 0.4309 | 0.4247 | 19,718.3959 |
| **Total** | **9.2075** | **38.2377** | **76.4869** | **0.3294** | **27.3533** | **0.2953** | **27.6486** | **7.3641** | **0.2788** | **7.6429** | | **34,939.7771** | **34,939.7771** | **0.8061** | **2.6902** | **35,761.6122** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2026

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | 0.0000 | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | **0.0000** | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9504 | 34.7576 | 10.6662 | 0.1430 | 4.8062 | 0.1944 | 5.0006 | 1.3832 | 0.1859 | 1.5692 | | 15,358.7233 | 15,358.7233 | 0.3752 | 2.2655 | 16,043.2163 |
| Worker | 8.2570 | 3.4800 | 65.8207 | 0.1864 | 22.5471 | 0.1009 | 22.6480 | 5.9808 | 0.0929 | 6.0737 | | 19,581.0538 | 19,581.0538 | 0.4309 | 0.4247 | 19,718.3959 |
| **Total** | **9.2075** | **38.2377** | **76.4869** | **0.3294** | **27.3533** | **0.2953** | **27.6486** | **7.3641** | **0.2788** | **7.6429** | | **34,939.7771** | **34,939.7771** | **0.8061** | **2.6902** | **35,761.6122** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2027

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9199 | 34.0960 | 10.4837 | 0.1399 | 4.8057 | 0.1899 | 4.9957 | 1.3831 | 0.1817 | 1.5647 | | 15,028.8258 | 15,028.8258 | 0.3656 | 2.2211 | 15,699.8479 |
| Worker | 7.7950 | 3.1807 | 62.2720 | 0.1808 | 22.5471 | 0.0954 | 22.6425 | 5.9808 | 0.0878 | 6.0686 | | 19,139.1620 | 19,139.1620 | 0.3941 | 0.4030 | 19,269.1018 |
| **Total** | **8.7149** | **37.2767** | **72.7556** | **0.3207** | **27.3529** | **0.2853** | **27.6382** | **7.3639** | **0.2695** | **7.6334** | | **34,167.9879** | **34,167.9879** | **0.7597** | **2.6241** | **34,968.9497** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2027

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | 0.0000 | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | **0.0000** | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9199 | 34.0960 | 10.4837 | 0.1399 | 4.8057 | 0.1899 | 4.9957 | 1.3831 | 0.1817 | 1.5647 | | 15,028.8258 | 15,028.8258 | 0.3656 | 2.2211 | 15,699.8479 |
| Worker | 7.7950 | 3.1807 | 62.2720 | 0.1808 | 22.5471 | 0.0954 | 22.6425 | 5.9808 | 0.0878 | 6.0686 | | 19,139.1620 | 19,139.1620 | 0.3941 | 0.4030 | 19,269.1018 |
| **Total** | **8.7149** | **37.2767** | **72.7556** | **0.3207** | **27.3529** | **0.2853** | **27.6382** | **7.3639** | **0.2695** | **7.6334** | | **34,167.9879** | **34,167.9879** | **0.7597** | **2.6241** | **34,968.9497** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2028

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8931 | 33.5448 | 10.3379 | 0.1370 | 4.8053 | 0.1860 | 4.9913 | 1.3829 | 0.1779 | 1.5608 | | 14,719.6793 | 14,719.6793 | 0.3584 | 2.1789 | 15,377.9583 |
| Worker | 7.3744 | 2.9340 | 59.3206 | 0.1758 | 22.5471 | 0.0896 | 22.6367 | 5.9808 | 0.0824 | 6.0633 | | 18,743.8747 | 18,743.8747 | 0.3625 | 0.3849 | 18,867.6441 |
| **Total** | **8.2675** | **36.4787** | **69.6585** | **0.3128** | **27.3525** | **0.2755** | **27.6280** | **7.3638** | **0.2603** | **7.6241** | | **33,463.5539** | **33,463.5539** | **0.7209** | **2.5638** | **34,245.6024** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2028

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | 0.0000 | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | **0.0000** | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8931 | 33.5448 | 10.3379 | 0.1370 | 4.8053 | 0.1860 | 4.9913 | 1.3829 | 0.1779 | 1.5608 | | 14,719.6793 | 14,719.6793 | 0.3584 | 2.1789 | 15,377.9583 |
| Worker | 7.3744 | 2.9340 | 59.3206 | 0.1758 | 22.5471 | 0.0896 | 22.6367 | 5.9808 | 0.0824 | 6.0633 | | 18,743.8747 | 18,743.8747 | 0.3625 | 0.3849 | 18,867.6441 |
| **Total** | **8.2675** | **36.4787** | **69.6585** | **0.3128** | **27.3525** | **0.2755** | **27.6280** | **7.3638** | **0.2603** | **7.6241** | | **33,463.5539** | **33,463.5539** | **0.7209** | **2.5638** | **34,245.6024** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2029

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8682 | 33.0317 | 10.2117 | 0.1343 | 4.8050 | 0.1822 | 4.9871 | 1.3828 | 0.1743 | 1.5570 | | 14,430.3756 | 14,430.3756 | 0.3519 | 2.1392 | 15,076.6485 |
| Worker | 6.9634 | 2.7252 | 56.7782 | 0.1712 | 22.5471 | 0.0839 | 22.6311 | 5.9808 | 0.0772 | 6.0581 | | 18,389.1819 | 18,389.1819 | 0.3347 | 0.3697 | 18,507.7317 |
| **Total** | **7.8315** | **35.7569** | **66.9898** | **0.3055** | **27.3521** | **0.2661** | **27.6182** | **7.3636** | **0.2515** | **7.6151** | | **32,819.5575** | **32,819.5575** | **0.6866** | **2.5089** | **33,584.3802** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2029

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | 0.0000 | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | **0.0000** | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8682 | 33.0317 | 10.2117 | 0.1343 | 4.8050 | 0.1822 | 4.9871 | 1.3828 | 0.1743 | 1.5570 | | 14,430.3756 | 14,430.3756 | 0.3519 | 2.1392 | 15,076.6485 |
| Worker | 6.9634 | 2.7252 | 56.7782 | 0.1712 | 22.5471 | 0.0839 | 22.6311 | 5.9808 | 0.0772 | 6.0581 | | 18,389.1819 | 18,389.1819 | 0.3347 | 0.3697 | 18,507.7317 |
| **Total** | **7.8315** | **35.7569** | **66.9898** | **0.3055** | **27.3521** | **0.2661** | **27.6182** | **7.3636** | **0.2515** | **7.6151** | | **32,819.5575** | **32,819.5575** | **0.6866** | **2.5089** | **33,584.3802** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2030

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.6183 | 15.8692 | 32.3140 | 0.0619 | | 0.2963 | 0.2963 | | 0.2963 | 0.2963 | | 5,795.0935 | 5,795.0935 | 0.2325 | | 5,800.9057 |
| **Total** | **2.6183** | **15.8692** | **32.3140** | **0.0619** | | **0.2963** | **0.2963** | | **0.2963** | **0.2963** | | **5,795.0935** | **5,795.0935** | **0.2325** | | **5,800.9057** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8457 | 32.5603 | 10.1123 | 0.1318 | 4.8046 | 0.1784 | 4.9830 | 1.3827 | 0.1707 | 1.5533 | | 14,164.6038 | 14,164.6038 | 0.3465 | 2.1026 | 14,799.8467 |
| Worker | 6.5674 | 2.5497 | 54.6369 | 0.1672 | 22.5471 | 0.0786 | 22.6257 | 5.9808 | 0.0723 | 6.0532 | | 18,077.4232 | 18,077.4232 | 0.3102 | 0.3571 | 18,191.5876 |
| **Total** | **7.4130** | **35.1100** | **64.7492** | **0.2990** | **27.3518** | **0.2570** | **27.6088** | **7.3635** | **0.2430** | **7.6065** | | **32,242.0269** | **32,242.0269** | **0.6567** | **2.4597** | **32,991.4343** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2030

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.6183 | 15.8692 | 32.3140 | 0.0619 | | 0.2963 | 0.2963 | | 0.2963 | 0.2963 | 0.0000 | 5,795.0935 | 5,795.0935 | 0.2325 | | 5,800.9057 |
| **Total** | **2.6183** | **15.8692** | **32.3140** | **0.0619** | | **0.2963** | **0.2963** | | **0.2963** | **0.2963** | **0.0000** | **5,795.0935** | **5,795.0935** | **0.2325** | | **5,800.9057** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8457 | 32.5603 | 10.1123 | 0.1318 | 4.8046 | 0.1784 | 4.9830 | 1.3827 | 0.1707 | 1.5533 | | 14,164.6038 | 14,164.6038 | 0.3465 | 2.1026 | 14,799.8467 |
| Worker | 6.5674 | 2.5497 | 54.6369 | 0.1672 | 22.5471 | 0.0786 | 22.6257 | 5.9808 | 0.0723 | 6.0532 | | 18,077.4232 | 18,077.4232 | 0.3102 | 0.3571 | 18,191.5876 |
| **Total** | **7.4130** | **35.1100** | **64.7492** | **0.2990** | **27.3518** | **0.2570** | **27.6088** | **7.3635** | **0.2430** | **7.6065** | | **32,242.0269** | **32,242.0269** | **0.6567** | **2.4597** | **32,991.4343** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2024

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3615 | 2.4376 | 3.6203 | 5.9400e-003 | | 0.1218 | 0.1218 | | 0.1218 | 0.1218 | | 562.8961 | 562.8961 | 0.0317 | | 563.6885 |
| **Total** | **37.8652** | **2.4376** | **3.6203** | **5.9400e-003** | | **0.1218** | **0.1218** | | **0.1218** | **0.1218** | | **562.8961** | **562.8961** | **0.0317** | | **563.6885** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.8665 | 0.8553 | 15.0020 | 0.0399 | 4.5110 | 0.0221 | 4.5331 | 1.1966 | 0.0204 | 1.2170 | | 4,113.9540 | 4,113.9540 | 0.1046 | 0.0964 | 4,145.3014 |
| **Total** | **1.8665** | **0.8553** | **15.0020** | **0.0399** | **4.5110** | **0.0221** | **4.5331** | **1.1966** | **0.0204** | **1.2170** | | **4,113.9540** | **4,113.9540** | **0.1046** | **0.0964** | **4,145.3014** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2024

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3615 | 2.4376 | 3.6203 | 5.9400e-003 | | 0.1218 | 0.1218 | | 0.1218 | 0.1218 | 0.0000 | 562.8961 | 562.8961 | 0.0317 | | 563.6885 |
| **Total** | **37.8652** | **2.4376** | **3.6203** | **5.9400e-003** | | **0.1218** | **0.1218** | | **0.1218** | **0.1218** | **0.0000** | **562.8961** | **562.8961** | **0.0317** | | **563.6885** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.8665 | 0.8553 | 15.0020 | 0.0399 | 4.5110 | 0.0221 | 4.5331 | 1.1966 | 0.0204 | 1.2170 | | 4,113.9540 | 4,113.9540 | 0.1046 | 0.0964 | 4,145.3014 |
| **Total** | **1.8665** | **0.8553** | **15.0020** | **0.0399** | **4.5110** | **0.0221** | **4.5331** | **1.1966** | **0.0204** | **1.2170** | | **4,113.9540** | **4,113.9540** | **0.1046** | **0.0964** | **4,145.3014** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2025

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.7522 | 0.7678 | 14.0044 | 0.0385 | 4.5110 | 0.0212 | 4.5321 | 1.1966 | 0.0195 | 1.2161 | | 4,013.5381 | 4,013.5381 | 0.0947 | 0.0902 | 4,042.7750 |
| **Total** | **1.7522** | **0.7678** | **14.0044** | **0.0385** | **4.5110** | **0.0212** | **4.5321** | **1.1966** | **0.0195** | **1.2161** | | **4,013.5381** | **4,013.5381** | **0.0947** | **0.0902** | **4,042.7750** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2025

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | 0.0000 | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | **0.0000** | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.7522 | 0.7678 | 14.0044 | 0.0385 | 4.5110 | 0.0212 | 4.5321 | 1.1966 | 0.0195 | 1.2161 | | 4,013.5381 | 4,013.5381 | 0.0947 | 0.0902 | 4,042.7750 |
| **Total** | **1.7522** | **0.7678** | **14.0044** | **0.0385** | **4.5110** | **0.0212** | **4.5321** | **1.1966** | **0.0195** | **1.2161** | | **4,013.5381** | **4,013.5381** | **0.0947** | **0.0902** | **4,042.7750** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2026

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.6520 | 0.6962 | 13.1686 | 0.0373 | 4.5110 | 0.0202 | 4.5311 | 1.1966 | 0.0186 | 1.2152 | | 3,917.5320 | 3,917.5320 | 0.0862 | 0.0850 | 3,945.0097 |
| **Total** | **1.6520** | **0.6962** | **13.1686** | **0.0373** | **4.5110** | **0.0202** | **4.5311** | **1.1966** | **0.0186** | **1.2152** | | **3,917.5320** | **3,917.5320** | **0.0862** | **0.0850** | **3,945.0097** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2026

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | 0.0000 | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | **0.0000** | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.6520 | 0.6962 | 13.1686 | 0.0373 | 4.5110 | 0.0202 | 4.5311 | 1.1966 | 0.0186 | 1.2152 | | 3,917.5320 | 3,917.5320 | 0.0862 | 0.0850 | 3,945.0097 |
| **Total** | **1.6520** | **0.6962** | **13.1686** | **0.0373** | **4.5110** | **0.0202** | **4.5311** | **1.1966** | **0.0186** | **1.2152** | | **3,917.5320** | **3,917.5320** | **0.0862** | **0.0850** | **3,945.0097** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2027

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.5595 | 0.6364 | 12.4586 | 0.0362 | 4.5110 | 0.0191 | 4.5300 | 1.1966 | 0.0176 | 1.2141 | | 3,829.1238 | 3,829.1238 | 0.0788 | 0.0806 | 3,855.1206 |
| **Total** | **1.5595** | **0.6364** | **12.4586** | **0.0362** | **4.5110** | **0.0191** | **4.5300** | **1.1966** | **0.0176** | **1.2141** | | **3,829.1238** | **3,829.1238** | **0.0788** | **0.0806** | **3,855.1206** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2027

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | 0.0000 | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | **0.0000** | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.5595 | 0.6364 | 12.4586 | 0.0362 | 4.5110 | 0.0191 | 4.5300 | 1.1966 | 0.0176 | 1.2141 | | 3,829.1238 | 3,829.1238 | 0.0788 | 0.0806 | 3,855.1206 |
| **Total** | **1.5595** | **0.6364** | **12.4586** | **0.0362** | **4.5110** | **0.0191** | **4.5300** | **1.1966** | **0.0176** | **1.2141** | | **3,829.1238** | **3,829.1238** | **0.0788** | **0.0806** | **3,855.1206** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2028

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.4754 | 0.5870 | 11.8681 | 0.0352 | 4.5110 | 0.0179 | 4.5289 | 1.1966 | 0.0165 | 1.2131 | | 3,750.0397 | 3,750.0397 | 0.0725 | 0.0770 | 3,774.8019 |
| **Total** | **1.4754** | **0.5870** | **11.8681** | **0.0352** | **4.5110** | **0.0179** | **4.5289** | **1.1966** | **0.0165** | **1.2131** | | **3,750.0397** | **3,750.0397** | **0.0725** | **0.0770** | **3,774.8019** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2028

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | 0.0000 | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | **0.0000** | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.4754 | 0.5870 | 11.8681 | 0.0352 | 4.5110 | 0.0179 | 4.5289 | 1.1966 | 0.0165 | 1.2131 | | 3,750.0397 | 3,750.0397 | 0.0725 | 0.0770 | 3,774.8019 |
| **Total** | **1.4754** | **0.5870** | **11.8681** | **0.0352** | **4.5110** | **0.0179** | **4.5289** | **1.1966** | **0.0165** | **1.2131** | | **3,750.0397** | **3,750.0397** | **0.0725** | **0.0770** | **3,774.8019** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2029

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3931 | 0.5452 | 11.3595 | 0.0343 | 4.5110 | 0.0168 | 4.5277 | 1.1966 | 0.0155 | 1.2120 | | 3,679.0772 | 3,679.0772 | 0.0670 | 0.0740 | 3,702.7952 |
| **Total** | **1.3931** | **0.5452** | **11.3595** | **0.0343** | **4.5110** | **0.0168** | **4.5277** | **1.1966** | **0.0155** | **1.2120** | | **3,679.0772** | **3,679.0772** | **0.0670** | **0.0740** | **3,702.7952** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2029

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | 0.0000 | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | **0.0000** | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3931 | 0.5452 | 11.3595 | 0.0343 | 4.5110 | 0.0168 | 4.5277 | 1.1966 | 0.0155 | 1.2120 | | 3,679.0772 | 3,679.0772 | 0.0670 | 0.0740 | 3,702.7952 |
| **Total** | **1.3931** | **0.5452** | **11.3595** | **0.0343** | **4.5110** | **0.0168** | **4.5277** | **1.1966** | **0.0155** | **1.2120** | | **3,679.0772** | **3,679.0772** | **0.0670** | **0.0740** | **3,702.7952** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2030

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2615 | 1.7126 | 3.5955 | 5.9400e-003 | | 0.0406 | 0.0406 | | 0.0406 | 0.0406 | | 562.8961 | 562.8961 | 0.0228 | | 563.4656 |
| **Total** | **37.7651** | **1.7126** | **3.5955** | **5.9400e-003** | | **0.0406** | **0.0406** | | **0.0406** | **0.0406** | | **562.8961** | **562.8961** | **0.0228** | | **563.4656** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3139 | 0.5101 | 10.9311 | 0.0335 | 4.5110 | 0.0157 | 4.5267 | 1.1966 | 0.0145 | 1.2110 | | 3,616.7044 | 3,616.7044 | 0.0621 | 0.0714 | 3,639.5450 |
| **Total** | **1.3139** | **0.5101** | **10.9311** | **0.0335** | **4.5110** | **0.0157** | **4.5267** | **1.1966** | **0.0145** | **1.2110** | | **3,616.7044** | **3,616.7044** | **0.0621** | **0.0714** | **3,639.5450** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2030

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2615 | 1.7126 | 3.5955 | 5.9400e-003 | | 0.0406 | 0.0406 | | 0.0406 | 0.0406 | 0.0000 | 562.8961 | 562.8961 | 0.0228 | | 563.4656 |
| **Total** | **37.7651** | **1.7126** | **3.5955** | **5.9400e-003** | | **0.0406** | **0.0406** | | **0.0406** | **0.0406** | **0.0000** | **562.8961** | **562.8961** | **0.0228** | | **563.4656** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3139 | 0.5101 | 10.9311 | 0.0335 | 4.5110 | 0.0157 | 4.5267 | 1.1966 | 0.0145 | 1.2110 | | 3,616.7044 | 3,616.7044 | 0.0621 | 0.0714 | 3,639.5450 |
| **Total** | **1.3139** | **0.5101** | **10.9311** | **0.0335** | **4.5110** | **0.0157** | **4.5267** | **1.1966** | **0.0145** | **1.2110** | | **3,616.7044** | **3,616.7044** | **0.0621** | **0.0714** | **3,639.5450** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 70.3962 | 62.2346 | 639.8722 | 1.3595 | 190.0352 | 0.6095 | 190.6447 | 50.5937 | 0.5702 | 51.1639 | | 152,880.1138 | 152,880.1138 | 8.7284 | 6.2916 | 154,973.2142 |
| Unmitigated | 70.3962 | 62.2346 | 639.8722 | 1.3595 | 190.0352 | 0.6095 | 190.6447 | 50.5937 | 0.5702 | 51.1639 | | 152,880.1138 | 152,880.1138 | 8.7284 | 6.2916 | 154,973.2142 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments High Rise | 3,631.20 | 3,696.48 | 2929.44 | 9,084,730 | 9,084,730 |
| Apartments Low Rise | 2,957.28 | 3,288.56 | 2537.12 | 7,556,121 | 7,556,121 |
| Apartments Mid Rise | 4,972.16 | 4,487.74 | 3738.26 | 12,129,191 | 12,129,191 |
| City Park | 26.13 | 65.66 | 73.37 | 71,077 | 71,077 |
| Elementary School | 1,606.50 | 0.00 | 0.00 | 2,413,021 | 2,413,021 |
| Office Park | 13,859.64 | 2,053.28 | 951.52 | 22,369,655 | 22,369,655 |
| Single Family Housing | 10,072.48 | 10,179.18 | 9122.85 | 25,538,074 | 25,538,074 |
| Total | 37,125.39 | 23,770.90 | 19,352.56 | 79,161,869 | 79,161,869 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments High Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments Low Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Apartments Mid Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| City Park | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 66 | 28 | 6 |
| Elementary School | 10.00 | 5.00 | 6.50 | 65.00 | 30.00 | 5.00 | 63 | 25 | 12 |
| Office Park | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 82 | 15 | 3 |
| Single Family Housing | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |

### 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apartments High Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Apartments Low Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Apartments Mid Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| City Park | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Elementary School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Office Park | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Single Family Housing | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 1.9833 | 17.2844 | 9.6797 | 0.1082 | | 1.3703 | 1.3703 | | 1.3703 | 1.3703 | | 21,635.5559 | 21,635.5559 | 0.4147 | 0.3967 | 21,764.1252 |
| NaturalGas Unmitigated | 1.9833 | 17.2844 | 9.6797 | 0.1082 | | 1.3703 | 1.3703 | | 1.3703 | 1.3703 | | 21,635.5559 | 21,635.5559 | 0.4147 | 0.3967 | 21,764.1252 |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments High Rise | 21051.1 | 0.2270 | 1.9400 | 0.8255 | 0.0124 | | 0.1569 | 0.1569 | | 0.1569 | 0.1569 | | 2,476.5975 | 2,476.5975 | 0.0475 | 0.0454 | 2,491.3147 |
| Apartments Low Rise | 12901.8 | 0.1391 | 1.1890 | 0.5060 | 7.5900e-003 | | 0.0961 | 0.0961 | | 0.0961 | 0.0961 | | 1,517.8641 | 1,517.8641 | 0.0291 | 0.0278 | 1,526.8840 |
| Apartments Mid Rise | 23579.3 | 0.2543 | 2.1730 | 0.9247 | 0.0139 | | 0.1757 | 0.1757 | | 0.1757 | 0.1757 | | 2,774.0320 | 2,774.0320 | 0.0532 | 0.0509 | 2,790.5167 |
| City Park | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Elementary School | 2943.75 | 0.0318 | 0.2886 | 0.2424 | 1.7300e-003 | | 0.0219 | 0.0219 | | 0.0219 | 0.0219 | | 346.3241 | 346.3241 | 6.6400e-003 | 6.3500e-003 | 348.3821 |
| Office Park | 54264.8 | 0.5852 | 5.3201 | 4.4689 | 0.0319 | | 0.4043 | 0.4043 | | 0.4043 | 0.4043 | | 6,384.0903 | 6,384.0903 | 0.1224 | 0.1170 | 6,422.0277 |
| Single Family Housing | 69161.5 | 0.7459 | 6.3737 | 2.7122 | 0.0407 | | 0.5153 | 0.5153 | | 0.5153 | 0.5153 | | 8,136.6480 | 8,136.6480 | 0.1560 | 0.1492 | 8,185.0000 |
| **Total** | | **1.9833** | **17.2844** | **9.6797** | **0.1082** | | **1.3703** | **1.3703** | | **1.3703** | **1.3703** | | **21,635.5559** | **21,635.5559** | **0.4147** | **0.3967** | **21,764.1252** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments High Rise | 21.0511 | 0.2270 | 1.9400 | 0.8255 | 0.0124 | | 0.1569 | 0.1569 | | 0.1569 | 0.1569 | | 2,476.5975 | 2,476.5975 | 0.0475 | 0.0454 | 2,491.3147 |
| Apartments Low Rise | 12.9018 | 0.1391 | 1.1890 | 0.5060 | 7.5900e-003 | | 0.0961 | 0.0961 | | 0.0961 | 0.0961 | | 1,517.8641 | 1,517.8641 | 0.0291 | 0.0278 | 1,526.8840 |
| Apartments Mid Rise | 23.5793 | 0.2543 | 2.1730 | 0.9247 | 0.0139 | | 0.1757 | 0.1757 | | 0.1757 | 0.1757 | | 2,774.0320 | 2,774.0320 | 0.0532 | 0.0509 | 2,790.5167 |
| City Park | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Elementary School | 2.94375 | 0.0318 | 0.2886 | 0.2424 | 1.7300e-003 | | 0.0219 | 0.0219 | | 0.0219 | 0.0219 | | 346.3241 | 346.3241 | 6.6400e-003 | 6.3500e-003 | 348.3821 |
| Office Park | 54.2648 | 0.5852 | 5.3201 | 4.4689 | 0.0319 | | 0.4043 | 0.4043 | | 0.4043 | 0.4043 | | 6,384.0903 | 6,384.0903 | 0.1224 | 0.1170 | 6,422.0277 |
| Single Family Housing | 69.1615 | 0.7459 | 6.3737 | 2.7122 | 0.0407 | | 0.5153 | 0.5153 | | 0.5153 | 0.5153 | | 8,136.6480 | 8,136.6480 | 0.1560 | 0.1492 | 8,185.0000 |
| **Total** | | **1.9833** | **17.2844** | **9.6797** | **0.1082** | | **1.3703** | **1.3703** | | **1.3703** | **1.3703** | | **21,635.5559** | **21,635.5559** | **0.4147** | **0.3967** | **21,764.1252** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 140.3028 | 3.0368 | 263.1431 | 0.0140 | | 1.4653 | 1.4653 | | 1.4653 | 1.4653 | 0.0000 | 475.9833 | 475.9833 | 0.4538 | 0.0000 | 487.3287 |
| Unmitigated | 140.3028 | 3.0368 | 263.1431 | 0.0140 | | 1.4653 | 1.4653 | | 1.4653 | 1.4653 | 0.0000 | 475.9833 | 475.9833 | 0.4538 | 0.0000 | 487.3287 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 17.2619 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 115.1572 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 7.8837 | 3.0368 | 263.1431 | 0.0140 | | 1.4653 | 1.4653 | | 1.4653 | 1.4653 | | 475.9833 | 475.9833 | 0.4538 | | 487.3287 |
| **Total** | **140.3029** | **3.0368** | **263.1431** | **0.0140** | | **1.4653** | **1.4653** | | **1.4653** | **1.4653** | **0.0000** | **475.9833** | **475.9833** | **0.4538** | **0.0000** | **487.3287** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 17.2619 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 115.1572 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 7.8837 | 3.0368 | 263.1431 | 0.0140 | | 1.4653 | 1.4653 | | 1.4653 | 1.4653 | | 475.9833 | 475.9833 | 0.4538 | | 487.3287 |
| **Total** | **140.3029** | **3.0368** | **263.1431** | **0.0140** | | **1.4653** | **1.4653** | | **1.4653** | **1.4653** | **0.0000** | **475.9833** | **475.9833** | **0.4538** | **0.0000** | **487.3287** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# UWSP - Phase 1 Construction

**Sacramento Metropolitan AQMD Air District, Winter**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Office Park | 1,252.00 | 1000sqft | 47.90 | 1,252,000.00 | 0 |
| Elementary School | 850.00 | Student | 17.00 | 71,062.86 | 0 |
| City Park | 33.50 | Acre | 33.50 | 1,459,260.00 | 0 |
| Apartments High Rise | 816.00 | Dwelling Unit | 25.10 | 816,000.00 | 2179 |
| Apartments Low Rise | 404.00 | Dwelling Unit | 33.70 | 404,000.00 | 1079 |
| Apartments Mid Rise | 914.00 | Dwelling Unit | 40.60 | 914,000.00 | 2440 |
| Single Family Housing | 1,067.00 | Dwelling Unit | 173.50 | 1,920,600.00 | 2849 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 3.5 | **Precipitation Freq (Days)** | 58 |
| **Climate Zone** | 6 | | | **Operational Year** | 2045 |
| **Utility Company** | Sacramento Municipal Utility District | | | | |
| **CO2 Intensity (lb/MWhr)** | 357.98 | **CH4 Intensity (lb/MWhr)** | 0.033 | **N2O Intensity (lb/MWhr)** | 0.004 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreages updated based on preliminary land use summary.

Construction Phase - Construction phase timing adjusted based on applicant-provided information.

Off-road Equipment - Architectural coating equipment doubled.

Off-road Equipment - Building construction phase equipment doubled.

Off-road Equipment - Construction equipment updated per engineer information.

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Off-road Equipment - Construction equipment updated per engineer information.

Off-road Equipment - Number of equipment has been updated.

Grading -

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 440.00 | 1,680.00 |
| tblConstructionPhase | NumDays | 6,200.00 | 1,680.00 |
| tblConstructionPhase | NumDays | 620.00 | 60.00 |
| tblConstructionPhase | NumDays | 440.00 | 60.00 |
| tblConstructionPhase | NumDays | 240.00 | 60.00 |
| tblGrading | AcresOfGrading | 1,860.00 | 390.00 |
| tblGrading | AcresOfGrading | 180.00 | 90.00 |
| tblGrading | MaterialExported | 0.00 | 122,750.00 |
| tblLandUse | LotAcreage | 28.74 | 47.90 |
| tblLandUse | LotAcreage | 1.63 | 17.00 |
| tblLandUse | LotAcreage | 13.16 | 25.10 |
| tblLandUse | LotAcreage | 25.25 | 33.70 |
| tblLandUse | LotAcreage | 24.05 | 40.60 |
| tblLandUse | LotAcreage | 346.43 | 173.50 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 29.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 3.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 4.00 | 8.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |

## 2.0 Emissions Summary

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.1 Overall Construction (Maximum Daily Emission)

**Unmitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 27.1208 | 316.3406 | 217.9315 | 0.6674 | 37.9895 | 11.1943 | 40.5229 | 20.1038 | 10.3097 | 22.4345 | 0.0000 | 66,627.8937 | 66,627.8937 | 16.3967 | 2.7981 | 67,871.6292 |
| 2024 | 51.7297 | 74.5524 | 126.3548 | 0.4219 | 31.8653 | 1.7579 | 33.5520 | 8.5610 | 1.6173 | 10.1554 | 0.0000 | 43,645.0037 | 43,645.0037 | 3.1250 | 3.0191 | 44,603.6327 |
| 2025 | 50.8687 | 71.0302 | 120.9572 | 0.4117 | 31.8647 | 1.4863 | 33.3511 | 8.5608 | 1.4049 | 9.9657 | 0.0000 | 42,793.8815 | 42,793.8815 | 2.2756 | 2.9324 | 43,724.6230 |
| 2026 | 50.3156 | 69.7357 | 116.5193 | 0.4022 | 31.8643 | 1.4753 | 33.3396 | 8.5606 | 1.3945 | 9.9552 | 0.0000 | 41,971.2754 | 41,971.2754 | 2.2101 | 2.8544 | 42,877.1462 |
| 2027 | 49.8020 | 68.5919 | 112.7121 | 0.3932 | 31.8638 | 1.4641 | 33.3279 | 8.5605 | 1.3840 | 9.9445 | 0.0000 | 41,173.7075 | 41,173.7075 | 2.1509 | 2.7798 | 42,055.8682 |
| 2028 | 49.3304 | 67.6439 | 109.5317 | 0.3849 | 31.8634 | 1.4530 | 33.3164 | 8.5603 | 1.3737 | 9.9340 | 0.0000 | 40,445.3004 | 40,445.3004 | 2.1009 | 2.7126 | 41,306.1792 |
| 2029 | 48.8719 | 66.7922 | 106.7629 | 0.3773 | 31.8630 | 1.4423 | 33.3053 | 8.5602 | 1.3637 | 9.9239 | 0.0000 | 39,778.9238 | 39,778.9238 | 2.0565 | 2.6518 | 40,620.5713 |
| 2030 | 48.2395 | 56.3858 | 104.5597 | 0.3785 | 31.8627 | 0.6107 | 32.4734 | 8.5601 | 0.5954 | 9.1555 | 0.0000 | 39,863.3125 | 39,863.3125 | 1.0400 | 2.5977 | 40,663.4276 |
| **Maximum** | **51.7297** | **316.3406** | **217.9315** | **0.6674** | **37.9895** | **11.1943** | **40.5229** | **20.1038** | **10.3097** | **22.4345** | **0.0000** | **66,627.8937** | **66,627.8937** | **16.3967** | **3.0191** | **67,871.6292** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.1 Overall Construction (Maximum Daily Emission)

**Mitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 27.1208 | 316.3406 | 217.9315 | 0.6674 | 37.9895 | 11.1943 | 40.5229 | 20.1038 | 10.3097 | 22.4345 | 0.0000 | 66,627.8937 | 66,627.8937 | 16.3967 | 2.7981 | 67,871.6292 |
| 2024 | 51.7297 | 74.5524 | 126.3548 | 0.4219 | 31.8653 | 1.7579 | 33.5520 | 8.5610 | 1.6173 | 10.1554 | 0.0000 | 43,645.0037 | 43,645.0037 | 3.1250 | 3.0191 | 44,603.6327 |
| 2025 | 50.8687 | 71.0302 | 120.9572 | 0.4117 | 31.8647 | 1.4863 | 33.3511 | 8.5608 | 1.4049 | 9.9657 | 0.0000 | 42,793.8815 | 42,793.8815 | 2.2756 | 2.9324 | 43,724.6230 |
| 2026 | 50.3156 | 69.7357 | 116.5193 | 0.4022 | 31.8643 | 1.4753 | 33.3396 | 8.5606 | 1.3945 | 9.9552 | 0.0000 | 41,971.2754 | 41,971.2754 | 2.2101 | 2.8544 | 42,877.1462 |
| 2027 | 49.8020 | 68.5919 | 112.7121 | 0.3932 | 31.8638 | 1.4641 | 33.3279 | 8.5605 | 1.3840 | 9.9445 | 0.0000 | 41,173.7075 | 41,173.7075 | 2.1509 | 2.7798 | 42,055.8682 |
| 2028 | 49.3304 | 67.6439 | 109.5317 | 0.3849 | 31.8634 | 1.4530 | 33.3164 | 8.5603 | 1.3737 | 9.9340 | 0.0000 | 40,445.3004 | 40,445.3004 | 2.1009 | 2.7126 | 41,306.1792 |
| 2029 | 48.8719 | 66.7922 | 106.7629 | 0.3773 | 31.8630 | 1.4423 | 33.3053 | 8.5602 | 1.3637 | 9.9239 | 0.0000 | 39,778.9238 | 39,778.9238 | 2.0565 | 2.6518 | 40,620.5713 |
| 2030 | 48.2395 | 56.3858 | 104.5597 | 0.3785 | 31.8627 | 0.6107 | 32.4734 | 8.5601 | 0.5954 | 9.1555 | 0.0000 | 39,863.3125 | 39,863.3125 | 1.0400 | 2.5977 | 40,663.4276 |
| **Maximum** | **51.7297** | **316.3406** | **217.9315** | **0.6674** | **37.9895** | **11.1943** | **40.5229** | **20.1038** | **10.3097** | **22.4345** | **0.0000** | **66,627.8937** | **66,627.8937** | **16.3967** | **3.0191** | **67,871.6292** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 140.3028 | 3.0368 | 263.1431 | 0.0140 | | 1.4653 | 1.4653 | | 1.4653 | 1.4653 | 0.0000 | 475.9833 | 475.9833 | 0.4538 | 0.0000 | 487.3287 |
| Energy | 1.9833 | 17.2844 | 9.6797 | 0.1082 | | 1.3703 | 1.3703 | | 1.3703 | 1.3703 | | 21,635.5559 | 21,635.5559 | 0.4147 | 0.3967 | 21,764.1252 |
| Mobile | 54.0546 | 72.3602 | 641.9886 | 1.2407 | 190.0352 | 0.6099 | 190.6451 | 50.5937 | 0.5706 | 51.1643 | | 139,391.6327 | 139,391.6327 | 9.4814 | 6.8596 | 141,672.8134 |
| **Total** | **196.3407** | **92.6814** | **914.8114** | **1.3628** | **190.0352** | **3.4455** | **193.4807** | **50.5937** | **3.4061** | **53.9998** | **0.0000** | **161,503.1719** | **161,503.1719** | **10.3499** | **7.2562** | **163,924.2673** |

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 140.3028 | 3.0368 | 263.1431 | 0.0140 | | 1.4653 | 1.4653 | | 1.4653 | 1.4653 | 0.0000 | 475.9833 | 475.9833 | 0.4538 | 0.0000 | 487.3287 |
| Energy | 1.9833 | 17.2844 | 9.6797 | 0.1082 | | 1.3703 | 1.3703 | | 1.3703 | 1.3703 | | 21,635.5559 | 21,635.5559 | 0.4147 | 0.3967 | 21,764.1252 |
| Mobile | 54.0546 | 72.3602 | 641.9886 | 1.2407 | 190.0352 | 0.6099 | 190.6451 | 50.5937 | 0.5706 | 51.1643 | | 139,391.6327 | 139,391.6327 | 9.4814 | 6.8596 | 141,672.8134 |
| **Total** | **196.3407** | **92.6814** | **914.8114** | **1.3628** | **190.0352** | **3.4455** | **193.4807** | **50.5937** | **3.4061** | **53.9998** | **0.0000** | **161,503.1719** | **161,503.1719** | **10.3499** | **7.2562** | **163,924.2673** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 6/1/2023 | 8/23/2023 | 5 | 60 | |
| 2 | Grading | Grading | 8/24/2023 | 11/15/2023 | 5 | 60 | |
| 3 | Paving | Paving | 11/16/2023 | 2/7/2024 | 5 | 60 | |
| 4 | Building Construction | Building Construction | 2/8/2024 | 7/17/2030 | 5 | 1680 | |
| 5 | Architectural Coating | Architectural Coating | 2/22/2024 | 7/31/2030 | 5 | 1680 | |

**Acres of Grading (Site Preparation Phase): 90**

**Acres of Grading (Grading Phase): 390**

**Acres of Paving: 0**

**Residential Indoor: 8,210,565; Residential Outdoor: 2,736,855; Non-Residential Indoor: 1,984,594; Non-Residential Outdoor: 661,531; Striped Parking Area: 0 (Architectural Coating – sqft)**

### OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | 6 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 8 | 8.00 | 97 | 0.37 |
| Grading | Excavators | 4 | 8.00 | 158 | 0.38 |
| Grading | Graders | 2 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 2 | 8.00 | 247 | 0.40 |
| Grading | Scrapers | 29 | 8.00 | 367 | 0.48 |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | |
|---|---|---|---|---|---|
| Grading | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Paving | Excavators | 8 | 8.00 | 158 | 0.38 |
| Paving | Pavers | 4 | 8.00 | 130 | 0.42 |
| Paving | Paving Equipment | 4 | 8.00 | 132 | 0.36 |
| Paving | Rollers | 4 | 8.00 | 80 | 0.38 |
| Paving | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Building Construction | Cranes | 2 | 7.00 | 231 | 0.29 |
| Building Construction | Forklifts | 6 | 8.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 2 | 8.00 | 84 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | 6 | 7.00 | 97 | 0.37 |
| Building Construction | Welders | 2 | 8.00 | 46 | 0.45 |
| Architectural Coating | Air Compressors | 2 | 6.00 | 78 | 0.48 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 14 | 35.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 40 | 100.00 | 0.00 | 15,344.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 24 | 60.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 18 | 2,964.00 | 798.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 2 | 593.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 37.7233 | 0.0000 | 37.7233 | 20.0331 | 0.0000 | 20.0331 | | | 0.0000 | | | 0.0000 |
| Off-Road | 5.3189 | 55.0484 | 36.4886 | 0.0761 | | 2.5320 | 2.5320 | | 2.3295 | 2.3295 | | 7,374.6162 | 7,374.6162 | 2.3851 | | 7,434.2437 |
| **Total** | **5.3189** | **55.0484** | **36.4886** | **0.0761** | **37.7233** | **2.5320** | **40.2553** | **20.0331** | **2.3295** | **22.3626** | | **7,374.6162** | **7,374.6162** | **2.3851** | | **7,434.2437** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1045 | 0.0695 | 0.8308 | 2.1700e-003 | 0.2662 | 1.3700e-003 | 0.2676 | 0.0706 | 1.2600e-003 | 0.0719 | | 221.5774 | 221.5774 | 7.8700e-003 | 7.0200e-003 | 223.8649 |
| **Total** | **0.1045** | **0.0695** | **0.8308** | **2.1700e-003** | **0.2662** | **1.3700e-003** | **0.2676** | **0.0706** | **1.2600e-003** | **0.0719** | | **221.5774** | **221.5774** | **7.8700e-003** | **7.0200e-003** | **223.8649** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 37.7233 | 0.0000 | 37.7233 | 20.0331 | 0.0000 | 20.0331 | | | 0.0000 | | | 0.0000 |
| Off-Road | 5.3189 | 55.0483 | 36.4886 | 0.0761 | | 2.5320 | 2.5320 | | 2.3295 | 2.3295 | 0.0000 | 7,374.6162 | 7,374.6162 | 2.3851 | | 7,434.2437 |
| **Total** | **5.3189** | **55.0483** | **36.4886** | **0.0761** | **37.7233** | **2.5320** | **40.2553** | **20.0331** | **2.3295** | **22.3626** | **0.0000** | **7,374.6162** | **7,374.6162** | **2.3851** | | **7,434.2437** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1045 | 0.0695 | 0.8308 | 2.1700e-003 | 0.2662 | 1.3700e-003 | 0.2676 | 0.0706 | 1.2600e-003 | 0.0719 | | 221.5774 | 221.5774 | 7.8700e-003 | 7.0200e-003 | 223.8649 |
| **Total** | **0.1045** | **0.0695** | **0.8308** | **2.1700e-003** | **0.2662** | **1.3700e-003** | **0.2676** | **0.0706** | **1.2600e-003** | **0.0719** | | **221.5774** | **221.5774** | **7.8700e-003** | **7.0200e-003** | **223.8649** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Grading - 2023

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.3605 | 0.0000 | 19.3605 | 7.4288 | 0.0000 | 7.4288 | | | 0.0000 | | | 0.0000 |
| Off-Road | 26.1612 | 274.5806 | 207.2964 | 0.5007 | | 10.8929 | 10.8929 | | 10.0215 | 10.0215 | | 48,474.5989 | 48,474.5989 | 15.6777 | | 48,866.5406 |
| **Total** | **26.1612** | **274.5806** | **207.2964** | **0.5007** | **19.3605** | **10.8929** | **30.2534** | **7.4288** | **10.0215** | **17.4503** | | **48,474.5989** | **48,474.5989** | **15.6777** | | **48,866.5406** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.6612 | 41.5613 | 8.2615 | 0.1605 | 4.4595 | 0.2975 | 4.7570 | 1.2212 | 0.2847 | 1.5058 | | 17,520.2167 | 17,520.2167 | 0.6966 | 2.7780 | 18,365.4746 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.2984 | 0.1987 | 2.3736 | 6.1900e-003 | 0.7607 | 3.9200e-003 | 0.7646 | 0.2018 | 3.6100e-003 | 0.2054 | | 633.0781 | 633.0781 | 0.0225 | 0.0201 | 639.6141 |
| **Total** | **0.9596** | **41.7600** | **10.6351** | **0.1667** | **5.2202** | **0.3015** | **5.5216** | **1.4229** | **0.2883** | **1.7112** | | **18,153.2948** | **18,153.2948** | **0.7191** | **2.7981** | **19,005.0887** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Grading - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.3605 | 0.0000 | 19.3605 | 7.4288 | 0.0000 | 7.4288 | | | 0.0000 | | | 0.0000 |
| Off-Road | 26.1612 | 274.5806 | 207.2964 | 0.5007 | | 10.8929 | 10.8929 | | 10.0215 | 10.0215 | 0.0000 | 48,474.5988 | 48,474.5988 | 15.6777 | | 48,866.5405 |
| **Total** | **26.1612** | **274.5806** | **207.2964** | **0.5007** | **19.3605** | **10.8929** | **30.2534** | **7.4288** | **10.0215** | **17.4503** | **0.0000** | **48,474.5988** | **48,474.5988** | **15.6777** | | **48,866.5405** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.6612 | 41.5613 | 8.2615 | 0.1605 | 4.4595 | 0.2975 | 4.7570 | 1.2212 | 0.2847 | 1.5058 | | 17,520.2167 | 17,520.2167 | 0.6966 | 2.7780 | 18,365.4746 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.2984 | 0.1987 | 2.3736 | 6.1900e-003 | 0.7607 | 3.9200e-003 | 0.7646 | 0.2018 | 3.6100e-003 | 0.2054 | | 633.0781 | 633.0781 | 0.0225 | 0.0201 | 639.6141 |
| **Total** | **0.9596** | **41.7600** | **10.6351** | **0.1667** | **5.2202** | **0.3015** | **5.5216** | **1.4229** | **0.2883** | **1.7112** | | **18,153.2948** | **18,153.2948** | **0.7191** | **2.7981** | **19,005.0887** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2023

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 4.1803 | 38.9150 | 64.1558 | 0.0994 | | 1.9301 | 1.9301 | | 1.7757 | 1.7757 | | 9,622.3194 | 9,622.3194 | 3.1121 | | 9,700.1207 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **4.1803** | **38.9150** | **64.1558** | **0.0994** | | **1.9301** | **1.9301** | | **1.7757** | **1.7757** | | **9,622.3194** | **9,622.3194** | **3.1121** | | **9,700.1207** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1791 | 0.1192 | 1.4241 | 3.7100e-003 | 0.4564 | 2.3500e-003 | 0.4588 | 0.1211 | 2.1700e-003 | 0.1232 | | 379.8469 | 379.8469 | 0.0135 | 0.0120 | 383.7685 |
| **Total** | **0.1791** | **0.1192** | **1.4241** | **3.7100e-003** | **0.4564** | **2.3500e-003** | **0.4588** | **0.1211** | **2.1700e-003** | **0.1232** | | **379.8469** | **379.8469** | **0.0135** | **0.0120** | **383.7685** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 4.1803 | 38.9150 | 64.1558 | 0.0994 | | 1.9301 | 1.9301 | | 1.7757 | 1.7757 | 0.0000 | 9,622.3194 | 9,622.3194 | 3.1121 | | 9,700.1207 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **4.1803** | **38.9150** | **64.1558** | **0.0994** | | **1.9301** | **1.9301** | | **1.7757** | **1.7757** | **0.0000** | **9,622.3194** | **9,622.3194** | **3.1121** | | **9,700.1207** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1791 | 0.1192 | 1.4241 | 3.7100e-003 | 0.4564 | 2.3500e-003 | 0.4588 | 0.1211 | 2.1700e-003 | 0.1232 | | 379.8469 | 379.8469 | 0.0135 | 0.0120 | 383.7685 |
| **Total** | **0.1791** | **0.1192** | **1.4241** | **3.7100e-003** | **0.4564** | **2.3500e-003** | **0.4588** | **0.1211** | **2.1700e-003** | **0.1232** | | **379.8469** | **379.8469** | **0.0135** | **0.0120** | **383.7685** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2024

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.9940 | 36.0650 | 64.3143 | 0.0994 | | 1.7557 | 1.7557 | | 1.6152 | 1.6152 | | 9,624.2843 | 9,624.2843 | 3.1127 | | 9,702.1015 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **3.9940** | **36.0650** | **64.3143** | **0.0994** | | **1.7557** | **1.7557** | | **1.6152** | **1.6152** | | **9,624.2843** | **9,624.2843** | **3.1127** | | **9,702.1015** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1676 | 0.1061 | 1.3283 | 3.5900e-003 | 0.4564 | 2.2400e-003 | 0.4587 | 0.1211 | 2.0600e-003 | 0.1231 | | 370.3903 | 370.3903 | 0.0123 | 0.0112 | 374.0289 |
| **Total** | **0.1676** | **0.1061** | **1.3283** | **3.5900e-003** | **0.4564** | **2.2400e-003** | **0.4587** | **0.1211** | **2.0600e-003** | **0.1231** | | **370.3903** | **370.3903** | **0.0123** | **0.0112** | **374.0289** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2024

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.9940 | 36.0650 | 64.3143 | 0.0994 | | 1.7557 | 1.7557 | | 1.6152 | 1.6152 | 0.0000 | 9,624.2843 | 9,624.2843 | 3.1127 | | 9,702.1015 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **3.9940** | **36.0650** | **64.3143** | **0.0994** | | **1.7557** | **1.7557** | | **1.6152** | **1.6152** | **0.0000** | **9,624.2843** | **9,624.2843** | **3.1127** | | **9,702.1015** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1676 | 0.1061 | 1.3283 | 3.5900e-003 | 0.4564 | 2.2400e-003 | 0.4587 | 0.1211 | 2.0600e-003 | 0.1231 | | 370.3903 | 370.3903 | 0.0123 | 0.0112 | 374.0289 |
| **Total** | **0.1676** | **0.1061** | **1.3283** | **3.5900e-003** | **0.4564** | **2.2400e-003** | **0.4587** | **0.1211** | **2.0600e-003** | **0.1231** | | **370.3903** | **370.3903** | **0.0123** | **0.0112** | **374.0289** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2024

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.9431 | 26.8876 | 32.3336 | 0.0539 | | 1.2266 | 1.2266 | | 1.1538 | 1.1538 | | 5,111.3978 | 5,111.3978 | 1.2087 | | 5,141.6153 |
| **Total** | **2.9431** | **26.8876** | **32.3336** | **0.0539** | | **1.2266** | **1.2266** | | **1.1538** | **1.1538** | | **5,111.3978** | **5,111.3978** | **1.2087** | | **5,141.6153** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9859 | 38.9364 | 11.6558 | 0.1492 | 4.8072 | 0.2054 | 5.0126 | 1.3836 | 0.1965 | 1.5801 | | 16,012.7390 | 16,012.7390 | 0.3899 | 2.3563 | 16,724.6490 |
| Worker | 8.2792 | 5.2421 | 65.6173 | 0.1774 | 22.5471 | 0.1107 | 22.6578 | 5.9808 | 0.1019 | 6.0827 | | 18,297.2802 | 18,297.2802 | 0.6055 | 0.5524 | 18,477.0276 |
| **Total** | **9.2651** | **44.1785** | **77.2731** | **0.3266** | **27.3543** | **0.3161** | **27.6704** | **7.3644** | **0.2984** | **7.6629** | | **34,310.0192** | **34,310.0192** | **0.9954** | **2.9086** | **35,201.6766** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2024

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.9431 | 26.8876 | 32.3336 | 0.0539 | | 1.2266 | 1.2266 | | 1.1538 | 1.1538 | 0.0000 | 5,111.3978 | 5,111.3978 | 1.2087 | | 5,141.6153 |
| **Total** | **2.9431** | **26.8876** | **32.3336** | **0.0539** | | **1.2266** | **1.2266** | | **1.1538** | **1.1538** | **0.0000** | **5,111.3978** | **5,111.3978** | **1.2087** | | **5,141.6153** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9859 | 38.9364 | 11.6558 | 0.1492 | 4.8072 | 0.2054 | 5.0126 | 1.3836 | 0.1965 | 1.5801 | | 16,012.7390 | 16,012.7390 | 0.3899 | 2.3563 | 16,724.6490 |
| Worker | 8.2792 | 5.2421 | 65.6173 | 0.1774 | 22.5471 | 0.1107 | 22.6578 | 5.9808 | 0.1019 | 6.0827 | | 18,297.2802 | 18,297.2802 | 0.6055 | 0.5524 | 18,477.0276 |
| **Total** | **9.2651** | **44.1785** | **77.2731** | **0.3266** | **27.3543** | **0.3161** | **27.6704** | **7.3644** | **0.2984** | **7.6629** | | **34,310.0192** | **34,310.0192** | **0.9954** | **2.9086** | **35,201.6766** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2025

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9488 | 38.1552 | 11.3812 | 0.1462 | 4.8067 | 0.2012 | 5.0079 | 1.3834 | 0.1925 | 1.5759 | | 15,689.8091 | 15,689.8091 | 0.3818 | 2.3128 | 16,388.5703 |
| Worker | 7.7827 | 4.7035 | 61.4869 | 0.1714 | 22.5471 | 0.1058 | 22.6529 | 5.9808 | 0.0974 | 6.0783 | | 17,855.8523 | 17,855.8523 | 0.5509 | 0.5163 | 18,023.4806 |
| **Total** | **8.7315** | **42.8587** | **72.8681** | **0.3175** | **27.3538** | **0.3070** | **27.6608** | **7.3642** | **0.2899** | **7.6541** | | **33,545.6614** | **33,545.6614** | **0.9327** | **2.8291** | **34,412.0508** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2025

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | 0.0000 | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | **0.0000** | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9488 | 38.1552 | 11.3812 | 0.1462 | 4.8067 | 0.2012 | 5.0079 | 1.3834 | 0.1925 | 1.5759 | | 15,689.8091 | 15,689.8091 | 0.3818 | 2.3128 | 16,388.5703 |
| Worker | 7.7827 | 4.7035 | 61.4869 | 0.1714 | 22.5471 | 0.1058 | 22.6529 | 5.9808 | 0.0974 | 6.0783 | | 17,855.8523 | 17,855.8523 | 0.5509 | 0.5163 | 18,023.4806 |
| **Total** | **8.7315** | **42.8587** | **72.8681** | **0.3175** | **27.3538** | **0.3070** | **27.6608** | **7.3642** | **0.2899** | **7.6541** | | **33,545.6614** | **33,545.6614** | **0.9327** | **2.8291** | **34,412.0508** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2026

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9137 | 37.3895 | 11.1518 | 0.1432 | 4.8062 | 0.1961 | 5.0023 | 1.3832 | 0.1876 | 1.5708 | | 15,375.0585 | 15,375.0585 | 0.3733 | 2.2708 | 16,061.0794 |
| Worker | 7.3511 | 4.2630 | 57.9800 | 0.1660 | 22.5471 | 0.1009 | 22.6480 | 5.9808 | 0.0929 | 6.0737 | | 17,432.6632 | 17,432.6632 | 0.5035 | 0.4864 | 17,590.1833 |
| **Total** | **8.2648** | **41.6525** | **69.1318** | **0.3091** | **27.3533** | **0.2970** | **27.6503** | **7.3641** | **0.2805** | **7.6445** | | **32,807.7217** | **32,807.7217** | **0.8768** | **2.7571** | **33,651.2628** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2026

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | 0.0000 | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | **0.0000** | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9137 | 37.3895 | 11.1518 | 0.1432 | 4.8062 | 0.1961 | 5.0023 | 1.3832 | 0.1876 | 1.5708 | | 15,375.0585 | 15,375.0585 | 0.3733 | 2.2708 | 16,061.0794 |
| Worker | 7.3511 | 4.2630 | 57.9800 | 0.1660 | 22.5471 | 0.1009 | 22.6480 | 5.9808 | 0.0929 | 6.0737 | | 17,432.6632 | 17,432.6632 | 0.5035 | 0.4864 | 17,590.1833 |
| **Total** | **8.2648** | **41.6525** | **69.1318** | **0.3091** | **27.3533** | **0.2970** | **27.6503** | **7.3641** | **0.2805** | **7.6445** | | **32,807.7217** | **32,807.7217** | **0.8768** | **2.7571** | **33,651.2628** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2027

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8824 | 36.6878 | 10.9550 | 0.1401 | 4.8057 | 0.1915 | 4.9972 | 1.3831 | 0.1832 | 1.5662 | | 15,046.2875 | 15,046.2875 | 0.3637 | 2.2263 | 15,718.8134 |
| Worker | 6.9492 | 3.8945 | 54.9716 | 0.1610 | 22.5471 | 0.0954 | 22.6425 | 5.9808 | 0.0878 | 6.0686 | | 17,042.0210 | 17,042.0210 | 0.4622 | 0.4613 | 17,191.0291 |
| **Total** | **7.8316** | **40.5824** | **65.9265** | **0.3011** | **27.3529** | **0.2868** | **27.6397** | **7.3639** | **0.2709** | **7.6349** | | **32,088.3085** | **32,088.3085** | **0.8259** | **2.6875** | **32,909.8425** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2027

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | 0.0000 | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | **0.0000** | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8824 | 36.6878 | 10.9550 | 0.1401 | 4.8057 | 0.1915 | 4.9972 | 1.3831 | 0.1832 | 1.5662 | | 15,046.2875 | 15,046.2875 | 0.3637 | 2.2263 | 15,718.8134 |
| Worker | 6.9492 | 3.8945 | 54.9716 | 0.1610 | 22.5471 | 0.0954 | 22.6425 | 5.9808 | 0.0878 | 6.0686 | | 17,042.0210 | 17,042.0210 | 0.4622 | 0.4613 | 17,191.0291 |
| **Total** | **7.8316** | **40.5824** | **65.9265** | **0.3011** | **27.3529** | **0.2868** | **27.6397** | **7.3639** | **0.2709** | **7.6349** | | **32,088.3085** | **32,088.3085** | **0.8259** | **2.6875** | **32,909.8425** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2028

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8548 | 36.1044 | 10.7955 | 0.1372 | 4.8053 | 0.1874 | 4.9927 | 1.3829 | 0.1792 | 1.5622 | | 14,738.0678 | 14,738.0678 | 0.3565 | 2.1841 | 15,397.8323 |
| Worker | 6.5792 | 3.5907 | 52.4542 | 0.1565 | 22.5471 | 0.0896 | 22.6367 | 5.9808 | 0.0824 | 6.0633 | | 16,691.8846 | 16,691.8846 | 0.4265 | 0.4404 | 16,833.7927 |
| **Total** | **7.4340** | **39.6951** | **63.2497** | **0.2937** | **27.3525** | **0.2769** | **27.6294** | **7.3638** | **0.2617** | **7.6254** | | **31,429.9524** | **31,429.9524** | **0.7830** | **2.6245** | **32,231.6249** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2028

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | 0.0000 | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | **0.0000** | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8548 | 36.1044 | 10.7955 | 0.1372 | 4.8053 | 0.1874 | 4.9927 | 1.3829 | 0.1792 | 1.5622 | | 14,738.0678 | 14,738.0678 | 0.3565 | 2.1841 | 15,397.8323 |
| Worker | 6.5792 | 3.5907 | 52.4542 | 0.1565 | 22.5471 | 0.0896 | 22.6367 | 5.9808 | 0.0824 | 6.0633 | | 16,691.8846 | 16,691.8846 | 0.4265 | 0.4404 | 16,833.7927 |
| **Total** | **7.4340** | **39.6951** | **63.2497** | **0.2937** | **27.3525** | **0.2769** | **27.6294** | **7.3638** | **0.2617** | **7.6254** | | **31,429.9524** | **31,429.9524** | **0.7830** | **2.6245** | **32,231.6249** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2029

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8291 | 35.5615 | 10.6561 | 0.1345 | 4.8050 | 0.1834 | 4.9884 | 1.3828 | 0.1755 | 1.5583 | | 14,449.5918 | 14,449.5918 | 0.3499 | 2.1443 | 15,097.3378 |
| Worker | 6.2185 | 3.3334 | 50.2632 | 0.1525 | 22.5471 | 0.0839 | 22.6311 | 5.9808 | 0.0772 | 6.0581 | | 16,376.9852 | 16,376.9852 | 0.3949 | 0.4229 | 16,512.8828 |
| **Total** | **7.0477** | **38.8949** | **60.9193** | **0.2870** | **27.3521** | **0.2674** | **27.6194** | **7.3636** | **0.2527** | **7.6163** | | **30,826.5769** | **30,826.5769** | **0.7449** | **2.5672** | **31,610.2206** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2029

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | 0.0000 | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | **0.0000** | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8291 | 35.5615 | 10.6561 | 0.1345 | 4.8050 | 0.1834 | 4.9884 | 1.3828 | 0.1755 | 1.5583 | | 14,449.5918 | 14,449.5918 | 0.3499 | 2.1443 | 15,097.3378 |
| Worker | 6.2185 | 3.3334 | 50.2632 | 0.1525 | 22.5471 | 0.0839 | 22.6311 | 5.9808 | 0.0772 | 6.0581 | | 16,376.9852 | 16,376.9852 | 0.3949 | 0.4229 | 16,512.8828 |
| **Total** | **7.0477** | **38.8949** | **60.9193** | **0.2870** | **27.3521** | **0.2674** | **27.6194** | **7.3636** | **0.2527** | **7.6163** | | **30,826.5769** | **30,826.5769** | **0.7449** | **2.5672** | **31,610.2206** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2030

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.6183 | 15.8692 | 32.3140 | 0.0619 | | 0.2963 | 0.2963 | | 0.2963 | 0.2963 | | 5,795.0935 | 5,795.0935 | 0.2325 | | 5,800.9057 |
| **Total** | **2.6183** | **15.8692** | **32.3140** | **0.0619** | | **0.2963** | **0.2963** | | **0.2963** | **0.2963** | | **5,795.0935** | **5,795.0935** | **0.2325** | | **5,800.9057** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8058 | 35.0632 | 10.5443 | 0.1320 | 4.8046 | 0.1795 | 4.9842 | 1.3827 | 0.1717 | 1.5544 | | 14,184.6255 | 14,184.6255 | 0.3445 | 2.1077 | 14,821.3373 |
| Worker | 5.8750 | 3.1172 | 48.4189 | 0.1489 | 22.5471 | 0.0786 | 22.6257 | 5.9808 | 0.0723 | 6.0532 | | 16,099.6759 | 16,099.6759 | 0.3669 | 0.4083 | 16,230.5199 |
| **Total** | **6.6807** | **38.1804** | **58.9632** | **0.2809** | **27.3518** | **0.2581** | **27.6099** | **7.3635** | **0.2441** | **7.6076** | | **30,284.3014** | **30,284.3014** | **0.7114** | **2.5160** | **31,051.8571** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2030

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.6183 | 15.8692 | 32.3140 | 0.0619 | | 0.2963 | 0.2963 | | 0.2963 | 0.2963 | 0.0000 | 5,795.0935 | 5,795.0935 | 0.2325 | | 5,800.9057 |
| **Total** | **2.6183** | **15.8692** | **32.3140** | **0.0619** | | **0.2963** | **0.2963** | | **0.2963** | **0.2963** | **0.0000** | **5,795.0935** | **5,795.0935** | **0.2325** | | **5,800.9057** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8058 | 35.0632 | 10.5443 | 0.1320 | 4.8046 | 0.1795 | 4.9842 | 1.3827 | 0.1717 | 1.5544 | | 14,184.6255 | 14,184.6255 | 0.3445 | 2.1077 | 14,821.3373 |
| Worker | 5.8750 | 3.1172 | 48.4189 | 0.1489 | 22.5471 | 0.0786 | 22.6257 | 5.9808 | 0.0723 | 6.0532 | | 16,099.6759 | 16,099.6759 | 0.3669 | 0.4083 | 16,230.5199 |
| **Total** | **6.6807** | **38.1804** | **58.9632** | **0.2809** | **27.3518** | **0.2581** | **27.6099** | **7.3635** | **0.2441** | **7.6076** | | **30,284.3014** | **30,284.3014** | **0.7114** | **2.5160** | **31,051.8571** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2024

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3615 | 2.4376 | 3.6203 | 5.9400e-003 | | 0.1218 | 0.1218 | | 0.1218 | 0.1218 | | 562.8961 | 562.8961 | 0.0317 | | 563.6885 |
| **Total** | **37.8652** | **2.4376** | **3.6203** | **5.9400e-003** | | **0.1218** | **0.1218** | | **0.1218** | **0.1218** | | **562.8961** | **562.8961** | **0.0317** | | **563.6885** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.6564 | 1.0488 | 13.1279 | 0.0355 | 4.5110 | 0.0221 | 4.5331 | 1.1966 | 0.0204 | 1.2170 | | 3,660.6907 | 3,660.6907 | 0.1211 | 0.1105 | 3,696.6523 |
| **Total** | **1.6564** | **1.0488** | **13.1279** | **0.0355** | **4.5110** | **0.0221** | **4.5331** | **1.1966** | **0.0204** | **1.2170** | | **3,660.6907** | **3,660.6907** | **0.1211** | **0.1105** | **3,696.6523** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2024

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3615 | 2.4376 | 3.6203 | 5.9400e-003 | | 0.1218 | 0.1218 | | 0.1218 | 0.1218 | 0.0000 | 562.8961 | 562.8961 | 0.0317 | | 563.6885 |
| **Total** | **37.8652** | **2.4376** | **3.6203** | **5.9400e-003** | | **0.1218** | **0.1218** | | **0.1218** | **0.1218** | **0.0000** | **562.8961** | **562.8961** | **0.0317** | | **563.6885** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.6564 | 1.0488 | 13.1279 | 0.0355 | 4.5110 | 0.0221 | 4.5331 | 1.1966 | 0.0204 | 1.2170 | | 3,660.6907 | 3,660.6907 | 0.1211 | 0.1105 | 3,696.6523 |
| **Total** | **1.6564** | **1.0488** | **13.1279** | **0.0355** | **4.5110** | **0.0221** | **4.5331** | **1.1966** | **0.0204** | **1.2170** | | **3,660.6907** | **3,660.6907** | **0.1211** | **0.1105** | **3,696.6523** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2025

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.5571 | 0.9410 | 12.3015 | 0.0343 | 4.5110 | 0.0212 | 4.5321 | 1.1966 | 0.0195 | 1.2161 | | 3,572.3753 | 3,572.3753 | 0.1102 | 0.1033 | 3,605.9123 |
| **Total** | **1.5571** | **0.9410** | **12.3015** | **0.0343** | **4.5110** | **0.0212** | **4.5321** | **1.1966** | **0.0195** | **1.2161** | | **3,572.3753** | **3,572.3753** | **0.1102** | **0.1033** | **3,605.9123** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2025

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | 0.0000 | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | **0.0000** | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.5571 | 0.9410 | 12.3015 | 0.0343 | 4.5110 | 0.0212 | 4.5321 | 1.1966 | 0.0195 | 1.2161 | | 3,572.3753 | 3,572.3753 | 0.1102 | 0.1033 | 3,605.9123 |
| **Total** | **1.5571** | **0.9410** | **12.3015** | **0.0343** | **4.5110** | **0.0212** | **4.5321** | **1.1966** | **0.0195** | **1.2161** | | **3,572.3753** | **3,572.3753** | **0.1102** | **0.1033** | **3,605.9123** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2026

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.4707 | 0.8529 | 11.5999 | 0.0332 | 4.5110 | 0.0202 | 4.5311 | 1.1966 | 0.0186 | 1.2152 | | 3,487.7089 | 3,487.7089 | 0.1007 | 0.0973 | 3,519.2236 |
| **Total** | **1.4707** | **0.8529** | **11.5999** | **0.0332** | **4.5110** | **0.0202** | **4.5311** | **1.1966** | **0.0186** | **1.2152** | | **3,487.7089** | **3,487.7089** | **0.1007** | **0.0973** | **3,519.2236** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2026

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | 0.0000 | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | **0.0000** | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.4707 | 0.8529 | 11.5999 | 0.0332 | 4.5110 | 0.0202 | 4.5311 | 1.1966 | 0.0186 | 1.2152 | | 3,487.7089 | 3,487.7089 | 0.1007 | 0.0973 | 3,519.2236 |
| **Total** | **1.4707** | **0.8529** | **11.5999** | **0.0332** | **4.5110** | **0.0202** | **4.5311** | **1.1966** | **0.0186** | **1.2152** | | **3,487.7089** | **3,487.7089** | **0.1007** | **0.0973** | **3,519.2236** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2027

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3903 | 0.7792 | 10.9980 | 0.0322 | 4.5110 | 0.0191 | 4.5300 | 1.1966 | 0.0176 | 1.2141 | | 3,409.5541 | 3,409.5541 | 0.0925 | 0.0923 | 3,439.3658 |
| **Total** | **1.3903** | **0.7792** | **10.9980** | **0.0322** | **4.5110** | **0.0191** | **4.5300** | **1.1966** | **0.0176** | **1.2141** | | **3,409.5541** | **3,409.5541** | **0.0925** | **0.0923** | **3,439.3658** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2027

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | 0.0000 | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | **0.0000** | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3903 | 0.7792 | 10.9980 | 0.0322 | 4.5110 | 0.0191 | 4.5300 | 1.1966 | 0.0176 | 1.2141 | | 3,409.5541 | 3,409.5541 | 0.0925 | 0.0923 | 3,439.3658 |
| **Total** | **1.3903** | **0.7792** | **10.9980** | **0.0322** | **4.5110** | **0.0191** | **4.5300** | **1.1966** | **0.0176** | **1.2141** | | **3,409.5541** | **3,409.5541** | **0.0925** | **0.0923** | **3,439.3658** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2028

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3163 | 0.7184 | 10.4944 | 0.0313 | 4.5110 | 0.0179 | 4.5289 | 1.1966 | 0.0165 | 1.2131 | | 3,339.5032 | 3,339.5032 | 0.0853 | 0.0881 | 3,367.8944 |
| **Total** | **1.3163** | **0.7184** | **10.4944** | **0.0313** | **4.5110** | **0.0179** | **4.5289** | **1.1966** | **0.0165** | **1.2131** | | **3,339.5032** | **3,339.5032** | **0.0853** | **0.0881** | **3,367.8944** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2028

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | 0.0000 | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | **0.0000** | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3163 | 0.7184 | 10.4944 | 0.0313 | 4.5110 | 0.0179 | 4.5289 | 1.1966 | 0.0165 | 1.2131 | | 3,339.5032 | 3,339.5032 | 0.0853 | 0.0881 | 3,367.8944 |
| **Total** | **1.3163** | **0.7184** | **10.4944** | **0.0313** | **4.5110** | **0.0179** | **4.5289** | **1.1966** | **0.0165** | **1.2131** | | **3,339.5032** | **3,339.5032** | **0.0853** | **0.0881** | **3,367.8944** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2029

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.2441 | 0.6669 | 10.0560 | 0.0305 | 4.5110 | 0.0168 | 4.5277 | 1.1966 | 0.0155 | 1.2120 | | 3,276.5021 | 3,276.5021 | 0.0790 | 0.0846 | 3,303.6908 |
| **Total** | **1.2441** | **0.6669** | **10.0560** | **0.0305** | **4.5110** | **0.0168** | **4.5277** | **1.1966** | **0.0155** | **1.2120** | | **3,276.5021** | **3,276.5021** | **0.0790** | **0.0846** | **3,303.6908** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2029

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | 0.0000 | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | **0.0000** | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.2441 | 0.6669 | 10.0560 | 0.0305 | 4.5110 | 0.0168 | 4.5277 | 1.1966 | 0.0155 | 1.2120 | | 3,276.5021 | 3,276.5021 | 0.0790 | 0.0846 | 3,303.6908 |
| **Total** | **1.2441** | **0.6669** | **10.0560** | **0.0305** | **4.5110** | **0.0168** | **4.5277** | **1.1966** | **0.0155** | **1.2120** | | **3,276.5021** | **3,276.5021** | **0.0790** | **0.0846** | **3,303.6908** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2030

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2615 | 1.7126 | 3.5955 | 5.9400e-003 | | 0.0406 | 0.0406 | | 0.0406 | 0.0406 | | 562.8961 | 562.8961 | 0.0228 | | 563.4656 |
| **Total** | **37.7651** | **1.7126** | **3.5955** | **5.9400e-003** | | **0.0406** | **0.0406** | | **0.0406** | **0.0406** | | **562.8961** | **562.8961** | **0.0228** | | **563.4656** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.1754 | 0.6237 | 9.6871 | 0.0298 | 4.5110 | 0.0157 | 4.5267 | 1.1966 | 0.0145 | 1.2110 | | 3,221.0215 | 3,221.0215 | 0.0734 | 0.0817 | 3,247.1992 |
| **Total** | **1.1754** | **0.6237** | **9.6871** | **0.0298** | **4.5110** | **0.0157** | **4.5267** | **1.1966** | **0.0145** | **1.2110** | | **3,221.0215** | **3,221.0215** | **0.0734** | **0.0817** | **3,247.1992** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2030

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2615 | 1.7126 | 3.5955 | 5.9400e-003 | | 0.0406 | 0.0406 | | 0.0406 | 0.0406 | 0.0000 | 562.8961 | 562.8961 | 0.0228 | | 563.4656 |
| **Total** | **37.7651** | **1.7126** | **3.5955** | **5.9400e-003** | | **0.0406** | **0.0406** | | **0.0406** | **0.0406** | **0.0000** | **562.8961** | **562.8961** | **0.0228** | | **563.4656** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.1754 | 0.6237 | 9.6871 | 0.0298 | 4.5110 | 0.0157 | 4.5267 | 1.1966 | 0.0145 | 1.2110 | | 3,221.0215 | 3,221.0215 | 0.0734 | 0.0817 | 3,247.1992 |
| **Total** | **1.1754** | **0.6237** | **9.6871** | **0.0298** | **4.5110** | **0.0157** | **4.5267** | **1.1966** | **0.0145** | **1.2110** | | **3,221.0215** | **3,221.0215** | **0.0734** | **0.0817** | **3,247.1992** |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 54.0546 | 72.3602 | 641.9886 | 1.2407 | 190.0352 | 0.6099 | 190.6451 | 50.5937 | 0.5706 | 51.1643 | | 139,391.6327 | 139,391.6327 | 9.4814 | 6.8596 | 141,672.8134 |
| Unmitigated | 54.0546 | 72.3602 | 641.9886 | 1.2407 | 190.0352 | 0.6099 | 190.6451 | 50.5937 | 0.5706 | 51.1643 | | 139,391.6327 | 139,391.6327 | 9.4814 | 6.8596 | 141,672.8134 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments High Rise | 3,631.20 | 3,696.48 | 2929.44 | 9,084,730 | 9,084,730 |
| Apartments Low Rise | 2,957.28 | 3,288.56 | 2537.12 | 7,556,121 | 7,556,121 |
| Apartments Mid Rise | 4,972.16 | 4,487.74 | 3738.26 | 12,129,191 | 12,129,191 |
| City Park | 26.13 | 65.66 | 73.37 | 71,077 | 71,077 |
| Elementary School | 1,606.50 | 0.00 | 0.00 | 2,413,021 | 2,413,021 |
| Office Park | 13,859.64 | 2,053.28 | 951.52 | 22,369,655 | 22,369,655 |
| Single Family Housing | 10,072.48 | 10,179.18 | 9122.85 | 25,538,074 | 25,538,074 |
| Total | 37,125.39 | 23,770.90 | 19,352.56 | 79,161,869 | 79,161,869 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments High Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments Low Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Apartments Mid Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| City Park | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 66 | 28 | 6 |
| Elementary School | 10.00 | 5.00 | 6.50 | 65.00 | 30.00 | 5.00 | 63 | 25 | 12 |
| Office Park | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 82 | 15 | 3 |
| Single Family Housing | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |

### 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apartments High Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Apartments Low Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Apartments Mid Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| City Park | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Elementary School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Office Park | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Single Family Housing | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 1.9833 | 17.2844 | 9.6797 | 0.1082 | | 1.3703 | 1.3703 | | 1.3703 | 1.3703 | | 21,635.5559 | 21,635.5559 | 0.4147 | 0.3967 | 21,764.1252 |
| NaturalGas Unmitigated | 1.9833 | 17.2844 | 9.6797 | 0.1082 | | 1.3703 | 1.3703 | | 1.3703 | 1.3703 | | 21,635.5559 | 21,635.5559 | 0.4147 | 0.3967 | 21,764.1252 |

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments High Rise | 21051.1 | 0.2270 | 1.9400 | 0.8255 | 0.0124 | | 0.1569 | 0.1569 | | 0.1569 | 0.1569 | | 2,476.5975 | 2,476.5975 | 0.0475 | 0.0454 | 2,491.3147 |
| Apartments Low Rise | 12901.8 | 0.1391 | 1.1890 | 0.5060 | 7.5900e-003 | | 0.0961 | 0.0961 | | 0.0961 | 0.0961 | | 1,517.8641 | 1,517.8641 | 0.0291 | 0.0278 | 1,526.8840 |
| Apartments Mid Rise | 23579.3 | 0.2543 | 2.1730 | 0.9247 | 0.0139 | | 0.1757 | 0.1757 | | 0.1757 | 0.1757 | | 2,774.0320 | 2,774.0320 | 0.0532 | 0.0509 | 2,790.5167 |
| City Park | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Elementary School | 2943.75 | 0.0318 | 0.2886 | 0.2424 | 1.7300e-003 | | 0.0219 | 0.0219 | | 0.0219 | 0.0219 | | 346.3241 | 346.3241 | 6.6400e-003 | 6.3500e-003 | 348.3821 |
| Office Park | 54264.8 | 0.5852 | 5.3201 | 4.4689 | 0.0319 | | 0.4043 | 0.4043 | | 0.4043 | 0.4043 | | 6,384.0903 | 6,384.0903 | 0.1224 | 0.1170 | 6,422.0277 |
| Single Family Housing | 69161.5 | 0.7459 | 6.3737 | 2.7122 | 0.0407 | | 0.5153 | 0.5153 | | 0.5153 | 0.5153 | | 8,136.6480 | 8,136.6480 | 0.1560 | 0.1492 | 8,185.0000 |
| **Total** | | **1.9833** | **17.2844** | **9.6797** | **0.1082** | | **1.3703** | **1.3703** | | **1.3703** | **1.3703** | | **21,635.5559** | **21,635.5559** | **0.4147** | **0.3967** | **21,764.1252** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments High Rise | 21.0511 | 0.2270 | 1.9400 | 0.8255 | 0.0124 | | 0.1569 | 0.1569 | | 0.1569 | 0.1569 | | 2,476.5975 | 2,476.5975 | 0.0475 | 0.0454 | 2,491.3147 |
| Apartments Low Rise | 12.9018 | 0.1391 | 1.1890 | 0.5060 | 7.5900e-003 | | 0.0961 | 0.0961 | | 0.0961 | 0.0961 | | 1,517.8641 | 1,517.8641 | 0.0291 | 0.0278 | 1,526.8840 |
| Apartments Mid Rise | 23.5793 | 0.2543 | 2.1730 | 0.9247 | 0.0139 | | 0.1757 | 0.1757 | | 0.1757 | 0.1757 | | 2,774.0320 | 2,774.0320 | 0.0532 | 0.0509 | 2,790.5167 |
| City Park | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Elementary School | 2.94375 | 0.0318 | 0.2886 | 0.2424 | 1.7300e-003 | | 0.0219 | 0.0219 | | 0.0219 | 0.0219 | | 346.3241 | 346.3241 | 6.6400e-003 | 6.3500e-003 | 348.3821 |
| Office Park | 54.2648 | 0.5852 | 5.3201 | 4.4689 | 0.0319 | | 0.4043 | 0.4043 | | 0.4043 | 0.4043 | | 6,384.0903 | 6,384.0903 | 0.1224 | 0.1170 | 6,422.0277 |
| Single Family Housing | 69.1615 | 0.7459 | 6.3737 | 2.7122 | 0.0407 | | 0.5153 | 0.5153 | | 0.5153 | 0.5153 | | 8,136.6480 | 8,136.6480 | 0.1560 | 0.1492 | 8,185.0000 |
| **Total** | | **1.9833** | **17.2844** | **9.6797** | **0.1082** | | **1.3703** | **1.3703** | | **1.3703** | **1.3703** | | **21,635.5559** | **21,635.5559** | **0.4147** | **0.3967** | **21,764.1252** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 140.3028 | 3.0368 | 263.1431 | 0.0140 | | 1.4653 | 1.4653 | | 1.4653 | 1.4653 | 0.0000 | 475.9833 | 475.9833 | 0.4538 | 0.0000 | 487.3287 |
| Unmitigated | 140.3028 | 3.0368 | 263.1431 | 0.0140 | | 1.4653 | 1.4653 | | 1.4653 | 1.4653 | 0.0000 | 475.9833 | 475.9833 | 0.4538 | 0.0000 | 487.3287 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 17.2619 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 115.1572 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 7.8837 | 3.0368 | 263.1431 | 0.0140 | | 1.4653 | 1.4653 | | 1.4653 | 1.4653 | | 475.9833 | 475.9833 | 0.4538 | | 487.3287 |
| **Total** | **140.3029** | **3.0368** | **263.1431** | **0.0140** | | **1.4653** | **1.4653** | | **1.4653** | **1.4653** | **0.0000** | **475.9833** | **475.9833** | **0.4538** | **0.0000** | **487.3287** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 17.2619 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 115.1572 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 7.8837 | 3.0368 | 263.1431 | 0.0140 | | 1.4653 | 1.4653 | | 1.4653 | 1.4653 | | 475.9833 | 475.9833 | 0.4538 | | 487.3287 |
| **Total** | **140.3029** | **3.0368** | **263.1431** | **0.0140** | | **1.4653** | **1.4653** | | **1.4653** | **1.4653** | **0.0000** | **475.9833** | **475.9833** | **0.4538** | **0.0000** | **487.3287** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

UWSP - Phase 1 Construction - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

# UWSP - Phase 1 Construction

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Sacramento Metropolitan AQMD Air District, Mitigation Report**

## Construction Mitigation Summary

| Phase | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Architectural Coating | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Building Construction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Grading | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Site Preparation | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## OFFROAD Equipment Mitigation

# UWSP - Phase 1 Construction

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Equipment Type | Fuel Type | Tier | Number Mitigated | Total Number of Equipment | DPF | Oxidation Catalyst |
|---|---|---|---|---|---|---|
| Air Compressors | Diesel | No Change | 0 | 2 | No Change | 0.00 |
| Cranes | Diesel | No Change | 0 | 2 | No Change | 0.00 |
| Excavators | Diesel | No Change | 0 | 12 | No Change | 0.00 |
| Forklifts | Diesel | No Change | 0 | 6 | No Change | 0.00 |
| Generator Sets | Diesel | No Change | 0 | 2 | No Change | 0.00 |
| Graders | Diesel | No Change | 0 | 2 | No Change | 0.00 |
| Pavers | Diesel | No Change | 0 | 4 | No Change | 0.00 |
| Paving Equipment | Diesel | No Change | 0 | 4 | No Change | 0.00 |
| Rollers | Diesel | No Change | 0 | 4 | No Change | 0.00 |
| Rubber Tired Dozers | Diesel | No Change | 0 | 8 | No Change | 0.00 |
| Scrapers | Diesel | No Change | 0 | 29 | No Change | 0.00 |
| Tractors/Loaders/Backhoes | Diesel | No Change | 0 | 21 | No Change | 0.00 |
| Welders | Diesel | No Change | 0 | 2 | No Change | 0.00 |

# UWSP - Phase 1 Construction

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Unmitigated tons/yr | | | | | | Unmitigated mt/yr | | | | | |
| Air Compressors | 2.83170E-001 | 1.89690E+000 | 3.03784E+000 | 4.99000E-003 | 8.38900E-002 | 8.38900E-002 | 0.00000E+000 | 4.28947E+002 | 4.28947E+002 | 2.29500E-002 | 0.00000E+000 | 4.29520E+002 |
| Cranes | 4.57720E-001 | 4.44193E+000 | 2.51305E+000 | 8.65000E-003 | 1.87020E-001 | 1.72340E-001 | 0.00000E+000 | 7.57920E+002 | 7.57920E+002 | 2.23310E-001 | 0.00000E+000 | 7.63503E+002 |
| Excavators | 6.69800E-002 | 5.41180E-001 | 1.17361E+000 | 1.86000E-003 | 2.65400E-002 | 2.44200E-002 | 0.00000E+000 | 1.63344E+002 | 1.63344E+002 | 5.28300E-002 | 0.00000E+000 | 1.64665E+002 |
| Forklifts | 4.43890E-001 | 4.03032E+000 | 5.74310E+000 | 7.86000E-003 | 2.10050E-001 | 1.93470E-001 | 0.00000E+000 | 6.88569E+002 | 6.88569E+002 | 2.03430E-001 | 0.00000E+000 | 6.93655E+002 |
| Generator Sets | 4.41800E-001 | 3.97518E+000 | 6.14556E+000 | 1.10500E-002 | 1.55580E-001 | 1.55580E-001 | 0.00000E+000 | 9.49549E+002 | 9.49549E+002 | 3.48500E-002 | 0.00000E+000 | 9.50420E+002 |
| Graders | 2.30100E-002 | 2.79180E-001 | 1.01560E-001 | 4.00000E-004 | 9.05000E-003 | 8.32000E-003 | 0.00000E+000 | 3.48824E+001 | 3.48824E+001 | 1.12800E-002 | 0.00000E+000 | 3.51645E+001 |
| Pavers | 2.25700E-002 | 2.18040E-001 | 3.46530E-001 | 5.60000E-004 | 1.02200E-002 | 9.41000E-003 | 0.00000E+000 | 4.95532E+001 | 4.95532E+001 | 1.60300E-002 | 0.00000E+000 | 4.99538E+001 |
| Paving Equipment | 2.01500E-002 | 1.86370E-001 | 3.07540E-001 | 4.90000E-004 | 9.03000E-003 | 8.31000E-003 | 0.00000E+000 | 4.29425E+001 | 4.29425E+001 | 1.38900E-002 | 0.00000E+000 | 4.32897E+001 |
| Rollers | 1.80000E-002 | 1.88410E-001 | 2.22150E-001 | 3.10000E-004 | 1.01900E-002 | 9.37000E-003 | 0.00000E+000 | 2.76646E+001 | 2.76646E+001 | 8.95000E-003 | 0.00000E+000 | 2.78883E+001 |
| Rubber Tired Dozers | 1.64320E-001 | 1.71052E+000 | 7.45520E-001 | 2.05000E-003 | 7.70200E-002 | 7.08600E-002 | 0.00000E+000 | 1.80058E+002 | 1.80058E+002 | 5.82300E-002 | 0.00000E+000 | 1.81514E+002 |
| Scrapers | 6.84490E-001 | 7.20656E+000 | 5.33920E+000 | 1.32100E-002 | 2.82570E-001 | 2.59960E-001 | 0.00000E+000 | 1.16030E+003 | 1.16030E+003 | 3.75260E-001 | 0.00000E+000 | 1.16968E+003 |
| Tractors/Loaders/ Backhoes | 6.72550E-001 | 6.52895E+000 | 1.08839E+001 | 1.54100E-002 | 2.66670E-001 | 2.45900E-001 | 0.00000E+000 | 1.35089E+003 | 1.35089E+003 | 4.02700E-001 | 0.00000E+000 | 1.36096E+003 |
| Welders | 3.65060E-001 | 2.24281E+000 | 2.77048E+000 | 4.29000E-003 | 6.67600E-002 | 6.67600E-002 | 0.00000E+000 | 3.16211E+002 | 3.16211E+002 | 2.97000E-002 | 0.00000E+000 | 3.16953E+002 |

# UWSP - Phase 1 Construction

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mitigated tons/yr | | | | | | Mitigated mt/yr | | | | | |
| Air Compressors | 2.83170E-001 | 1.89690E+000 | 3.03783E+000 | 4.99000E-003 | 8.38900E-002 | 8.38900E-002 | 0.00000E+000 | 4.28946E+002 | 4.28946E+002 | 2.29500E-002 | 0.00000E+000 | 4.29520E+002 |
| Cranes | 4.57720E-001 | 4.44192E+000 | 2.51305E+000 | 8.65000E-003 | 1.87020E-001 | 1.72340E-001 | 0.00000E+000 | 7.57919E+002 | 7.57919E+002 | 2.23310E-001 | 0.00000E+000 | 7.63502E+002 |
| Excavators | 6.69800E-002 | 5.41180E-001 | 1.17361E+000 | 1.86000E-003 | 2.65400E-002 | 2.44200E-002 | 0.00000E+000 | 1.63344E+002 | 1.63344E+002 | 5.28300E-002 | 0.00000E+000 | 1.64665E+002 |
| Forklifts | 4.43880E-001 | 4.03031E+000 | 5.74309E+000 | 7.86000E-003 | 2.10050E-001 | 1.93470E-001 | 0.00000E+000 | 6.88568E+002 | 6.88568E+002 | 2.03430E-001 | 0.00000E+000 | 6.93654E+002 |
| Generator Sets | 4.41800E-001 | 3.97517E+000 | 6.14555E+000 | 1.10500E-002 | 1.55580E-001 | 1.55580E-001 | 0.00000E+000 | 9.49547E+002 | 9.49547E+002 | 3.48500E-002 | 0.00000E+000 | 9.50419E+002 |
| Graders | 2.30100E-002 | 2.79180E-001 | 1.01560E-001 | 4.00000E-004 | 9.05000E-003 | 8.32000E-003 | 0.00000E+000 | 3.48824E+001 | 3.48824E+001 | 1.12800E-002 | 0.00000E+000 | 3.51644E+001 |
| Pavers | 2.25700E-002 | 2.18040E-001 | 3.46530E-001 | 5.60000E-004 | 1.02200E-002 | 9.41000E-003 | 0.00000E+000 | 4.95531E+001 | 4.95531E+001 | 1.60300E-002 | 0.00000E+000 | 4.99538E+001 |
| Paving Equipment | 2.01500E-002 | 1.86370E-001 | 3.07540E-001 | 4.90000E-004 | 9.03000E-003 | 8.31000E-003 | 0.00000E+000 | 4.29424E+001 | 4.29424E+001 | 1.38900E-002 | 0.00000E+000 | 4.32896E+001 |
| Rollers | 1.80000E-002 | 1.88410E-001 | 2.22150E-001 | 3.10000E-004 | 1.01900E-002 | 9.37000E-003 | 0.00000E+000 | 2.76646E+001 | 2.76646E+001 | 8.95000E-003 | 0.00000E+000 | 2.78883E+001 |
| Rubber Tired Dozers | 1.64320E-001 | 1.71051E+000 | 7.45520E-001 | 2.05000E-003 | 7.70200E-002 | 7.08600E-002 | 0.00000E+000 | 1.80058E+002 | 1.80058E+002 | 5.82300E-002 | 0.00000E+000 | 1.81514E+002 |
| Scrapers | 6.84480E-001 | 7.20655E+000 | 5.33920E+000 | 1.32100E-002 | 2.82570E-001 | 2.59960E-001 | 0.00000E+000 | 1.16030E+003 | 1.16030E+003 | 3.75260E-001 | 0.00000E+000 | 1.16968E+003 |
| Tractors/Loaders/Backhoes | 6.72550E-001 | 6.52894E+000 | 1.08839E+001 | 1.54100E-002 | 2.66670E-001 | 2.45900E-001 | 0.00000E+000 | 1.35089E+003 | 1.35089E+003 | 4.02700E-001 | 0.00000E+000 | 1.36096E+003 |
| Welders | 3.65060E-001 | 2.24281E+000 | 2.77048E+000 | 4.29000E-003 | 6.67600E-002 | 6.67600E-002 | 0.00000E+000 | 3.16210E+002 | 3.16210E+002 | 2.97000E-002 | 0.00000E+000 | 3.16953E+002 |

# UWSP - Phase 1 Construction

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Air Compressors | 0.00000E+000 | 0.00000E+000 | 3.29181E-006 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.18896E-006 | 1.18896E-006 | 0.00000E+000 | 0.00000E+000 | 1.18737E-006 |
| Cranes | 0.00000E+000 | 2.25127E-006 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.18746E-006 | 1.18746E-006 | 0.00000E+000 | 0.00000E+000 | 1.19188E-006 |
| Excavators | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.16319E-006 | 1.16319E-006 | 0.00000E+000 | 0.00000E+000 | 1.15386E-006 |
| Forklifts | 2.25281E-005 | 2.48119E-006 | 1.74122E-006 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.19088E-006 | 1.19088E-006 | 0.00000E+000 | 0.00000E+000 | 1.19656E-006 |
| Generator Sets | 0.00000E+000 | 2.51561E-006 | 1.62719E-006 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.19004E-006 | 1.19004E-006 | 0.00000E+000 | 0.00000E+000 | 1.18895E-006 |
| Graders | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.14671E-006 | 1.14671E-006 | 0.00000E+000 | 0.00000E+000 | 1.13751E-006 |
| Pavers | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.21082E-006 | 1.21082E-006 | 0.00000E+000 | 0.00000E+000 | 1.20111E-006 |
| Paving Equipment | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.16435E-006 | 1.16435E-006 | 0.00000E+000 | 0.00000E+000 | 1.15501E-006 |
| Rollers | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.08442E-006 | 1.08442E-006 | 0.00000E+000 | 0.00000E+000 | 1.43429E-006 |
| Rubber Tired Dozers | 0.00000E+000 | 5.84618E-006 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.16629E-006 | 1.16629E-006 | 0.00000E+000 | 0.00000E+000 | 1.15694E-006 |
| Scrapers | 1.46094E-005 | 1.38762E-006 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.18935E-006 | 1.18935E-006 | 0.00000E+000 | 0.00000E+000 | 1.18836E-006 |
| Tractors/Loaders/Backhoes | 0.00000E+000 | 1.53164E-006 | 9.18791E-007 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.18440E-006 | 1.18440E-006 | 0.00000E+000 | 0.00000E+000 | 1.19033E-006 |
| Welders | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.20173E-006 | 1.20173E-006 | 0.00000E+000 | 0.00000E+000 | 1.19892E-006 |

## Fugitive Dust Mitigation

| Yes/No | Mitigation Measure | Mitigation Input | | Mitigation Input | | Mitigation Input | |
|---|---|---|---|---|---|---|---|
| No | Soil Stabilizer for unpaved Roads | PM10 Reduction | | PM2.5 Reduction | | | |

# UWSP - Phase 1 Construction

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| No | Replace Ground Cover of Area Disturbed | PM10 Reduction | | PM2.5 Reduction | | | |
| No | Water Exposed Area | PM10 Reduction | | PM2.5 Reduction | | Frequency (per day) | |
| No | Unpaved Road Mitigation | Moisture Content % | | Vehicle Speed (mph) | 0.00 | | |
| No | Clean Paved Road | % PM Reduction | 0.00 | | | | |

| | | Unmitigated | | Mitigated | | Percent Reduction | |
|---|---|---|---|---|---|---|---|
| Phase | Source | PM10 | PM2.5 | PM10 | PM2.5 | PM10 | PM2.5 |
| Architectural Coating | Fugitive Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Architectural Coating | Roads | 3.66 | 0.97 | 3.66 | 0.97 | 0.00 | 0.00 |
| Building Construction | Fugitive Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Building Construction | Roads | 22.21 | 6.00 | 22.21 | 6.00 | 0.00 | 0.00 |
| Grading | Fugitive Dust | 0.58 | 0.22 | 0.58 | 0.22 | 0.00 | 0.00 |
| Grading | Roads | 0.15 | 0.04 | 0.15 | 0.04 | 0.00 | 0.00 |
| Paving | Fugitive Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving | Roads | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Site Preparation | Fugitive Dust | 1.13 | 0.60 | 1.13 | 0.60 | 0.00 | 0.00 |
| Site Preparation | Roads | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |

## Operational Percent Reduction Summary

# UWSP - Phase 1 Construction

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Category | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Architectural Coating | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Consumer Products | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hearth | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mobile | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Natural Gas | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water Indoor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water Outdoor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## Operational Mobile Mitigation

Project Setting:

| Mitigation | Category | Measure | % Reduction | Input Value 1 | Input Value 2 | Input Value 3 |
|---|---|---|---|---|---|---|
| No | Land Use | Increase Density | 0.00 | | | |
| No | Land Use | Increase Diversity | 0.30 | 0.81 | | |
| No | Land Use | Improve Walkability Design | 0.00 | | | |
| No | Land Use | Improve Destination Accessibility | 0.00 | | | |
| No | Land Use | Increase Transit Accessibility | 0.25 | | | |
| No | Land Use | Integrate Below Market Rate Housing | 0.00 | | | |
| | Land Use | Land Use SubTotal | 0.00 | | | |

## UWSP - Phase 1 Construction

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | |
|---|---|---|---|---|---|---|
| No | Neighborhood Enhancements | Improve Pedestrian Network | | | | |
| No | Neighborhood Enhancements | Provide Traffic Calming Measures | | | | |
| No | Neighborhood Enhancements | Implement NEV Network | 0.00 | | | |
| | Neighborhood Enhancements | Neighborhood Enhancements Subtotal | 0.00 | | | |
| No | Parking Policy Pricing | Limit Parking Supply | 0.00 | | | |
| No | Parking Policy Pricing | Unbundle Parking Costs | 0.00 | | | |
| No | Parking Policy Pricing | On-street Market Pricing | 0.00 | | | |
| | Parking Policy Pricing | Parking Policy Pricing Subtotal | 0.00 | | | |
| No | Transit Improvements | Provide BRT System | 0.00 | | | |
| No | Transit Improvements | Expand Transit Network | 0.00 | | | |
| No | Transit Improvements | Increase Transit Frequency | 0.00 | | | |
| | Transit Improvements | Transit Improvements Subtotal | 0.00 | | | |
| | | Land Use and Site Enhancement Subtotal | 0.00 | | | |
| No | Commute | Implement Trip Reduction Program | | | | |
| No | Commute | Transit Subsidy | | | | |
| No | Commute | Implement Employee Parking "Cash Out" | | | | |
| No | Commute | Workplace Parking Charge | | | | |
| No | Commute | Encourage Telecommuting and Alternative Work Schedules | 0.00 | | | |
| No | Commute | Market Commute Trip Reduction Option | 0.00 | | | |
| No | Commute | Employee Vanpool/Shuttle | 0.00 | | 2.00 | |

# UWSP - Phase 1 Construction

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | |
|---|---|---|---|---|---|---|
| No | Commute | Provide Ride Sharing Program | | | | |
| | Commute | Commute Subtotal | 0.00 | | | |
| No | School Trip | Implement School Bus Program | 0.00 | | | |
| | | Total VMT Reduction | 0.00 | | | |

## Area Mitigation

| Measure Implemented | Mitigation Measure | Input Value |
|---|---|---|
| No | Only Natural Gas Hearth | |
| No | No Hearth | |
| No | Use Low VOC Cleaning Supplies | |
| No | Use Low VOC Paint (Residential Interior) | 100.00 |
| No | Use Low VOC Paint (Residential Exterior) | 100.00 |
| No | Use Low VOC Paint (Non-residential Interior) | 100.00 |
| No | Use Low VOC Paint (Non-residential Exterior) | 100.00 |
| No | Use Low VOC Paint (Parking) | 100.00 |
| No | % Electric Lawnmower | |
| No | % Electric Leafblower | |
| No | % Electric Chainsaw | |

## Energy Mitigation Measures

| Measure Implemented | Mitigation Measure | Input Value 1 | Input Value 2 |
|---|---|---|---|
| No | Exceed Title 24 | | |

# UWSP - Phase 1 Construction

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| No | Install High Efficiency Lighting | | |
| No | On-site Renewable | | |

| Appliance Type | Land Use Subtype | % Improvement |
|---|---|---|
| ClothWasher | | 30.00 |
| DishWasher | | 15.00 |
| Fan | | 50.00 |
| Refrigerator | | 15.00 |

## Water Mitigation Measures

| Measure Implemented | Mitigation Measure | Input Value 1 | Input Value 2 |
|---|---|---|---|
| No | Apply Water Conservation on Strategy | | |
| No | Use Reclaimed Water | | |
| No | Use Grey Water | | |
| No | Install low-flow bathroom faucet | 32.00 | |
| No | Install low-flow Kitchen faucet | 18.00 | |
| No | Install low-flow Toilet | 20.00 | |
| No | Install low-flow Shower | 20.00 | |
| No | Turf Reduction | | |
| No | Use Water Efficient Irrigation Systems | 6.10 | |
| No | Water Efficient Landscape | | |

## Solid Waste Mitigation

# UWSP - Phase 1 Construction

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Mitigation Measures | Input Value |
|---|---|
| Institute Recycling and Composting Services<br>Percent Reduction in Waste Disposed | |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# UWSP - Phase 1 Construction_Mitigated

**Sacramento Metropolitan AQMD Air District, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Office Park | 1,252.00 | 1000sqft | 47.90 | 1,252,000.00 | 0 |
| Elementary School | 850.00 | Student | 17.00 | 71,062.86 | 0 |
| City Park | 33.50 | Acre | 33.50 | 1,459,260.00 | 0 |
| Apartments High Rise | 816.00 | Dwelling Unit | 25.10 | 816,000.00 | 2179 |
| Apartments Low Rise | 404.00 | Dwelling Unit | 33.70 | 404,000.00 | 1079 |
| Apartments Mid Rise | 914.00 | Dwelling Unit | 40.60 | 914,000.00 | 2440 |
| Single Family Housing | 1,067.00 | Dwelling Unit | 173.50 | 1,920,600.00 | 2849 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 3.5 | **Precipitation Freq (Days)** | 58 |
| **Climate Zone** | 6 | | | **Operational Year** | 2045 |
| **Utility Company** | Sacramento Municipal Utility District | | | | |
| **CO2 Intensity (lb/MWhr)** | 357.98 | **CH4 Intensity (lb/MWhr)** | 0.033 | **N2O Intensity (lb/MWhr)** | 0.004 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreages updated based on preliminary land use summary.

Construction Phase - Construction phase timing adjusted based on applicant-provided information.

Off-road Equipment - Architectural coating equipment doubled.

Off-road Equipment - Building construction phase equipment doubled.

Off-road Equipment - Construction equipment updated per engineer information.

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Off-road Equipment - Construction equipment updated per engineer information.

Off-road Equipment - Number of equipment has been updated.

Grading -

Construction Off-road Equipment Mitigation - Required by Mitigation to use all Tier 4 Final Equipment.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 12.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 6.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 4.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 4.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 4.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 8.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 29.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 21.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstructionPhase | NumDays | 240.00 | 60.00 |
| tblConstructionPhase | NumDays | 620.00 | 60.00 |
| tblConstructionPhase | NumDays | 440.00 | 60.00 |
| tblConstructionPhase | NumDays | 6,200.00 | 1,680.00 |
| tblConstructionPhase | NumDays | 440.00 | 1,680.00 |
| tblGrading | AcresOfGrading | 1,860.00 | 390.00 |
| tblGrading | AcresOfGrading | 180.00 | 90.00 |
| tblGrading | MaterialExported | 0.00 | 122,750.00 |
| tblLandUse | LotAcreage | 28.74 | 47.90 |
| tblLandUse | LotAcreage | 1.63 | 17.00 |
| tblLandUse | LotAcreage | 13.16 | 25.10 |
| tblLandUse | LotAcreage | 25.25 | 33.70 |
| tblLandUse | LotAcreage | 24.05 | 40.60 |
| tblLandUse | LotAcreage | 346.43 | 173.50 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 29.00 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 3.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 4.00 | 8.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |

## 2.0 Emissions Summary

### 2.1 Overall Construction

**Unmitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2023 | 1.0461 | 11.7417 | 8.7021 | 0.0240 | 1.8791 | 0.4427 | 2.3218 | 0.8693 | 0.4076 | 1.2769 | 0.0000 | 2,165.8172 | 2,165.8172 | 0.5567 | 0.0764 | 2,202.5079 |
| 2024 | 5.8680 | 9.0387 | 15.4022 | 0.0512 | 3.5874 | 0.2211 | 3.8085 | 0.9668 | 0.2083 | 1.1751 | 0.0000 | 4,799.2934 | 4,799.2934 | 0.2826 | 0.3146 | 4,900.1209 |
| 2025 | 6.5901 | 9.0860 | 15.5399 | 0.0544 | 4.0187 | 0.1938 | 4.2125 | 1.0829 | 0.1832 | 1.2661 | 0.0000 | 5,130.5444 | 5,130.5444 | 0.2625 | 0.3414 | 5,238.8569 |
| 2026 | 6.5195 | 8.9253 | 14.9621 | 0.0531 | 4.0186 | 0.1924 | 4.2110 | 1.0829 | 0.1819 | 1.2647 | 0.0000 | 5,031.4023 | 5,031.4023 | 0.2553 | 0.3325 | 5,136.8795 |
| 2027 | 6.4542 | 8.7830 | 14.4686 | 0.0519 | 4.0186 | 0.1909 | 4.2095 | 1.0829 | 0.1805 | 1.2634 | 0.0000 | 4,935.3984 | 4,935.3984 | 0.2488 | 0.3240 | 5,038.1605 |
| 2028 | 6.3701 | 8.6317 | 14.0034 | 0.0507 | 4.0031 | 0.1888 | 4.1919 | 1.0787 | 0.1785 | 1.2572 | 0.0000 | 4,829.2001 | 4,829.2001 | 0.2423 | 0.3150 | 4,929.1352 |
| 2029 | 6.3367 | 8.5587 | 13.7008 | 0.0498 | 4.0185 | 0.1881 | 4.2066 | 1.0828 | 0.1779 | 1.2607 | 0.0000 | 4,767.6583 | 4,767.6583 | 0.2384 | 0.3092 | 4,865.7661 |
| 2030 | 3.5980 | 3.9312 | 7.3650 | 0.0274 | 2.2080 | 0.0436 | 2.2516 | 0.5949 | 0.0425 | 0.6374 | 0.0000 | 2,616.2913 | 2,616.2913 | 0.0648 | 0.1652 | 2,667.1351 |
| **Maximum** | **6.5901** | **11.7417** | **15.5399** | **0.0544** | **4.0187** | **0.4427** | **4.2125** | **1.0829** | **0.4076** | **1.2769** | **0.0000** | **5,130.5444** | **5,130.5444** | **0.5567** | **0.3414** | **5,238.8569** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.1 Overall Construction

**Mitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2023 | 0.2666 | 2.2349 | 9.8552 | 0.0240 | 1.8791 | 0.0400 | 1.9191 | 0.8693 | 0.0396 | 0.9089 | 0.0000 | 2,165.8152 | 2,165.8152 | 0.5567 | 0.0764 | 2,202.5060 |
| 2024 | 5.5278 | 5.7408 | 15.8637 | 0.0512 | 3.5874 | 0.0521 | 3.6395 | 0.9668 | 0.0498 | 1.0166 | 0.0000 | 4,799.2926 | 4,799.2926 | 0.2826 | 0.3146 | 4,900.1201 |
| 2025 | 6.2819 | 6.1493 | 15.9050 | 0.0544 | 4.0187 | 0.0544 | 4.0730 | 1.0829 | 0.0519 | 1.1348 | 0.0000 | 5,130.5436 | 5,130.5436 | 0.2625 | 0.3414 | 5,238.8561 |
| 2026 | 6.2113 | 5.9886 | 15.3272 | 0.0531 | 4.0186 | 0.0529 | 4.0716 | 1.0829 | 0.0506 | 1.1335 | 0.0000 | 5,031.4015 | 5,031.4015 | 0.2553 | 0.3325 | 5,136.8787 |
| 2027 | 6.1461 | 5.8463 | 14.8337 | 0.0519 | 4.0186 | 0.0515 | 4.0700 | 1.0829 | 0.0492 | 1.1321 | 0.0000 | 4,935.3976 | 4,935.3976 | 0.2488 | 0.3240 | 5,038.1597 |
| 2028 | 6.0631 | 5.7063 | 14.3671 | 0.0507 | 4.0031 | 0.0499 | 4.0530 | 1.0787 | 0.0477 | 1.1264 | 0.0000 | 4,829.1993 | 4,829.1993 | 0.2423 | 0.3150 | 4,929.1344 |
| 2029 | 6.0285 | 5.6220 | 14.0659 | 0.0498 | 4.0185 | 0.0487 | 4.0671 | 1.0828 | 0.0466 | 1.1294 | 0.0000 | 4,767.6575 | 4,767.6575 | 0.2384 | 0.3092 | 4,865.7653 |
| 2030 | 3.4433 | 3.0112 | 7.5553 | 0.0274 | 2.2080 | 0.0259 | 2.2339 | 0.5949 | 0.0248 | 0.6197 | 0.0000 | 2,616.2908 | 2,616.2908 | 0.0648 | 0.1652 | 2,667.1346 |
| **Maximum** | **6.2819** | **6.1493** | **15.9050** | **0.0544** | **4.0187** | **0.0544** | **4.0730** | **1.0829** | **0.0519** | **1.1348** | **0.0000** | **5,130.5436** | **5,130.5436** | **0.5567** | **0.3414** | **5,238.8561** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **6.58** | **41.34** | **-3.48** | **0.00** | **0.00** | **77.41** | **4.37** | **0.00** | **76.92** | **12.77** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| **1** | **6-1-2023** | **8-31-2023** | 2.7888 | 0.3611 |
| **2** | **9-1-2023** | **11-30-2023** | 9.5219 | 2.0526 |
| **3** | **12-1-2023** | **2-29-2024** | 1.8050 | 0.7435 |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | |
|---|---|---|---|---|
| **4** | **3-1-2024** | **5-31-2024** | 4.0930 | 3.1996 |
| **5** | **6-1-2024** | **8-31-2024** | 4.0643 | 3.1710 |
| **6** | **9-1-2024** | **11-30-2024** | 4.0765 | 3.1929 |
| **7** | **12-1-2024** | **2-28-2025** | 3.9667 | 3.1418 |
| **8** | **3-1-2025** | **5-31-2025** | 3.9506 | 3.1336 |
| **9** | **6-1-2025** | **8-31-2025** | 3.9228 | 3.1059 |
| **10** | **9-1-2025** | **11-30-2025** | 3.9348 | 3.1267 |
| **11** | **12-1-2025** | **2-28-2026** | 3.8792 | 3.0800 |
| **12** | **3-1-2026** | **5-31-2026** | 3.8912 | 3.0742 |
| **13** | **6-1-2026** | **8-31-2026** | 3.8641 | 3.0471 |
| **14** | **9-1-2026** | **11-30-2026** | 3.8754 | 3.0673 |
| **15** | **12-1-2026** | **2-28-2027** | 3.8239 | 3.0246 |
| **16** | **3-1-2027** | **5-31-2027** | 3.8379 | 3.0209 |
| **17** | **6-1-2027** | **8-31-2027** | 3.8114 | 2.9944 |
| **18** | **9-1-2027** | **11-30-2027** | 3.8221 | 3.0140 |
| **19** | **12-1-2027** | **2-29-2028** | 3.8174 | 3.0093 |
| **20** | **3-1-2028** | **5-31-2028** | 3.7921 | 2.9751 |
| **21** | **6-1-2028** | **8-31-2028** | 3.7661 | 2.9491 |
| **22** | **9-1-2028** | **11-30-2028** | 3.7764 | 2.9683 |
| **23** | **12-1-2028** | **2-28-2029** | 3.7323 | 2.9331 |
| **24** | **3-1-2029** | **5-31-2029** | 3.7497 | 2.9327 |
| **25** | **6-1-2029** | **8-31-2029** | 3.7239 | 2.9070 |
| **26** | **9-1-2029** | **11-30-2029** | 3.7342 | 2.9260 |
| **27** | **12-1-2029** | **2-28-2030** | 3.4852 | 2.8934 |
| **28** | **3-1-2030** | **5-31-2030** | 3.3873 | 2.8938 |
| **29** | **6-1-2030** | **8-31-2030** | 1.9239 | 1.6635 |
| | | **Highest** | 9.5219 | 3.1996 |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.2 Overall Operational

**Unmitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 25.1520 | 0.3796 | 32.8929 | 1.7500e-003 | | 0.1832 | 0.1832 | | 0.1832 | 0.1832 | 0.0000 | 53.9756 | 53.9756 | 0.0515 | 0.0000 | 55.2622 |
| Energy | 0.3619 | 3.1544 | 1.7665 | 0.0197 | | 0.2501 | 0.2501 | | 0.2501 | 0.2501 | 0.0000 | 9,571.6532 | 9,571.6532 | 0.6208 | 0.1326 | 9,626.6873 |
| Mobile | 9.0125 | 10.7792 | 95.4797 | 0.2015 | 29.2695 | 0.0970 | 29.3665 | 7.8141 | 0.0908 | 7.9049 | 0.0000 | 20,537.1235 | 20,537.1235 | 1.3004 | 0.9455 | 20,851.3887 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 675.8889 | 0.0000 | 675.8889 | 39.9439 | 0.0000 | 1,674.4860 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 153.2461 | 528.3668 | 681.6129 | 0.5762 | 0.3392 | 797.0879 |
| **Total** | **34.5264** | **14.3132** | **130.1391** | **0.2230** | **29.2695** | **0.5302** | **29.7997** | **7.8141** | **0.5240** | **8.3381** | **829.1349** | **30,691.1191** | **31,520.2540** | **42.4927** | **1.4173** | **33,004.9120** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.2 Overall Operational

**Mitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 25.1520 | 0.3796 | 32.8929 | 1.7500e-003 | | 0.1832 | 0.1832 | | 0.1832 | 0.1832 | 0.0000 | 53.9756 | 53.9756 | 0.0515 | 0.0000 | 55.2622 |
| Energy | 0.3619 | 3.1544 | 1.7665 | 0.0197 | | 0.2501 | 0.2501 | | 0.2501 | 0.2501 | 0.0000 | 9,571.6532 | 9,571.6532 | 0.6208 | 0.1326 | 9,626.6873 |
| Mobile | 9.0125 | 10.7792 | 95.4797 | 0.2015 | 29.2695 | 0.0970 | 29.3665 | 7.8141 | 0.0908 | 7.9049 | 0.0000 | 20,537.1235 | 20,537.1235 | 1.3004 | 0.9455 | 20,851.3887 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 675.8889 | 0.0000 | 675.8889 | 39.9439 | 0.0000 | 1,674.4860 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 153.2461 | 528.3668 | 681.6129 | 0.5762 | 0.3392 | 797.0879 |
| **Total** | **34.5264** | **14.3132** | **130.1391** | **0.2230** | **29.2695** | **0.5302** | **29.7997** | **7.8141** | **0.5240** | **8.3381** | **829.1349** | **30,691.1191** | **31,520.2540** | **42.4927** | **1.4173** | **33,004.9120** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 6/1/2023 | 8/23/2023 | 5 | 60 | |
| 2 | Grading | Grading | 8/24/2023 | 11/15/2023 | 5 | 60 | |
| 3 | Paving | Paving | 11/16/2023 | 2/7/2024 | 5 | 60 | |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4 | Building Construction | Building Construction | 2/8/2024 | 7/17/2030 | 5 | 1680 | |
| 5 | Architectural Coating | Architectural Coating | 2/22/2024 | 7/31/2030 | 5 | 1680 | |

**Acres of Grading (Site Preparation Phase): 90**

**Acres of Grading (Grading Phase): 390**

**Acres of Paving: 0**

**Residential Indoor: 8,210,565; Residential Outdoor: 2,736,855; Non-Residential Indoor: 1,984,594; Non-Residential Outdoor: 661,531; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | 6 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 8 | 8.00 | 97 | 0.37 |
| Grading | Excavators | 4 | 8.00 | 158 | 0.38 |
| Grading | Graders | 2 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 2 | 8.00 | 247 | 0.40 |
| Grading | Scrapers | 29 | 8.00 | 367 | 0.48 |
| Grading | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Paving | Excavators | 8 | 8.00 | 158 | 0.38 |
| Paving | Pavers | 4 | 8.00 | 130 | 0.42 |
| Paving | Paving Equipment | 4 | 8.00 | 132 | 0.36 |
| Paving | Rollers | 4 | 8.00 | 80 | 0.38 |
| Paving | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Building Construction | Cranes | 2 | 7.00 | 231 | 0.29 |
| Building Construction | Forklifts | 6 | 8.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 2 | 8.00 | 84 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | 6 | 7.00 | 97 | 0.37 |
| Building Construction | Welders | 2 | 8.00 | 46 | 0.45 |
| Architectural Coating | Air Compressors | 2 | 6.00 | 78 | 0.48 |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 14 | 35.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 40 | 100.00 | 0.00 | 15,344.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 24 | 60.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 18 | 2,964.00 | 798.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 2 | 593.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

## 3.2 Site Preparation - 2023

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 1.1317 | 0.0000 | 1.1317 | 0.6010 | 0.0000 | 0.6010 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.1596 | 1.6515 | 1.0947 | 2.2800e-003 | | 0.0760 | 0.0760 | | 0.0699 | 0.0699 | 0.0000 | 200.7042 | 200.7042 | 0.0649 | 0.0000 | 202.3270 |
| **Total** | **0.1596** | **1.6515** | **1.0947** | **2.2800e-003** | **1.1317** | **0.0760** | **1.2077** | **0.6010** | **0.0699** | **0.6709** | **0.0000** | **200.7042** | **200.7042** | **0.0649** | **0.0000** | **202.3270** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.0100e-003 | 1.8600e-003 | 0.0245 | 7.0000e-005 | 7.7100e-003 | 4.0000e-005 | 7.7500e-003 | 2.0500e-003 | 4.0000e-005 | 2.0900e-003 | 0.0000 | 6.1864 | 6.1864 | 2.0000e-004 | 1.8000e-004 | 6.2440 |
| **Total** | **3.0100e-003** | **1.8600e-003** | **0.0245** | **7.0000e-005** | **7.7100e-003** | **4.0000e-005** | **7.7500e-003** | **2.0500e-003** | **4.0000e-005** | **2.0900e-003** | **0.0000** | **6.1864** | **6.1864** | **2.0000e-004** | **1.8000e-004** | **6.2440** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 1.1317 | 0.0000 | 1.1317 | 0.6010 | 0.0000 | 0.6010 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0279 | 0.1211 | 1.2521 | 2.2800e-003 | | 3.7200e-003 | 3.7200e-003 | | 3.7200e-003 | 3.7200e-003 | 0.0000 | 200.7039 | 200.7039 | 0.0649 | 0.0000 | 202.3267 |
| **Total** | **0.0279** | **0.1211** | **1.2521** | **2.2800e-003** | **1.1317** | **3.7200e-003** | **1.1354** | **0.6010** | **3.7200e-003** | **0.6047** | **0.0000** | **200.7039** | **200.7039** | **0.0649** | **0.0000** | **202.3267** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.0100e-003 | 1.8600e-003 | 0.0245 | 7.0000e-005 | 7.7100e-003 | 4.0000e-005 | 7.7500e-003 | 2.0500e-003 | 4.0000e-005 | 2.0900e-003 | 0.0000 | 6.1864 | 6.1864 | 2.0000e-004 | 1.8000e-004 | 6.2440 |
| **Total** | **3.0100e-003** | **1.8600e-003** | **0.0245** | **7.0000e-005** | **7.7100e-003** | **4.0000e-005** | **7.7500e-003** | **2.0500e-003** | **4.0000e-005** | **2.0900e-003** | **0.0000** | **6.1864** | **6.1864** | **2.0000e-004** | **1.8000e-004** | **6.2440** |

## 3.3 Grading - 2023

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.5808 | 0.0000 | 0.5808 | 0.2229 | 0.0000 | 0.2229 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.7848 | 8.2374 | 6.2189 | 0.0150 | | 0.3268 | 0.3268 | | 0.3006 | 0.3006 | 0.0000 | 1,319.2625 | 1,319.2625 | 0.4267 | 0.0000 | 1,329.9294 |
| **Total** | **0.7848** | **8.2374** | **6.2189** | **0.0150** | **0.5808** | **0.3268** | **0.9076** | **0.2229** | **0.3006** | **0.5235** | **0.0000** | **1,319.2625** | **1,319.2625** | **0.4267** | **0.0000** | **1,329.9294** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Grading - 2023

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0204 | 1.2213 | 0.2453 | 4.8100e-003 | 0.1298 | 8.9100e-003 | 0.1387 | 0.0357 | 8.5200e-003 | 0.0442 | 0.0000 | 476.6650 | 476.6650 | 0.0190 | 0.0756 | 499.6620 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 8.6100e-003 | 5.3200e-003 | 0.0699 | 1.9000e-004 | 0.0220 | 1.2000e-004 | 0.0222 | 5.8600e-003 | 1.1000e-004 | 5.9700e-003 | 0.0000 | 17.6754 | 17.6754 | 5.6000e-004 | 5.1000e-004 | 17.8400 |
| **Total** | **0.0290** | **1.2267** | **0.3152** | **5.0000e-003** | **0.1518** | **9.0300e-003** | **0.1608** | **0.0415** | **8.6300e-003** | **0.0501** | **0.0000** | **494.3404** | **494.3404** | **0.0195** | **0.0761** | **517.5020** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.5808 | 0.0000 | 0.5808 | 0.2229 | 0.0000 | 0.2229 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.1844 | 0.7989 | 7.0361 | 0.0150 | | 0.0246 | 0.0246 | | 0.0246 | 0.0246 | 0.0000 | 1,319.2609 | 1,319.2609 | 0.4267 | 0.0000 | 1,329.9278 |
| **Total** | **0.1844** | **0.7989** | **7.0361** | **0.0150** | **0.5808** | **0.0246** | **0.6054** | **0.2229** | **0.0246** | **0.2474** | **0.0000** | **1,319.2609** | **1,319.2609** | **0.4267** | **0.0000** | **1,329.9278** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Grading - 2023

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0204 | 1.2213 | 0.2453 | 4.8100e-003 | 0.1298 | 8.9100e-003 | 0.1387 | 0.0357 | 8.5200e-003 | 0.0442 | 0.0000 | 476.6650 | 476.6650 | 0.0190 | 0.0756 | 499.6620 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 8.6100e-003 | 5.3200e-003 | 0.0699 | 1.9000e-004 | 0.0220 | 1.2000e-004 | 0.0222 | 5.8600e-003 | 1.1000e-004 | 5.9700e-003 | 0.0000 | 17.6754 | 17.6754 | 5.6000e-004 | 5.1000e-004 | 17.8400 |
| **Total** | **0.0290** | **1.2267** | **0.3152** | **5.0000e-003** | **0.1518** | **9.0300e-003** | **0.1608** | **0.0415** | **8.6300e-003** | **0.0501** | **0.0000** | **494.3404** | **494.3404** | **0.0195** | **0.0761** | **517.5020** |

## 3.4 Paving - 2023

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0669 | 0.6226 | 1.0265 | 1.5900e-003 | | 0.0309 | 0.0309 | | 0.0284 | 0.0284 | 0.0000 | 139.6675 | 139.6675 | 0.0452 | 0.0000 | 140.7968 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0669** | **0.6226** | **1.0265** | **1.5900e-003** | | **0.0309** | **0.0309** | | **0.0284** | **0.0284** | **0.0000** | **139.6675** | **139.6675** | **0.0452** | **0.0000** | **140.7968** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2023

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 2.7500e-003 | 1.7000e-003 | 0.0224 | 6.0000e-005 | 7.0500e-003 | 4.0000e-005 | 7.0900e-003 | 1.8800e-003 | 3.0000e-005 | 1.9100e-003 | 0.0000 | 5.6561 | 5.6561 | 1.8000e-004 | 1.6000e-004 | 5.7088 |
| **Total** | **2.7500e-003** | **1.7000e-003** | **0.0224** | **6.0000e-005** | **7.0500e-003** | **4.0000e-005** | **7.0900e-003** | **1.8800e-003** | **3.0000e-005** | **1.9100e-003** | **0.0000** | **5.6561** | **5.6561** | **1.8000e-004** | **1.6000e-004** | **5.7088** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0195 | 0.0847 | 1.2049 | 1.5900e-003 | | 2.6100e-003 | 2.6100e-003 | | 2.6100e-003 | 2.6100e-003 | 0.0000 | 139.6674 | 139.6674 | 0.0452 | 0.0000 | 140.7967 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0195** | **0.0847** | **1.2049** | **1.5900e-003** | | **2.6100e-003** | **2.6100e-003** | | **2.6100e-003** | **2.6100e-003** | **0.0000** | **139.6674** | **139.6674** | **0.0452** | **0.0000** | **140.7967** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2023

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 2.7500e-003 | 1.7000e-003 | 0.0224 | 6.0000e-005 | 7.0500e-003 | 4.0000e-005 | 7.0900e-003 | 1.8800e-003 | 3.0000e-005 | 1.9100e-003 | 0.0000 | 5.6561 | 5.6561 | 1.8000e-004 | 1.6000e-004 | 5.7088 |
| **Total** | **2.7500e-003** | **1.7000e-003** | **0.0224** | **6.0000e-005** | **7.0500e-003** | **4.0000e-005** | **7.0900e-003** | **1.8800e-003** | **3.0000e-005** | **1.9100e-003** | **0.0000** | **5.6561** | **5.6561** | **1.8000e-004** | **1.6000e-004** | **5.7088** |

## 3.4 Paving - 2024

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0559 | 0.5049 | 0.9004 | 1.3900e-003 | | 0.0246 | 0.0246 | | 0.0226 | 0.0226 | 0.0000 | 122.2341 | 122.2341 | 0.0395 | 0.0000 | 123.2224 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0559** | **0.5049** | **0.9004** | **1.3900e-003** | | **0.0246** | **0.0246** | | **0.0226** | **0.0226** | **0.0000** | **122.2341** | **122.2341** | **0.0395** | **0.0000** | **123.2224** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2024

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 2.2500e-003 | 1.3300e-003 | 0.0182 | 5.0000e-005 | 6.1700e-003 | 3.0000e-005 | 6.2000e-003 | 1.6400e-003 | 3.0000e-005 | 1.6700e-003 | 0.0000 | 4.8256 | 4.8256 | 1.4000e-004 | 1.3000e-004 | 4.8683 |
| **Total** | **2.2500e-003** | **1.3300e-003** | **0.0182** | **5.0000e-005** | **6.1700e-003** | **3.0000e-005** | **6.2000e-003** | **1.6400e-003** | **3.0000e-005** | **1.6700e-003** | **0.0000** | **4.8256** | **4.8256** | **1.4000e-004** | **1.3000e-004** | **4.8683** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0171 | 0.0741 | 1.0543 | 1.3900e-003 | | 2.2800e-003 | 2.2800e-003 | | 2.2800e-003 | 2.2800e-003 | 0.0000 | 122.2339 | 122.2339 | 0.0395 | 0.0000 | 123.2222 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0171** | **0.0741** | **1.0543** | **1.3900e-003** | | **2.2800e-003** | **2.2800e-003** | | **2.2800e-003** | **2.2800e-003** | **0.0000** | **122.2339** | **122.2339** | **0.0395** | **0.0000** | **123.2222** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2024

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 2.2500e-003 | 1.3300e-003 | 0.0182 | 5.0000e-005 | 6.1700e-003 | 3.0000e-005 | 6.2000e-003 | 1.6400e-003 | 3.0000e-005 | 1.6700e-003 | 0.0000 | 4.8256 | 4.8256 | 1.4000e-004 | 1.3000e-004 | 4.8683 |
| **Total** | **2.2500e-003** | **1.3300e-003** | **0.0182** | **5.0000e-005** | **6.1700e-003** | **3.0000e-005** | **6.2000e-003** | **1.6400e-003** | **3.0000e-005** | **1.6700e-003** | **0.0000** | **4.8256** | **4.8256** | **1.4000e-004** | **1.3000e-004** | **4.8683** |

## 3.5 Building Construction - 2024

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3444 | 3.1458 | 3.7830 | 6.3100e-003 | | 0.1435 | 0.1435 | | 0.1350 | 0.1350 | 0.0000 | 542.5269 | 542.5269 | 0.1283 | 0.0000 | 545.7342 |
| **Total** | **0.3444** | **3.1458** | **3.7830** | **6.3100e-003** | | **0.1435** | **0.1435** | | **0.1350** | **0.1350** | **0.0000** | **542.5269** | **542.5269** | **0.1283** | **0.0000** | **545.7342** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2024

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1164 | 4.4610 | 1.3294 | 0.0175 | 0.5465 | 0.0239 | 0.5704 | 0.1580 | 0.0229 | 0.1808 | 0.0000 | 1,698.7645 | 1,698.7645 | 0.0415 | 0.2498 | 1,774.2471 |
| Worker | 0.9301 | 0.5477 | 7.5246 | 0.0213 | 2.5469 | 0.0130 | 2.5599 | 0.6774 | 0.0119 | 0.6893 | 0.0000 | 1,992.2068 | 1,992.2068 | 0.0586 | 0.0543 | 2,009.8532 |
| **Total** | **1.0465** | **5.0087** | **8.8540** | **0.0387** | **3.0934** | **0.0368** | **3.1303** | **0.8354** | **0.0348** | **0.8702** | **0.0000** | **3,690.9714** | **3,690.9714** | **0.1001** | **0.3041** | **3,784.1004** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0767 | 0.5229 | 4.0857 | 6.3100e-003 | | 9.5400e-003 | 9.5400e-003 | | 9.5400e-003 | 9.5400e-003 | 0.0000 | 542.5263 | 542.5263 | 0.1283 | 0.0000 | 545.7336 |
| **Total** | **0.0767** | **0.5229** | **4.0857** | **6.3100e-003** | | **9.5400e-003** | **9.5400e-003** | | **9.5400e-003** | **9.5400e-003** | **0.0000** | **542.5263** | **542.5263** | **0.1283** | **0.0000** | **545.7336** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2024

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1164 | 4.4610 | 1.3294 | 0.0175 | 0.5465 | 0.0239 | 0.5704 | 0.1580 | 0.0229 | 0.1808 | 0.0000 | 1,698.7645 | 1,698.7645 | 0.0415 | 0.2498 | 1,774.2471 |
| Worker | 0.9301 | 0.5477 | 7.5246 | 0.0213 | 2.5469 | 0.0130 | 2.5599 | 0.6774 | 0.0119 | 0.6893 | 0.0000 | 1,992.2068 | 1,992.2068 | 0.0586 | 0.0543 | 2,009.8532 |
| **Total** | **1.0465** | **5.0087** | **8.8540** | **0.0387** | **3.0934** | **0.0368** | **3.1303** | **0.8354** | **0.0348** | **0.8702** | **0.0000** | **3,690.9714** | **3,690.9714** | **0.1001** | **0.3041** | **3,784.1004** |

## 3.5 Building Construction - 2025

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3569 | 3.2546 | 4.1981 | 7.0400e-003 | | 0.1377 | 0.1377 | | 0.1295 | 0.1295 | 0.0000 | 605.3098 | 605.3098 | 0.1423 | 0.0000 | 608.8670 |
| **Total** | **0.3569** | **3.2546** | **4.1981** | **7.0400e-003** | | **0.1377** | **0.1377** | | **0.1295** | **0.1295** | **0.0000** | **605.3098** | **605.3098** | **0.1423** | **0.0000** | **608.8670** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2025

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1252 | 4.8746 | 1.4480 | 0.0191 | 0.6095 | 0.0261 | 0.6356 | 0.1762 | 0.0250 | 0.2012 | 0.0000 | 1,856.4428 | 1,856.4428 | 0.0453 | 0.2735 | 1,939.0786 |
| Worker | 0.9743 | 0.5481 | 7.8508 | 0.0229 | 2.8408 | 0.0138 | 2.8546 | 0.7556 | 0.0127 | 0.7683 | 0.0000 | 2,168.3379 | 2,168.3379 | 0.0594 | 0.0566 | 2,186.6941 |
| **Total** | **1.0995** | **5.4227** | **9.2989** | **0.0420** | **3.4503** | **0.0399** | **3.4902** | **0.9317** | **0.0377** | **0.9694** | **0.0000** | **4,024.7808** | **4,024.7808** | **0.1047** | **0.3301** | **4,125.7727** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0856 | 0.5833 | 4.5571 | 7.0400e-003 | | 0.0107 | 0.0107 | | 0.0107 | 0.0107 | 0.0000 | 605.3091 | 605.3091 | 0.1423 | 0.0000 | 608.8663 |
| **Total** | **0.0856** | **0.5833** | **4.5571** | **7.0400e-003** | | **0.0107** | **0.0107** | | **0.0107** | **0.0107** | **0.0000** | **605.3091** | **605.3091** | **0.1423** | **0.0000** | **608.8663** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2025

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1252 | 4.8746 | 1.4480 | 0.0191 | 0.6095 | 0.0261 | 0.6356 | 0.1762 | 0.0250 | 0.2012 | 0.0000 | 1,856.4428 | 1,856.4428 | 0.0453 | 0.2735 | 1,939.0786 |
| Worker | 0.9743 | 0.5481 | 7.8508 | 0.0229 | 2.8408 | 0.0138 | 2.8546 | 0.7556 | 0.0127 | 0.7683 | 0.0000 | 2,168.3379 | 2,168.3379 | 0.0594 | 0.0566 | 2,186.6941 |
| **Total** | **1.0995** | **5.4227** | **9.2989** | **0.0420** | **3.4503** | **0.0399** | **3.4902** | **0.9317** | **0.0377** | **0.9694** | **0.0000** | **4,024.7808** | **4,024.7808** | **0.1047** | **0.3301** | **4,125.7727** |

## 3.5 Building Construction - 2026

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3569 | 3.2546 | 4.1981 | 7.0400e-003 | | 0.1377 | 0.1377 | | 0.1295 | 0.1295 | 0.0000 | 605.3098 | 605.3098 | 0.1423 | 0.0000 | 608.8670 |
| **Total** | **0.3569** | **3.2546** | **4.1981** | **7.0400e-003** | | **0.1377** | **0.1377** | | **0.1295** | **0.1295** | **0.0000** | **605.3098** | **605.3098** | **0.1423** | **0.0000** | **608.8670** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2026

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1208 | 4.7756 | 1.4193 | 0.0187 | 0.6094 | 0.0255 | 0.6349 | 0.1762 | 0.0244 | 0.2005 | 0.0000 | 1,819.0886 | 1,819.0886 | 0.0443 | 0.2685 | 1,900.2159 |
| Worker | 0.9191 | 0.4968 | 7.3934 | 0.0222 | 2.8408 | 0.0132 | 2.8540 | 0.7556 | 0.0121 | 0.7677 | 0.0000 | 2,116.8510 | 2,116.8510 | 0.0542 | 0.0533 | 2,134.1015 |
| **Total** | **1.0399** | **5.2723** | **8.8127** | **0.0409** | **3.4503** | **0.0386** | **3.4889** | **0.9317** | **0.0365** | **0.9682** | **0.0000** | **3,935.9396** | **3,935.9396** | **0.0985** | **0.3219** | **4,034.3174** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0856 | 0.5833 | 4.5571 | 7.0400e-003 | | 0.0107 | 0.0107 | | 0.0107 | 0.0107 | 0.0000 | 605.3091 | 605.3091 | 0.1423 | 0.0000 | 608.8663 |
| **Total** | **0.0856** | **0.5833** | **4.5571** | **7.0400e-003** | | **0.0107** | **0.0107** | | **0.0107** | **0.0107** | **0.0000** | **605.3091** | **605.3091** | **0.1423** | **0.0000** | **608.8663** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2026

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1208 | 4.7756 | 1.4193 | 0.0187 | 0.6094 | 0.0255 | 0.6349 | 0.1762 | 0.0244 | 0.2005 | 0.0000 | 1,819.0886 | 1,819.0886 | 0.0443 | 0.2685 | 1,900.2159 |
| Worker | 0.9191 | 0.4968 | 7.3934 | 0.0222 | 2.8408 | 0.0132 | 2.8540 | 0.7556 | 0.0121 | 0.7677 | 0.0000 | 2,116.8510 | 2,116.8510 | 0.0542 | 0.0533 | 2,134.1015 |
| **Total** | **1.0399** | **5.2723** | **8.8127** | **0.0409** | **3.4503** | **0.0386** | **3.4889** | **0.9317** | **0.0365** | **0.9682** | **0.0000** | **3,935.9396** | **3,935.9396** | **0.0985** | **0.3219** | **4,034.3174** |

## 3.5 Building Construction - 2027

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3569 | 3.2546 | 4.1981 | 7.0400e-003 | | 0.1377 | 0.1377 | | 0.1295 | 0.1295 | 0.0000 | 605.3098 | 605.3098 | 0.1423 | 0.0000 | 608.8670 |
| **Total** | **0.3569** | **3.2546** | **4.1981** | **7.0400e-003** | | **0.1377** | **0.1377** | | **0.1295** | **0.1295** | **0.0000** | **605.3098** | **605.3098** | **0.1423** | **0.0000** | **608.8670** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2027

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1169 | 4.6848 | 1.3947 | 0.0183 | 0.6094 | 0.0249 | 0.6342 | 0.1761 | 0.0238 | 0.1999 | 0.0000 | 1,780.0892 | 1,780.0892 | 0.0432 | 0.2633 | 1,859.6188 |
| Worker | 0.8680 | 0.4538 | 7.0026 | 0.0216 | 2.8408 | 0.0125 | 2.8533 | 0.7556 | 0.0115 | 0.7670 | 0.0000 | 2,069.3499 | 2,069.3499 | 0.0497 | 0.0506 | 2,085.6693 |
| **Total** | **0.9849** | **5.1386** | **8.3973** | **0.0398** | **3.4502** | **0.0373** | **3.4875** | **0.9317** | **0.0353** | **0.9669** | **0.0000** | **3,849.4391** | **3,849.4391** | **0.0929** | **0.3138** | **3,945.2881** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0856 | 0.5833 | 4.5571 | 7.0400e-003 | | 0.0107 | 0.0107 | | 0.0107 | 0.0107 | 0.0000 | 605.3091 | 605.3091 | 0.1423 | 0.0000 | 608.8663 |
| **Total** | **0.0856** | **0.5833** | **4.5571** | **7.0400e-003** | | **0.0107** | **0.0107** | | **0.0107** | **0.0107** | **0.0000** | **605.3091** | **605.3091** | **0.1423** | **0.0000** | **608.8663** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2027

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1169 | 4.6848 | 1.3947 | 0.0183 | 0.6094 | 0.0249 | 0.6342 | 0.1761 | 0.0238 | 0.1999 | 0.0000 | 1,780.0892 | 1,780.0892 | 0.0432 | 0.2633 | 1,859.6188 |
| Worker | 0.8680 | 0.4538 | 7.0026 | 0.0216 | 2.8408 | 0.0125 | 2.8533 | 0.7556 | 0.0115 | 0.7670 | 0.0000 | 2,069.3499 | 2,069.3499 | 0.0497 | 0.0506 | 2,085.6693 |
| **Total** | **0.9849** | **5.1386** | **8.3973** | **0.0398** | **3.4502** | **0.0373** | **3.4875** | **0.9317** | **0.0353** | **0.9669** | **0.0000** | **3,849.4391** | **3,849.4391** | **0.0929** | **0.3138** | **3,945.2881** |

## 3.5 Building Construction - 2028

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3555 | 3.2421 | 4.1820 | 7.0100e-003 | | 0.1372 | 0.1372 | | 0.1290 | 0.1290 | 0.0000 | 602.9906 | 602.9906 | 0.1417 | 0.0000 | 606.5342 |
| **Total** | **0.3555** | **3.2421** | **4.1820** | **7.0100e-003** | | **0.1372** | **0.1372** | | **0.1290** | **0.1290** | **0.0000** | **602.9906** | **602.9906** | **0.1417** | **0.0000** | **606.5342** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2028

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1130 | 4.5916 | 1.3697 | 0.0178 | 0.6070 | 0.0243 | 0.6312 | 0.1754 | 0.0232 | 0.1986 | 0.0000 | 1,736.8563 | 1,736.8563 | 0.0422 | 0.2573 | 1,814.5760 |
| Worker | 0.8181 | 0.4168 | 6.6508 | 0.0209 | 2.8299 | 0.0116 | 2.8416 | 0.7527 | 0.0107 | 0.7634 | 0.0000 | 2,019.0271 | 2,019.0271 | 0.0456 | 0.0481 | 2,034.5105 |
| **Total** | **0.9310** | **5.0084** | **8.0205** | **0.0387** | **3.4369** | **0.0359** | **3.4728** | **0.9281** | **0.0339** | **0.9620** | **0.0000** | **3,755.8833** | **3,755.8833** | **0.0878** | **0.3054** | **3,849.0865** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0852 | 0.5810 | 4.5397 | 7.0100e-003 | | 0.0106 | 0.0106 | | 0.0106 | 0.0106 | 0.0000 | 602.9899 | 602.9899 | 0.1417 | 0.0000 | 606.5335 |
| **Total** | **0.0852** | **0.5810** | **4.5397** | **7.0100e-003** | | **0.0106** | **0.0106** | | **0.0106** | **0.0106** | **0.0000** | **602.9899** | **602.9899** | **0.1417** | **0.0000** | **606.5335** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2028

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1130 | 4.5916 | 1.3697 | 0.0178 | 0.6070 | 0.0243 | 0.6312 | 0.1754 | 0.0232 | 0.1986 | 0.0000 | 1,736.8563 | 1,736.8563 | 0.0422 | 0.2573 | 1,814.5760 |
| Worker | 0.8181 | 0.4168 | 6.6508 | 0.0209 | 2.8299 | 0.0116 | 2.8416 | 0.7527 | 0.0107 | 0.7634 | 0.0000 | 2,019.0271 | 2,019.0271 | 0.0456 | 0.0481 | 2,034.5105 |
| **Total** | **0.9310** | **5.0084** | **8.0205** | **0.0387** | **3.4369** | **0.0359** | **3.4728** | **0.9281** | **0.0339** | **0.9620** | **0.0000** | **3,755.8833** | **3,755.8833** | **0.0878** | **0.3054** | **3,849.0865** |

## 3.5 Building Construction - 2029

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3569 | 3.2546 | 4.1981 | 7.0400e-003 | | 0.1377 | 0.1377 | | 0.1295 | 0.1295 | 0.0000 | 605.3098 | 605.3098 | 0.1423 | 0.0000 | 608.8670 |
| **Total** | **0.3569** | **3.2546** | **4.1981** | **7.0400e-003** | | **0.1377** | **0.1377** | | **0.1295** | **0.1295** | **0.0000** | **605.3098** | **605.3098** | **0.1423** | **0.0000** | **608.8670** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2029

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1102 | 4.5389 | 1.3578 | 0.0175 | 0.6093 | 0.0238 | 0.6331 | 0.1761 | 0.0228 | 0.1989 | 0.0000 | 1,709.3280 | 1,709.3280 | 0.0416 | 0.2535 | 1,785.9235 |
| Worker | 0.7756 | 0.3884 | 6.3936 | 0.0204 | 2.8408 | 0.0110 | 2.8518 | 0.7556 | 0.0101 | 0.7657 | 0.0000 | 1,988.5387 | 1,988.5387 | 0.0424 | 0.0464 | 2,003.4247 |
| **Total** | **0.8858** | **4.9274** | **7.7514** | **0.0380** | **3.4501** | **0.0348** | **3.4849** | **0.9317** | **0.0329** | **0.9646** | **0.0000** | **3,697.8667** | **3,697.8667** | **0.0840** | **0.2999** | **3,789.3482** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0856 | 0.5833 | 4.5571 | 7.0400e-003 | | 0.0107 | 0.0107 | | 0.0107 | 0.0107 | 0.0000 | 605.3091 | 605.3091 | 0.1423 | 0.0000 | 608.8663 |
| **Total** | **0.0856** | **0.5833** | **4.5571** | **7.0400e-003** | | **0.0107** | **0.0107** | | **0.0107** | **0.0107** | **0.0000** | **605.3091** | **605.3091** | **0.1423** | **0.0000** | **608.8663** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2029

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1102 | 4.5389 | 1.3578 | 0.0175 | 0.6093 | 0.0238 | 0.6331 | 0.1761 | 0.0228 | 0.1989 | 0.0000 | 1,709.3280 | 1,709.3280 | 0.0416 | 0.2535 | 1,785.9235 |
| Worker | 0.7756 | 0.3884 | 6.3936 | 0.0204 | 2.8408 | 0.0110 | 2.8518 | 0.7556 | 0.0101 | 0.7657 | 0.0000 | 1,988.5387 | 1,988.5387 | 0.0424 | 0.0464 | 2,003.4247 |
| **Total** | **0.8858** | **4.9274** | **7.7514** | **0.0380** | **3.4501** | **0.0348** | **3.4849** | **0.9317** | **0.0329** | **0.9646** | **0.0000** | **3,697.8667** | **3,697.8667** | **0.0840** | **0.2999** | **3,789.3482** |

## 3.5 Building Construction - 2030

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.1859 | 1.1267 | 2.2943 | 4.4000e-003 | | 0.0210 | 0.0210 | | 0.0210 | 0.0210 | 0.0000 | 373.2627 | 373.2627 | 0.0150 | 0.0000 | 373.6370 |
| **Total** | **0.1859** | **1.1267** | **2.2943** | **4.4000e-003** | | **0.0210** | **0.0210** | | **0.0210** | **0.0210** | **0.0000** | **373.2627** | **373.2627** | **0.0150** | **0.0000** | **373.6370** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2030

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0584 | 2.4343 | 0.7313 | 9.3600e-003 | 0.3315 | 0.0127 | 0.3442 | 0.0958 | 0.0122 | 0.1080 | 0.0000 | 912.8827 | 912.8827 | 0.0223 | 0.1356 | 953.8443 |
| Worker | 0.3983 | 0.1976 | 3.3490 | 0.0108 | 1.5456 | 5.5800e-003 | 1.5512 | 0.4111 | 5.1300e-003 | 0.4162 | 0.0000 | 1,063.5665 | 1,063.5665 | 0.0214 | 0.0244 | 1,071.3650 |
| **Total** | **0.4566** | **2.6320** | **4.0802** | **0.0202** | **1.8770** | **0.0183** | **1.8953** | **0.5069** | **0.0173** | **0.5242** | **0.0000** | **1,976.4493** | **1,976.4493** | **0.0437** | **0.1600** | **2,025.2093** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0466 | 0.3173 | 2.4794 | 4.4000e-003 | | 5.7900e-003 | 5.7900e-003 | | 5.7900e-003 | 5.7900e-003 | 0.0000 | 373.2622 | 373.2622 | 0.0150 | 0.0000 | 373.6366 |
| **Total** | **0.0466** | **0.3173** | **2.4794** | **4.4000e-003** | | **5.7900e-003** | **5.7900e-003** | | **5.7900e-003** | **5.7900e-003** | **0.0000** | **373.2622** | **373.2622** | **0.0150** | **0.0000** | **373.6366** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2030

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0584 | 2.4343 | 0.7313 | 9.3600e-003 | 0.3315 | 0.0127 | 0.3442 | 0.0958 | 0.0122 | 0.1080 | 0.0000 | 912.8827 | 912.8827 | 0.0223 | 0.1356 | 953.8443 |
| Worker | 0.3983 | 0.1976 | 3.3490 | 0.0108 | 1.5456 | 5.5800e-003 | 1.5512 | 0.4111 | 5.1300e-003 | 0.4162 | 0.0000 | 1,063.5665 | 1,063.5665 | 0.0214 | 0.0244 | 1,071.3650 |
| **Total** | **0.4566** | **2.6320** | **4.0802** | **0.0202** | **1.8770** | **0.0183** | **1.8953** | **0.5069** | **0.0173** | **0.5242** | **0.0000** | **1,976.4493** | **1,976.4493** | **0.0437** | **0.1600** | **2,025.2093** |

## 3.6 Architectural Coating - 2024

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.2004 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0405 | 0.2730 | 0.4055 | 6.7000e-004 | | 0.0137 | 0.0137 | | 0.0137 | 0.0137 | 0.0000 | 57.1929 | 57.1929 | 3.2200e-003 | 0.0000 | 57.2734 |
| **Total** | **4.2409** | **0.2730** | **0.4055** | **6.7000e-004** | | **0.0137** | **0.0137** | | **0.0137** | **0.0137** | **0.0000** | **57.1929** | **57.1929** | **3.2200e-003** | **0.0000** | **57.2734** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2024

**Unmitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1781 | 0.1049 | 1.4411 | 4.0800e-003 | 0.4878 | 2.4800e-003 | 0.4903 | 0.1297 | 2.2800e-003 | 0.1320 | 0.0000 | 381.5426 | 381.5426 | 0.0112 | 0.0104 | 384.9222 |
| **Total** | **0.1781** | **0.1049** | **1.4411** | **4.0800e-003** | **0.4878** | **2.4800e-003** | **0.4903** | **0.1297** | **2.2800e-003** | **0.1320** | **0.0000** | **381.5426** | **381.5426** | **0.0112** | **0.0104** | **384.9222** |

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.2004 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 6.6600e-003 | 0.0288 | 0.4105 | 6.7000e-004 | | 8.9000e-004 | 8.9000e-004 | | 8.9000e-004 | 8.9000e-004 | 0.0000 | 57.1928 | 57.1928 | 3.2200e-003 | 0.0000 | 57.2733 |
| **Total** | **4.2071** | **0.0288** | **0.4105** | **6.7000e-004** | | **8.9000e-004** | **8.9000e-004** | | **8.9000e-004** | **8.9000e-004** | **0.0000** | **57.1928** | **57.1928** | **3.2200e-003** | **0.0000** | **57.2733** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2024

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1781 | 0.1049 | 1.4411 | 4.0800e-003 | 0.4878 | 2.4800e-003 | 0.4903 | 0.1297 | 2.2800e-003 | 0.1320 | 0.0000 | 381.5426 | 381.5426 | 0.0112 | 0.0104 | 384.9222 |
| **Total** | **0.1781** | **0.1049** | **1.4411** | **4.0800e-003** | **0.4878** | **2.4800e-003** | **0.4903** | **0.1297** | **2.2800e-003** | **0.1320** | **0.0000** | **381.5426** | **381.5426** | **0.0112** | **0.0104** | **384.9222** |

## 3.6 Architectural Coating - 2025

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.8942 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0446 | 0.2990 | 0.4722 | 7.8000e-004 | | 0.0134 | 0.0134 | | 0.0134 | 0.0134 | 0.0000 | 66.6399 | 66.6399 | 3.6400e-003 | 0.0000 | 66.7308 |
| **Total** | **4.9388** | **0.2990** | **0.4722** | **7.8000e-004** | | **0.0134** | **0.0134** | | **0.0134** | **0.0134** | **0.0000** | **66.6399** | **66.6399** | **3.6400e-003** | **0.0000** | **66.7308** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2025

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1949 | 0.1097 | 1.5707 | 4.5900e-003 | 0.5684 | 2.7600e-003 | 0.5711 | 0.1512 | 2.5400e-003 | 0.1537 | 0.0000 | 433.8139 | 433.8139 | 0.0119 | 0.0113 | 437.4864 |
| **Total** | **0.1949** | **0.1097** | **1.5707** | **4.5900e-003** | **0.5684** | **2.7600e-003** | **0.5711** | **0.1512** | **2.5400e-003** | **0.1537** | **0.0000** | **433.8139** | **433.8139** | **0.0119** | **0.0113** | **437.4864** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.8942 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 7.7600e-003 | 0.0336 | 0.4783 | 7.8000e-004 | | 1.0300e-003 | 1.0300e-003 | | 1.0300e-003 | 1.0300e-003 | 0.0000 | 66.6398 | 66.6398 | 3.6400e-003 | 0.0000 | 66.7307 |
| **Total** | **4.9020** | **0.0336** | **0.4783** | **7.8000e-004** | | **1.0300e-003** | **1.0300e-003** | | **1.0300e-003** | **1.0300e-003** | **0.0000** | **66.6398** | **66.6398** | **3.6400e-003** | **0.0000** | **66.7307** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2025

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1949 | 0.1097 | 1.5707 | 4.5900e-003 | 0.5684 | 2.7600e-003 | 0.5711 | 0.1512 | 2.5400e-003 | 0.1537 | 0.0000 | 433.8139 | 433.8139 | 0.0119 | 0.0113 | 437.4864 |
| **Total** | **0.1949** | **0.1097** | **1.5707** | **4.5900e-003** | **0.5684** | **2.7600e-003** | **0.5711** | **0.1512** | **2.5400e-003** | **0.1537** | **0.0000** | **433.8139** | **433.8139** | **0.0119** | **0.0113** | **437.4864** |

## 3.6 Architectural Coating - 2026

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.8942 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0446 | 0.2990 | 0.4722 | 7.8000e-004 | | 0.0134 | 0.0134 | | 0.0134 | 0.0134 | 0.0000 | 66.6399 | 66.6399 | 3.6400e-003 | 0.0000 | 66.7308 |
| **Total** | **4.9388** | **0.2990** | **0.4722** | **7.8000e-004** | | **0.0134** | **0.0134** | | **0.0134** | **0.0134** | **0.0000** | **66.6399** | **66.6399** | **3.6400e-003** | **0.0000** | **66.7308** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2026

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1839 | 0.0994 | 1.4792 | 4.4400e-003 | 0.5684 | 2.6300e-003 | 0.5710 | 0.1512 | 2.4200e-003 | 0.1536 | 0.0000 | 423.5130 | 423.5130 | 0.0109 | 0.0107 | 426.9643 |
| **Total** | **0.1839** | **0.0994** | **1.4792** | **4.4400e-003** | **0.5684** | **2.6300e-003** | **0.5710** | **0.1512** | **2.4200e-003** | **0.1536** | **0.0000** | **423.5130** | **423.5130** | **0.0109** | **0.0107** | **426.9643** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.8942 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 7.7600e-003 | 0.0336 | 0.4783 | 7.8000e-004 | | 1.0300e-003 | 1.0300e-003 | | 1.0300e-003 | 1.0300e-003 | 0.0000 | 66.6398 | 66.6398 | 3.6400e-003 | 0.0000 | 66.7307 |
| **Total** | **4.9020** | **0.0336** | **0.4783** | **7.8000e-004** | | **1.0300e-003** | **1.0300e-003** | | **1.0300e-003** | **1.0300e-003** | **0.0000** | **66.6398** | **66.6398** | **3.6400e-003** | **0.0000** | **66.7307** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2026

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1839 | 0.0994 | 1.4792 | 4.4400e-003 | 0.5684 | 2.6300e-003 | 0.5710 | 0.1512 | 2.4200e-003 | 0.1536 | 0.0000 | 423.5130 | 423.5130 | 0.0109 | 0.0107 | 426.9643 |
| **Total** | **0.1839** | **0.0994** | **1.4792** | **4.4400e-003** | **0.5684** | **2.6300e-003** | **0.5710** | **0.1512** | **2.4200e-003** | **0.1536** | **0.0000** | **423.5130** | **423.5130** | **0.0109** | **0.0107** | **426.9643** |

## 3.6 Architectural Coating - 2027

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.8942 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0446 | 0.2990 | 0.4722 | 7.8000e-004 | | 0.0134 | 0.0134 | | 0.0134 | 0.0134 | 0.0000 | 66.6399 | 66.6399 | 3.6400e-003 | 0.0000 | 66.7308 |
| **Total** | **4.9388** | **0.2990** | **0.4722** | **7.8000e-004** | | **0.0134** | **0.0134** | | **0.0134** | **0.0134** | **0.0000** | **66.6399** | **66.6399** | **3.6400e-003** | **0.0000** | **66.7308** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2027

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1737 | 0.0908 | 1.4010 | 4.3100e-003 | 0.5684 | 2.4900e-003 | 0.5709 | 0.1512 | 2.2900e-003 | 0.1535 | 0.0000 | 414.0096 | 414.0096 | 9.9400e-003 | 0.0101 | 417.2746 |
| **Total** | **0.1737** | **0.0908** | **1.4010** | **4.3100e-003** | **0.5684** | **2.4900e-003** | **0.5709** | **0.1512** | **2.2900e-003** | **0.1535** | **0.0000** | **414.0096** | **414.0096** | **9.9400e-003** | **0.0101** | **417.2746** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.8942 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 7.7600e-003 | 0.0336 | 0.4783 | 7.8000e-004 | | 1.0300e-003 | 1.0300e-003 | | 1.0300e-003 | 1.0300e-003 | 0.0000 | 66.6398 | 66.6398 | 3.6400e-003 | 0.0000 | 66.7307 |
| **Total** | **4.9020** | **0.0336** | **0.4783** | **7.8000e-004** | | **1.0300e-003** | **1.0300e-003** | | **1.0300e-003** | **1.0300e-003** | **0.0000** | **66.6398** | **66.6398** | **3.6400e-003** | **0.0000** | **66.7307** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2027

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1737 | 0.0908 | 1.4010 | 4.3100e-003 | 0.5684 | 2.4900e-003 | 0.5709 | 0.1512 | 2.2900e-003 | 0.1535 | 0.0000 | 414.0096 | 414.0096 | 9.9400e-003 | 0.0101 | 417.2746 |
| **Total** | **0.1737** | **0.0908** | **1.4010** | **4.3100e-003** | **0.5684** | **2.4900e-003** | **0.5709** | **0.1512** | **2.2900e-003** | **0.1535** | **0.0000** | **414.0096** | **414.0096** | **9.9400e-003** | **0.0101** | **417.2746** |

## 3.6 Architectural Coating - 2028

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.8755 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0444 | 0.2978 | 0.4704 | 7.7000e-004 | | 0.0134 | 0.0134 | | 0.0134 | 0.0134 | 0.0000 | 66.3846 | 66.3846 | 3.6200e-003 | 0.0000 | 66.4751 |
| **Total** | **4.9199** | **0.2978** | **0.4704** | **7.7000e-004** | | **0.0134** | **0.0134** | | **0.0134** | **0.0134** | **0.0000** | **66.3846** | **66.3846** | **3.6200e-003** | **0.0000** | **66.4751** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2028

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1637 | 0.0834 | 1.3306 | 4.1800e-003 | 0.5662 | 2.3300e-003 | 0.5685 | 0.1506 | 2.1400e-003 | 0.1527 | 0.0000 | 403.9417 | 403.9417 | 9.1300e-003 | 9.6300e-003 | 407.0394 |
| **Total** | **0.1637** | **0.0834** | **1.3306** | **4.1800e-003** | **0.5662** | **2.3300e-003** | **0.5685** | **0.1506** | **2.1400e-003** | **0.1527** | **0.0000** | **403.9417** | **403.9417** | **9.1300e-003** | **9.6300e-003** | **407.0394** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.8755 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 7.7300e-003 | 0.0335 | 0.4764 | 7.7000e-004 | | 1.0300e-003 | 1.0300e-003 | | 1.0300e-003 | 1.0300e-003 | 0.0000 | 66.3845 | 66.3845 | 3.6200e-003 | 0.0000 | 66.4751 |
| **Total** | **4.8832** | **0.0335** | **0.4764** | **7.7000e-004** | | **1.0300e-003** | **1.0300e-003** | | **1.0300e-003** | **1.0300e-003** | **0.0000** | **66.3845** | **66.3845** | **3.6200e-003** | **0.0000** | **66.4751** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2028

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1637 | 0.0834 | 1.3306 | 4.1800e-003 | 0.5662 | 2.3300e-003 | 0.5685 | 0.1506 | 2.1400e-003 | 0.1527 | 0.0000 | 403.9417 | 403.9417 | 9.1300e-003 | 9.6300e-003 | 407.0394 |
| **Total** | **0.1637** | **0.0834** | **1.3306** | **4.1800e-003** | **0.5662** | **2.3300e-003** | **0.5685** | **0.1506** | **2.1400e-003** | **0.1527** | **0.0000** | **403.9417** | **403.9417** | **9.1300e-003** | **9.6300e-003** | **407.0394** |

## 3.6 Architectural Coating - 2029

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.8942 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0446 | 0.2990 | 0.4722 | 7.8000e-004 | | 0.0134 | 0.0134 | | 0.0134 | 0.0134 | 0.0000 | 66.6399 | 66.6399 | 3.6400e-003 | 0.0000 | 66.7308 |
| **Total** | **4.9388** | **0.2990** | **0.4722** | **7.8000e-004** | | **0.0134** | **0.0134** | | **0.0134** | **0.0134** | **0.0000** | **66.6399** | **66.6399** | **3.6400e-003** | **0.0000** | **66.7308** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2029

**Unmitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1552 | 0.0777 | 1.2792 | 4.0800e-003 | 0.5684 | 2.1900e-003 | 0.5706 | 0.1512 | 2.0200e-003 | 0.1532 | 0.0000 | 397.8419 | 397.8419 | 8.4800e-003 | 9.2800e-003 | 400.8201 |
| **Total** | **0.1552** | **0.0777** | **1.2792** | **4.0800e-003** | **0.5684** | **2.1900e-003** | **0.5706** | **0.1512** | **2.0200e-003** | **0.1532** | **0.0000** | **397.8419** | **397.8419** | **8.4800e-003** | **9.2800e-003** | **400.8201** |

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.8942 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 7.7600e-003 | 0.0336 | 0.4783 | 7.8000e-004 | | 1.0300e-003 | 1.0300e-003 | | 1.0300e-003 | 1.0300e-003 | 0.0000 | 66.6398 | 66.6398 | 3.6400e-003 | 0.0000 | 66.7307 |
| **Total** | **4.9020** | **0.0336** | **0.4783** | **7.8000e-004** | | **1.0300e-003** | **1.0300e-003** | | **1.0300e-003** | **1.0300e-003** | **0.0000** | **66.6398** | **66.6398** | **3.6400e-003** | **0.0000** | **66.7307** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2029

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1552 | 0.0777 | 1.2792 | 4.0800e-003 | 0.5684 | 2.1900e-003 | 0.5706 | 0.1512 | 2.0200e-003 | 0.1532 | 0.0000 | 397.8419 | 397.8419 | 8.4800e-003 | 9.2800e-003 | 400.8201 |
| **Total** | **0.1552** | **0.0777** | **1.2792** | **4.0800e-003** | **0.5684** | **2.1900e-003** | **0.5706** | **0.1512** | **2.0200e-003** | **0.1532** | **0.0000** | **397.8419** | **397.8419** | **8.4800e-003** | **9.2800e-003** | **400.8201** |

## 3.6 Architectural Coating - 2030

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 2.8503 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0199 | 0.1302 | 0.2733 | 4.5000e-004 | | 3.0900e-003 | 3.0900e-003 | | 3.0900e-003 | 3.0900e-003 | 0.0000 | 38.8095 | 38.8095 | 1.5700e-003 | 0.0000 | 38.8487 |
| **Total** | **2.8702** | **0.1302** | **0.2733** | **4.5000e-004** | | **3.0900e-003** | **3.0900e-003** | | **3.0900e-003** | **3.0900e-003** | **0.0000** | **38.8095** | **38.8095** | **1.5700e-003** | **0.0000** | **38.8487** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2030

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0853 | 0.0423 | 0.7172 | 2.3200e-003 | 0.3310 | 1.1900e-003 | 0.3322 | 0.0880 | 1.1000e-003 | 0.0891 | 0.0000 | 227.7699 | 227.7699 | 4.5800e-003 | 5.2200e-003 | 229.4400 |
| **Total** | **0.0853** | **0.0423** | **0.7172** | **2.3200e-003** | **0.3310** | **1.1900e-003** | **0.3322** | **0.0880** | **1.1000e-003** | **0.0891** | **0.0000** | **227.7699** | **227.7699** | **4.5800e-003** | **5.2200e-003** | **229.4400** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 2.8503 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 4.5200e-003 | 0.0196 | 0.2785 | 4.5000e-004 | | 6.0000e-004 | 6.0000e-004 | | 6.0000e-004 | 6.0000e-004 | 0.0000 | 38.8094 | 38.8094 | 1.5700e-003 | 0.0000 | 38.8487 |
| **Total** | **2.8548** | **0.0196** | **0.2785** | **4.5000e-004** | | **6.0000e-004** | **6.0000e-004** | | **6.0000e-004** | **6.0000e-004** | **0.0000** | **38.8094** | **38.8094** | **1.5700e-003** | **0.0000** | **38.8487** |

### 3.6 Architectural Coating - 2030

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0853 | 0.0423 | 0.7172 | 2.3200e-003 | 0.3310 | 1.1900e-003 | 0.3322 | 0.0880 | 1.1000e-003 | 0.0891 | 0.0000 | 227.7699 | 227.7699 | 4.5800e-003 | 5.2200e-003 | 229.4400 |
| **Total** | **0.0853** | **0.0423** | **0.7172** | **2.3200e-003** | **0.3310** | **1.1900e-003** | **0.3322** | **0.0880** | **1.1000e-003** | **0.0891** | **0.0000** | **227.7699** | **227.7699** | **4.5800e-003** | **5.2200e-003** | **229.4400** |

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 9.0125 | 10.7792 | 95.4797 | 0.2015 | 29.2695 | 0.0970 | 29.3665 | 7.8141 | 0.0908 | 7.9049 | 0.0000 | 20,537.1235 | 20,537.1235 | 1.3004 | 0.9455 | 20,851.3887 |
| Unmitigated | 9.0125 | 10.7792 | 95.4797 | 0.2015 | 29.2695 | 0.0970 | 29.3665 | 7.8141 | 0.0908 | 7.9049 | 0.0000 | 20,537.1235 | 20,537.1235 | 1.3004 | 0.9455 | 20,851.3887 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments High Rise | 3,631.20 | 3,696.48 | 2929.44 | 9,084,730 | 9,084,730 |
| Apartments Low Rise | 2,957.28 | 3,288.56 | 2537.12 | 7,556,121 | 7,556,121 |
| Apartments Mid Rise | 4,972.16 | 4,487.74 | 3738.26 | 12,129,191 | 12,129,191 |
| City Park | 26.13 | 65.66 | 73.37 | 71,077 | 71,077 |
| Elementary School | 1,606.50 | 0.00 | 0.00 | 2,413,021 | 2,413,021 |
| Office Park | 13,859.64 | 2,053.28 | 951.52 | 22,369,655 | 22,369,655 |
| Single Family Housing | 10,072.48 | 10,179.18 | 9122.85 | 25,538,074 | 25,538,074 |
| Total | 37,125.39 | 23,770.90 | 19,352.56 | 79,161,869 | 79,161,869 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments High Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Apartments Low Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Apartments Mid Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| City Park | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 66 | 28 | 6 |
| Elementary School | 10.00 | 5.00 | 6.50 | 65.00 | 30.00 | 5.00 | 63 | 25 | 12 |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Office Park | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 82 | 15 | 3 |
| Single Family Housing | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |

### 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apartments High Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Apartments Low Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Apartments Mid Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| City Park | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Elementary School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Office Park | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Single Family Housing | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 5,989.6443 | 5,989.6443 | 0.5522 | 0.0669 | 6,023.3923 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 5,989.6443 | 5,989.6443 | 0.5522 | 0.0669 | 6,023.3923 |
| NaturalGas Mitigated | 0.3619 | 3.1544 | 1.7665 | 0.0197 | | 0.2501 | 0.2501 | | 0.2501 | 0.2501 | 0.0000 | 3,582.0089 | 3,582.0089 | 0.0687 | 0.0657 | 3,603.2950 |
| NaturalGas Unmitigated | 0.3619 | 3.1544 | 1.7665 | 0.0197 | | 0.2501 | 0.2501 | | 0.2501 | 0.2501 | 0.0000 | 3,582.0089 | 3,582.0089 | 0.0687 | 0.0657 | 3,603.2950 |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Apartments High Rise | 7.68364e+006 | 0.0414 | 0.3541 | 0.1507 | 2.2600e-003 | | 0.0286 | 0.0286 | | 0.0286 | 0.0286 | 0.0000 | 410.0285 | 410.0285 | 7.8600e-003 | 7.5200e-003 | 412.4651 |
| Apartments Low Rise | 4.70917e+006 | 0.0254 | 0.2170 | 0.0923 | 1.3900e-003 | | 0.0175 | 0.0175 | | 0.0175 | 0.0175 | 0.0000 | 251.2994 | 251.2994 | 4.8200e-003 | 4.6100e-003 | 252.7928 |
| Apartments Mid Rise | 8.60643e+006 | 0.0464 | 0.3966 | 0.1688 | 2.5300e-003 | | 0.0321 | 0.0321 | | 0.0321 | 0.0321 | 0.0000 | 459.2721 | 459.2721 | 8.8000e-003 | 8.4200e-003 | 462.0013 |
| City Park | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Elementary School | 1.07447e+006 | 5.7900e-003 | 0.0527 | 0.0442 | 3.2000e-004 | | 4.0000e-003 | 4.0000e-003 | | 4.0000e-003 | 4.0000e-003 | 0.0000 | 57.3378 | 57.3378 | 1.1000e-003 | 1.0500e-003 | 57.6786 |
| Office Park | 1.98066e+007 | 0.1068 | 0.9709 | 0.8156 | 5.8300e-003 | | 0.0738 | 0.0738 | | 0.0738 | 0.0738 | 0.0000 | 1,056.9577 | 1,056.9577 | 0.0203 | 0.0194 | 1,063.2387 |
| Single Family Housing | 2.5244e+007 | 0.1361 | 1.1632 | 0.4950 | 7.4200e-003 | | 0.0941 | 0.0941 | | 0.0941 | 0.0941 | 0.0000 | 1,347.1133 | 1,347.1133 | 0.0258 | 0.0247 | 1,355.1185 |
| **Total** | | **0.3619** | **3.1544** | **1.7665** | **0.0198** | | **0.2501** | **0.2501** | | **0.2501** | **0.2501** | **0.0000** | **3,582.0089** | **3,582.0089** | **0.0687** | **0.0657** | **3,603.2950** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Apartments High Rise | 7.68364e+006 | 0.0414 | 0.3541 | 0.1507 | 2.2600e-003 | | 0.0286 | 0.0286 | | 0.0286 | 0.0286 | 0.0000 | 410.0285 | 410.0285 | 7.8600e-003 | 7.5200e-003 | 412.4651 |
| Apartments Low Rise | 4.70917e+006 | 0.0254 | 0.2170 | 0.0923 | 1.3900e-003 | | 0.0175 | 0.0175 | | 0.0175 | 0.0175 | 0.0000 | 251.2994 | 251.2994 | 4.8200e-003 | 4.6100e-003 | 252.7928 |
| Apartments Mid Rise | 8.60643e+006 | 0.0464 | 0.3966 | 0.1688 | 2.5300e-003 | | 0.0321 | 0.0321 | | 0.0321 | 0.0321 | 0.0000 | 459.2721 | 459.2721 | 8.8000e-003 | 8.4200e-003 | 462.0013 |
| City Park | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Elementary School | 1.07447e+006 | 5.7900e-003 | 0.0527 | 0.0442 | 3.2000e-004 | | 4.0000e-003 | 4.0000e-003 | | 4.0000e-003 | 4.0000e-003 | 0.0000 | 57.3378 | 57.3378 | 1.1000e-003 | 1.0500e-003 | 57.6786 |
| Office Park | 1.98066e+007 | 0.1068 | 0.9709 | 0.8156 | 5.8300e-003 | | 0.0738 | 0.0738 | | 0.0738 | 0.0738 | 0.0000 | 1,056.9577 | 1,056.9577 | 0.0203 | 0.0194 | 1,063.2387 |
| Single Family Housing | 2.5244e+007 | 0.1361 | 1.1632 | 0.4950 | 7.4200e-003 | | 0.0941 | 0.0941 | | 0.0941 | 0.0941 | 0.0000 | 1,347.1133 | 1,347.1133 | 0.0258 | 0.0247 | 1,355.1185 |
| **Total** | | **0.3619** | **3.1544** | **1.7665** | **0.0198** | | **0.2501** | **0.2501** | | **0.2501** | **0.2501** | **0.0000** | **3,582.0089** | **3,582.0089** | **0.0687** | **0.0657** | **3,603.2950** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Apartments High Rise | 3.17728e+006 | 515.9165 | 0.0476 | 5.7600e-003 | 518.8233 |
| Apartments Low Rise | 1.65316e+006 | 268.4358 | 0.0248 | 3.0000e-003 | 269.9483 |
| Apartments Mid Rise | 3.55886e+006 | 577.8770 | 0.0533 | 6.4600e-003 | 581.1330 |
| City Park | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Elementary School | 504546 | 81.9267 | 7.5500e-003 | 9.2000e-004 | 82.3883 |
| Office Park | 1.95562e+007 | 3,175.4835 | 0.2927 | 0.0355 | 3,193.3754 |
| Single Family Housing | 8.43719e+006 | 1,370.0048 | 0.1263 | 0.0153 | 1,377.7239 |
| **Total** | | **5,989.6443** | **0.5522** | **0.0669** | **6,023.3923** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.3 Energy by Land Use - Electricity

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Apartments High Rise | 3.17728e+006 | 515.9165 | 0.0476 | 5.7600e-003 | 518.8233 |
| Apartments Low Rise | 1.65316e+006 | 268.4358 | 0.0248 | 3.0000e-003 | 269.9483 |
| Apartments Mid Rise | 3.55886e+006 | 577.8770 | 0.0533 | 6.4600e-003 | 581.1330 |
| City Park | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Elementary School | 504546 | 81.9267 | 7.5500e-003 | 9.2000e-004 | 82.3883 |
| Office Park | 1.95562e+007 | 3,175.4835 | 0.2927 | 0.0355 | 3,193.3754 |
| Single Family Housing | 8.43719e+006 | 1,370.0048 | 0.1263 | 0.0153 | 1,377.7239 |
| **Total** | | **5,989.6443** | **0.5522** | **0.0669** | **6,023.3923** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 25.1520 | 0.3796 | 32.8929 | 1.7500e-003 | | 0.1832 | 0.1832 | | 0.1832 | 0.1832 | 0.0000 | 53.9756 | 53.9756 | 0.0515 | 0.0000 | 55.2622 |
| Unmitigated | 25.1520 | 0.3796 | 32.8929 | 1.7500e-003 | | 0.1832 | 0.1832 | | 0.1832 | 0.1832 | 0.0000 | 53.9756 | 53.9756 | 0.0515 | 0.0000 | 55.2622 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 3.1503 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 21.0162 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 0.9855 | 0.3796 | 32.8929 | 1.7500e-003 | | 0.1832 | 0.1832 | | 0.1832 | 0.1832 | 0.0000 | 53.9756 | 53.9756 | 0.0515 | 0.0000 | 55.2622 |
| **Total** | **25.1520** | **0.3796** | **32.8929** | **1.7500e-003** | | **0.1832** | **0.1832** | | **0.1832** | **0.1832** | **0.0000** | **53.9756** | **53.9756** | **0.0515** | **0.0000** | **55.2622** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 3.1503 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 21.0162 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 0.9855 | 0.3796 | 32.8929 | 1.7500e-003 | | 0.1832 | 0.1832 | | 0.1832 | 0.1832 | 0.0000 | 53.9756 | 53.9756 | 0.0515 | 0.0000 | 55.2622 |
| **Total** | **25.1520** | **0.3796** | **32.8929** | **1.7500e-003** | | **0.1832** | **0.1832** | | **0.1832** | **0.1832** | **0.0000** | **53.9756** | **53.9756** | **0.0515** | **0.0000** | **55.2622** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 681.6129 | 0.5762 | 0.3392 | 797.0879 |
| Unmitigated | 681.6129 | 0.5762 | 0.3392 | 797.0879 |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Apartments High Rise | 53.1657 / 33.5175 | 80.8730 | 0.0705 | 0.0416 | 95.0311 |
| Apartments Low Rise | 26.3222 / 16.5944 | 40.0400 | 0.0349 | 0.0206 | 47.0497 |
| Apartments Mid Rise | 59.5508 / 37.5429 | 90.5856 | 0.0789 | 0.0466 | 106.4442 |
| City Park | 0 / 39.9146 | 22.6843 | 2.0900e-003 | 2.5000e-004 | 22.8121 |
| Elementary School | 2.0606 / 5.2987 | 5.4076 | 2.9400e-003 | 1.6400e-003 | 5.9691 |
| Office Park | 222.523 / 136.385 | 336.2731 | 0.2947 | 0.1741 | 395.5191 |
| Single Family Housing | 69.5193 / 43.8274 | 105.7493 | 0.0921 | 0.0544 | 124.2625 |
| **Total** | | **681.6129** | **0.5762** | **0.3392** | **797.0879** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 7.2 Water by Land Use

**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Apartments High Rise | 53.1657 / 33.5175 | 80.8730 | 0.0705 | 0.0416 | 95.0311 |
| Apartments Low Rise | 26.3222 / 16.5944 | 40.0400 | 0.0349 | 0.0206 | 47.0497 |
| Apartments Mid Rise | 59.5508 / 37.5429 | 90.5856 | 0.0789 | 0.0466 | 106.4442 |
| City Park | 0 / 39.9146 | 22.6843 | 2.0900e-003 | 2.5000e-004 | 22.8121 |
| Elementary School | 2.0606 / 5.2987 | 5.4076 | 2.9400e-003 | 1.6400e-003 | 5.9691 |
| Office Park | 222.523 / 136.385 | 336.2731 | 0.2947 | 0.1741 | 395.5191 |
| Single Family Housing | 69.5193 / 43.8274 | 105.7493 | 0.0921 | 0.0544 | 124.2625 |
| **Total** | | **681.6129** | **0.5762** | **0.3392** | **797.0879** |

# 8.0 Waste Detail

## 8.1 Mitigation Measures Waste

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 675.8889 | 39.9439 | 0.0000 | 1,674.4860 |
| Unmitigated | 675.8889 | 39.9439 | 0.0000 | 1,674.4860 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Apartments High Rise | 375.36 | 76.1947 | 4.5030 | 0.0000 | 188.7691 |
| Apartments Low Rise | 185.84 | 37.7238 | 2.2294 | 0.0000 | 93.4592 |
| Apartments Mid Rise | 420.44 | 85.3455 | 5.0438 | 0.0000 | 211.4399 |
| City Park | 2.88 | 0.5846 | 0.0346 | 0.0000 | 1.4484 |
| Elementary School | 155.13 | 31.4900 | 1.8610 | 0.0000 | 78.0151 |
| Office Park | 1164.36 | 236.3546 | 13.9682 | 0.0000 | 585.5584 |
| Single Family Housing | 1025.64 | 208.1957 | 12.3040 | 0.0000 | 515.7959 |
| **Total** | | **675.8889** | **39.9439** | **0.0000** | **1,674.4860** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 8.2 Waste by Land Use

**Mitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Apartments High Rise | 375.36 | 76.1947 | 4.5030 | 0.0000 | 188.7691 |
| Apartments Low Rise | 185.84 | 37.7238 | 2.2294 | 0.0000 | 93.4592 |
| Apartments Mid Rise | 420.44 | 85.3455 | 5.0438 | 0.0000 | 211.4399 |
| City Park | 2.88 | 0.5846 | 0.0346 | 0.0000 | 1.4484 |
| Elementary School | 155.13 | 31.4900 | 1.8610 | 0.0000 | 78.0151 |
| Office Park | 1164.36 | 236.3546 | 13.9682 | 0.0000 | 585.5584 |
| Single Family Housing | 1025.64 | 208.1957 | 12.3040 | 0.0000 | 515.7959 |
| **Total** | | **675.8889** | **39.9439** | **0.0000** | **1,674.4860** |

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# UWSP - Phase 1 Construction_Mitigated

**Sacramento Metropolitan AQMD Air District, Summer**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Office Park | 1,252.00 | 1000sqft | 47.90 | 1,252,000.00 | 0 |
| Elementary School | 850.00 | Student | 17.00 | 71,062.86 | 0 |
| City Park | 33.50 | Acre | 33.50 | 1,459,260.00 | 0 |
| Apartments High Rise | 816.00 | Dwelling Unit | 25.10 | 816,000.00 | 2179 |
| Apartments Low Rise | 404.00 | Dwelling Unit | 33.70 | 404,000.00 | 1079 |
| Apartments Mid Rise | 914.00 | Dwelling Unit | 40.60 | 914,000.00 | 2440 |
| Single Family Housing | 1,067.00 | Dwelling Unit | 173.50 | 1,920,600.00 | 2849 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 3.5 | **Precipitation Freq (Days)** | 58 |
| **Climate Zone** | 6 | | | **Operational Year** | 2045 |
| **Utility Company** | Sacramento Municipal Utility District | | | | |
| **CO2 Intensity (lb/MWhr)** | 357.98 | **CH4 Intensity (lb/MWhr)** | 0.033 | **N2O Intensity (lb/MWhr)** | 0.004 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreages updated based on preliminary land use summary.

Construction Phase - Construction phase timing adjusted based on applicant-provided information.

Off-road Equipment - Architectural coating equipment doubled.

Off-road Equipment - Building construction phase equipment doubled.

Off-road Equipment - Construction equipment updated per engineer information.

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Off-road Equipment - Construction equipment updated per engineer information.

Off-road Equipment - Number of equipment has been updated.

Grading -

Construction Off-road Equipment Mitigation - Required by Mitigation to use all Tier 4 Final Equipment.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 12.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 6.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 4.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 4.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 4.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 8.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 29.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 21.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstructionPhase | NumDays | 240.00 | 60.00 |
| tblConstructionPhase | NumDays | 620.00 | 60.00 |
| tblConstructionPhase | NumDays | 440.00 | 60.00 |
| tblConstructionPhase | NumDays | 6,200.00 | 1,680.00 |
| tblConstructionPhase | NumDays | 440.00 | 1,680.00 |
| tblGrading | AcresOfGrading | 1,860.00 | 390.00 |
| tblGrading | AcresOfGrading | 180.00 | 90.00 |
| tblGrading | MaterialExported | 0.00 | 122,750.00 |
| tblLandUse | LotAcreage | 28.74 | 47.90 |
| tblLandUse | LotAcreage | 1.63 | 17.00 |
| tblLandUse | LotAcreage | 13.16 | 25.10 |
| tblLandUse | LotAcreage | 25.25 | 33.70 |
| tblLandUse | LotAcreage | 24.05 | 40.60 |
| tblLandUse | LotAcreage | 346.43 | 173.50 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 29.00 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 3.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 4.00 | 8.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |

## 2.0 Emissions Summary

### 2.1 Overall Construction (Maximum Daily Emission)

**Unmitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 27.1921 | 313.1819 | 218.1353 | 0.6681 | 37.9895 | 11.1932 | 40.5229 | 20.1038 | 10.3087 | 22.4345 | 0.0000 | 66,696.5571 | 66,696.5571 | 16.3955 | 2.7938 | 67,938.9869 |
| 2024 | 53.0253 | 70.6723 | 137.0829 | 0.4481 | 31.8653 | 1.7579 | 33.5499 | 8.5610 | 1.6173 | 10.1534 | 0.0000 | 46,350.3214 | 46,350.3214 | 3.1233 | 2.9291 | 47,279.6726 |
| 2025 | 52.0752 | 67.3156 | 130.6709 | 0.4369 | 31.8647 | 1.4844 | 33.3491 | 8.5608 | 1.4030 | 9.9639 | 0.0000 | 45,425.1217 | 45,425.1217 | 2.1844 | 2.8483 | 46,328.5111 |
| 2026 | 51.4396 | 66.1643 | 125.4431 | 0.4266 | 31.8643 | 1.4736 | 33.3378 | 8.5606 | 1.3929 | 9.9535 | 0.0000 | 44,533.1539 | 44,533.1539 | 2.1249 | 2.7752 | 45,413.2818 |
| 2027 | 50.8546 | 65.1434 | 121.0018 | 0.4168 | 31.8638 | 1.4625 | 33.3263 | 8.5605 | 1.3825 | 9.9430 | 0.0000 | 43,672.9565 | 43,672.9565 | 2.0711 | 2.7047 | 44,530.7302 |
| 2028 | 50.3230 | 64.2961 | 117.3142 | 0.4078 | 31.8634 | 1.4516 | 33.3150 | 8.5603 | 1.3723 | 9.9327 | 0.0000 | 42,889.4385 | 42,889.4385 | 2.0261 | 2.6409 | 43,727.0642 |
| 2029 | 49.8048 | 63.5325 | 114.1369 | 0.3996 | 31.8630 | 1.4410 | 33.3040 | 8.5602 | 1.3625 | 9.9227 | 0.0000 | 42,174.4795 | 42,174.4795 | 1.9862 | 2.5829 | 42,993.8353 |
| 2030 | 49.1103 | 53.2019 | 111.5897 | 0.4003 | 31.8627 | 0.6096 | 32.4723 | 8.5601 | 0.5943 | 9.1544 | 0.0000 | 42,216.7210 | 42,216.7210 | 0.9740 | 2.5311 | 42,995.3507 |
| **Maximum** | **53.0253** | **313.1819** | **218.1353** | **0.6681** | **37.9895** | **11.1932** | **40.5229** | **20.1038** | **10.3087** | **22.4345** | **0.0000** | **66,696.5571** | **66,696.5571** | **16.3955** | **2.9291** | **67,938.9869** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.1 Overall Construction (Maximum Daily Emission)

**Mitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 7.1764 | 65.2318 | 245.3763 | 0.6681 | 37.9895 | 1.1197 | 38.1150 | 20.1038 | 1.1066 | 20.2292 | 0.0000 | 66,696.5571 | 66,696.5571 | 16.3955 | 2.7938 | 67,938.9868 |
| 2024 | 50.4357 | 46.0741 | 139.7143 | 0.4481 | 31.8653 | 0.4256 | 32.2909 | 8.5610 | 0.4063 | 8.9673 | 0.0000 | 46,350.3214 | 46,350.3214 | 3.1233 | 2.9291 | 47,279.6726 |
| 2025 | 49.7138 | 44.8122 | 133.4687 | 0.4369 | 31.8647 | 0.4158 | 32.2805 | 8.5608 | 0.3970 | 8.9578 | 0.0000 | 45,425.1217 | 45,425.1217 | 2.1844 | 2.8483 | 46,328.5111 |
| 2026 | 49.0781 | 43.6608 | 128.2408 | 0.4266 | 31.8643 | 0.4049 | 32.2692 | 8.5606 | 0.3869 | 8.9475 | 0.0000 | 44,533.1539 | 44,533.1539 | 2.1249 | 2.7752 | 45,413.2818 |
| 2027 | 48.4931 | 42.6400 | 123.7996 | 0.4168 | 31.8638 | 0.3939 | 32.2577 | 8.5605 | 0.3765 | 8.9370 | 0.0000 | 43,672.9565 | 43,672.9565 | 2.0711 | 2.7047 | 44,530.7302 |
| 2028 | 47.9615 | 41.7927 | 120.1119 | 0.4078 | 31.8634 | 0.3829 | 32.2464 | 8.5603 | 0.3663 | 8.9266 | 0.0000 | 42,889.4385 | 42,889.4385 | 2.0261 | 2.6409 | 43,727.0642 |
| 2029 | 47.4434 | 41.0291 | 116.9346 | 0.3996 | 31.8630 | 0.3724 | 32.2354 | 8.5602 | 0.3564 | 8.9166 | 0.0000 | 42,174.4795 | 42,174.4795 | 1.9862 | 2.5829 | 42,993.8353 |
| 2030 | 46.9457 | 40.3471 | 114.2655 | 0.4003 | 31.8627 | 0.3622 | 32.2249 | 8.5601 | 0.3470 | 8.9070 | 0.0000 | 42,216.7209 | 42,216.7209 | 0.9740 | 2.5311 | 42,995.3507 |
| **Maximum** | **50.4357** | **65.2318** | **245.3763** | **0.6681** | **37.9895** | **1.1197** | **38.1150** | **20.1038** | **1.1066** | **20.2292** | **0.0000** | **66,696.5571** | **66,696.5571** | **16.3955** | **2.9291** | **67,938.9868** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **9.53** | **52.12** | **-4.33** | **0.00** | **0.00** | **81.42** | **3.39** | **0.00** | **80.74** | **9.48** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 140.3028 | 3.0368 | 263.1431 | 0.0140 | | 1.4653 | 1.4653 | | 1.4653 | 1.4653 | 0.0000 | 475.9833 | 475.9833 | 0.4538 | 0.0000 | 487.3287 |
| Energy | 1.9833 | 17.2844 | 9.6797 | 0.1082 | | 1.3703 | 1.3703 | | 1.3703 | 1.3703 | | 21,635.5559 | 21,635.5559 | 0.4147 | 0.3967 | 21,764.1252 |
| Mobile | 70.3962 | 62.2346 | 639.8722 | 1.3595 | 190.0352 | 0.6095 | 190.6447 | 50.5937 | 0.5702 | 51.1639 | | 152,880.1138 | 152,880.1138 | 8.7284 | 6.2916 | 154,973.2142 |
| **Total** | **212.6823** | **82.5558** | **912.6950** | **1.4816** | **190.0352** | **3.4450** | **193.4802** | **50.5937** | **3.4057** | **53.9994** | **0.0000** | **174,991.6529** | **174,991.6529** | **9.5969** | **6.6882** | **177,224.6681** |

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 140.3028 | 3.0368 | 263.1431 | 0.0140 | | 1.4653 | 1.4653 | | 1.4653 | 1.4653 | 0.0000 | 475.9833 | 475.9833 | 0.4538 | 0.0000 | 487.3287 |
| Energy | 1.9833 | 17.2844 | 9.6797 | 0.1082 | | 1.3703 | 1.3703 | | 1.3703 | 1.3703 | | 21,635.5559 | 21,635.5559 | 0.4147 | 0.3967 | 21,764.1252 |
| Mobile | 70.3962 | 62.2346 | 639.8722 | 1.3595 | 190.0352 | 0.6095 | 190.6447 | 50.5937 | 0.5702 | 51.1639 | | 152,880.1138 | 152,880.1138 | 8.7284 | 6.2916 | 154,973.2142 |
| **Total** | **212.6823** | **82.5558** | **912.6950** | **1.4816** | **190.0352** | **3.4450** | **193.4802** | **50.5937** | **3.4057** | **53.9994** | **0.0000** | **174,991.6529** | **174,991.6529** | **9.5969** | **6.6882** | **177,224.6681** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 6/1/2023 | 8/23/2023 | 5 | 60 | |
| 2 | Grading | Grading | 8/24/2023 | 11/15/2023 | 5 | 60 | |
| 3 | Paving | Paving | 11/16/2023 | 2/7/2024 | 5 | 60 | |
| 4 | Building Construction | Building Construction | 2/8/2024 | 7/17/2030 | 5 | 1680 | |
| 5 | Architectural Coating | Architectural Coating | 2/22/2024 | 7/31/2030 | 5 | 1680 | |

**Acres of Grading (Site Preparation Phase): 90**

**Acres of Grading (Grading Phase): 390**

**Acres of Paving: 0**

**Residential Indoor: 8,210,565; Residential Outdoor: 2,736,855; Non-Residential Indoor: 1,984,594; Non-Residential Outdoor: 661,531; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | 6 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 8 | 8.00 | 97 | 0.37 |
| Grading | Excavators | 4 | 8.00 | 158 | 0.38 |
| Grading | Graders | 2 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 2 | 8.00 | 247 | 0.40 |
| Grading | Scrapers | 29 | 8.00 | 367 | 0.48 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | |
|---|---|---|---|---|---|
| Grading | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Paving | Excavators | 8 | 8.00 | 158 | 0.38 |
| Paving | Pavers | 4 | 8.00 | 130 | 0.42 |
| Paving | Paving Equipment | 4 | 8.00 | 132 | 0.36 |
| Paving | Rollers | 4 | 8.00 | 80 | 0.38 |
| Paving | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Building Construction | Cranes | 2 | 7.00 | 231 | 0.29 |
| Building Construction | Forklifts | 6 | 8.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 2 | 8.00 | 84 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | 6 | 7.00 | 97 | 0.37 |
| Building Construction | Welders | 2 | 8.00 | 46 | 0.45 |
| Architectural Coating | Air Compressors | 2 | 6.00 | 78 | 0.48 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 14 | 35.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 40 | 100.00 | 0.00 | 15,344.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 24 | 60.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 18 | 2,964.00 | 798.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 2 | 593.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 37.7233 | 0.0000 | 37.7233 | 20.0331 | 0.0000 | 20.0331 | | | 0.0000 | | | 0.0000 |
| Off-Road | 5.3189 | 55.0484 | 36.4886 | 0.0761 | | 2.5320 | 2.5320 | | 2.3295 | 2.3295 | | 7,374.6162 | 7,374.6162 | 2.3851 | | 7,434.2437 |
| **Total** | **5.3189** | **55.0484** | **36.4886** | **0.0761** | **37.7233** | **2.5320** | **40.2553** | **20.0331** | **2.3295** | **22.3626** | | **7,374.6162** | **7,374.6162** | **2.3851** | | **7,434.2437** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1179 | 0.0567 | 0.9539 | 2.4300e-003 | 0.2662 | 1.3700e-003 | 0.2676 | 0.0706 | 1.2600e-003 | 0.0719 | | 249.0946 | 249.0946 | 6.8400e-003 | 6.1200e-003 | 251.0884 |
| **Total** | **0.1179** | **0.0567** | **0.9539** | **2.4300e-003** | **0.2662** | **1.3700e-003** | **0.2676** | **0.0706** | **1.2600e-003** | **0.0719** | | **249.0946** | **249.0946** | **6.8400e-003** | **6.1200e-003** | **251.0884** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 37.7233 | 0.0000 | 37.7233 | 20.0331 | 0.0000 | 20.0331 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.9312 | 4.0350 | 41.7380 | 0.0761 | | 0.1242 | 0.1242 | | 0.1242 | 0.1242 | 0.0000 | 7,374.6162 | 7,374.6162 | 2.3851 | | 7,434.2437 |
| **Total** | **0.9312** | **4.0350** | **41.7380** | **0.0761** | **37.7233** | **0.1242** | **37.8474** | **20.0331** | **0.1242** | **20.1573** | **0.0000** | **7,374.6162** | **7,374.6162** | **2.3851** | | **7,434.2437** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1179 | 0.0567 | 0.9539 | 2.4300e-003 | 0.2662 | 1.3700e-003 | 0.2676 | 0.0706 | 1.2600e-003 | 0.0719 | | 249.0946 | 249.0946 | 6.8400e-003 | 6.1200e-003 | 251.0884 |
| **Total** | **0.1179** | **0.0567** | **0.9539** | **2.4300e-003** | **0.2662** | **1.3700e-003** | **0.2676** | **0.0706** | **1.2600e-003** | **0.0719** | | **249.0946** | **249.0946** | **6.8400e-003** | **6.1200e-003** | **251.0884** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Grading - 2023

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.3605 | 0.0000 | 19.3605 | 7.4288 | 0.0000 | 7.4288 | | | 0.0000 | | | 0.0000 |
| Off-Road | 26.1612 | 274.5806 | 207.2964 | 0.5007 | | 10.8929 | 10.8929 | | 10.0215 | 10.0215 | | 48,474.5989 | 48,474.5989 | 15.6777 | | 48,866.5406 |
| **Total** | **26.1612** | **274.5806** | **207.2964** | **0.5007** | **19.3605** | **10.8929** | **30.2534** | **7.4288** | **10.0215** | **17.4503** | | **48,474.5989** | **48,474.5989** | **15.6777** | | **48,866.5406** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.6939 | 38.4393 | 8.1136 | 0.1604 | 4.4595 | 0.2964 | 4.7559 | 1.2212 | 0.2836 | 1.5048 | | 17,510.2594 | 17,510.2594 | 0.6983 | 2.7763 | 18,355.0508 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.3370 | 0.1619 | 2.7253 | 6.9500e-003 | 0.7607 | 3.9200e-003 | 0.7646 | 0.2018 | 3.6100e-003 | 0.2054 | | 711.6989 | 711.6989 | 0.0195 | 0.0175 | 717.3955 |
| **Total** | **1.0309** | **38.6012** | **10.8389** | **0.1674** | **5.2202** | **0.3003** | **5.5205** | **1.4229** | **0.2872** | **1.7101** | | **18,221.9583** | **18,221.9583** | **0.7178** | **2.7938** | **19,072.4463** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Grading - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.3605 | 0.0000 | 19.3605 | 7.4288 | 0.0000 | 7.4288 | | | 0.0000 | | | 0.0000 |
| Off-Road | 6.1455 | 26.6306 | 234.5374 | 0.5007 | | 0.8194 | 0.8194 | | 0.8194 | 0.8194 | 0.0000 | 48,474.5988 | 48,474.5988 | 15.6777 | | 48,866.5405 |
| **Total** | **6.1455** | **26.6306** | **234.5374** | **0.5007** | **19.3605** | **0.8194** | **20.1799** | **7.4288** | **0.8194** | **8.2482** | **0.0000** | **48,474.5988** | **48,474.5988** | **15.6777** | | **48,866.5405** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.6939 | 38.4393 | 8.1136 | 0.1604 | 4.4595 | 0.2964 | 4.7559 | 1.2212 | 0.2836 | 1.5048 | | 17,510.2594 | 17,510.2594 | 0.6983 | 2.7763 | 18,355.0508 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.3370 | 0.1619 | 2.7253 | 6.9500e-003 | 0.7607 | 3.9200e-003 | 0.7646 | 0.2018 | 3.6100e-003 | 0.2054 | | 711.6989 | 711.6989 | 0.0195 | 0.0175 | 717.3955 |
| **Total** | **1.0309** | **38.6012** | **10.8389** | **0.1674** | **5.2202** | **0.3003** | **5.5205** | **1.4229** | **0.2872** | **1.7101** | | **18,221.9583** | **18,221.9583** | **0.7178** | **2.7938** | **19,072.4463** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2023

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 4.1803 | 38.9150 | 64.1558 | 0.0994 | | 1.9301 | 1.9301 | | 1.7757 | 1.7757 | | 9,622.3194 | 9,622.3194 | 3.1121 | | 9,700.1207 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **4.1803** | **38.9150** | **64.1558** | **0.0994** | | **1.9301** | **1.9301** | | **1.7757** | **1.7757** | | **9,622.3194** | **9,622.3194** | **3.1121** | | **9,700.1207** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.2022 | 0.0971 | 1.6352 | 4.1700e-003 | 0.4564 | 2.3500e-003 | 0.4588 | 0.1211 | 2.1700e-003 | 0.1232 | | 427.0193 | 427.0193 | 0.0117 | 0.0105 | 430.4373 |
| **Total** | **0.2022** | **0.0971** | **1.6352** | **4.1700e-003** | **0.4564** | **2.3500e-003** | **0.4588** | **0.1211** | **2.1700e-003** | **0.1232** | | **427.0193** | **427.0193** | **0.0117** | **0.0105** | **430.4373** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.2211 | 5.2916 | 75.3038 | 0.0994 | | 0.1628 | 0.1628 | | 0.1628 | 0.1628 | 0.0000 | 9,622.3194 | 9,622.3194 | 3.1121 | | 9,700.1207 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **1.2211** | **5.2916** | **75.3038** | **0.0994** | | **0.1628** | **0.1628** | | **0.1628** | **0.1628** | **0.0000** | **9,622.3194** | **9,622.3194** | **3.1121** | | **9,700.1207** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.2022 | 0.0971 | 1.6352 | 4.1700e-003 | 0.4564 | 2.3500e-003 | 0.4588 | 0.1211 | 2.1700e-003 | 0.1232 | | 427.0193 | 427.0193 | 0.0117 | 0.0105 | 430.4373 |
| **Total** | **0.2022** | **0.0971** | **1.6352** | **4.1700e-003** | **0.4564** | **2.3500e-003** | **0.4588** | **0.1211** | **2.1700e-003** | **0.1232** | | **427.0193** | **427.0193** | **0.0117** | **0.0105** | **430.4373** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2024

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.9940 | 36.0650 | 64.3143 | 0.0994 | | 1.7557 | 1.7557 | | 1.6152 | 1.6152 | | 9,624.2843 | 9,624.2843 | 3.1127 | | 9,702.1015 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **3.9940** | **36.0650** | **64.3143** | **0.0994** | | **1.7557** | **1.7557** | | **1.6152** | **1.6152** | | **9,624.2843** | **9,624.2843** | **3.1127** | | **9,702.1015** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1889 | 0.0865 | 1.5179 | 4.0400e-003 | 0.4564 | 2.2400e-003 | 0.4587 | 0.1211 | 2.0600e-003 | 0.1231 | | 416.2517 | 416.2517 | 0.0106 | 9.7600e-003 | 419.4234 |
| **Total** | **0.1889** | **0.0865** | **1.5179** | **4.0400e-003** | **0.4564** | **2.2400e-003** | **0.4587** | **0.1211** | **2.0600e-003** | **0.1231** | | **416.2517** | **416.2517** | **0.0106** | **9.7600e-003** | **419.4234** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2024

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.2211 | 5.2916 | 75.3038 | 0.0994 | | 0.1628 | 0.1628 | | 0.1628 | 0.1628 | 0.0000 | 9,624.2843 | 9,624.2843 | 3.1127 | | 9,702.1015 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **1.2211** | **5.2916** | **75.3038** | **0.0994** | | **0.1628** | **0.1628** | | **0.1628** | **0.1628** | **0.0000** | **9,624.2843** | **9,624.2843** | **3.1127** | | **9,702.1015** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1889 | 0.0865 | 1.5179 | 4.0400e-003 | 0.4564 | 2.2400e-003 | 0.4587 | 0.1211 | 2.0600e-003 | 0.1231 | | 416.2517 | 416.2517 | 0.0106 | 9.7600e-003 | 419.4234 |
| **Total** | **0.1889** | **0.0865** | **1.5179** | **4.0400e-003** | **0.4564** | **2.2400e-003** | **0.4587** | **0.1211** | **2.0600e-003** | **0.1231** | | **416.2517** | **416.2517** | **0.0106** | **9.7600e-003** | **419.4234** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2024

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.9431 | 26.8876 | 32.3336 | 0.0539 | | 1.2266 | 1.2266 | | 1.1538 | 1.1538 | | 5,111.3978 | 5,111.3978 | 1.2087 | | 5,141.6153 |
| **Total** | **2.9431** | **26.8876** | **32.3336** | **0.0539** | | **1.2266** | **1.2266** | | **1.1538** | **1.1538** | | **5,111.3978** | **5,111.3978** | **1.2087** | | **5,141.6153** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0214 | 36.2168 | 11.1421 | 0.1491 | 4.8072 | 0.2033 | 5.0105 | 1.3836 | 0.1945 | 1.5781 | | 15,999.2408 | 15,999.2408 | 0.3918 | 2.3507 | 16,709.5507 |
| Worker | 9.3291 | 4.2750 | 74.9849 | 0.1993 | 22.5471 | 0.1107 | 22.6578 | 5.9808 | 0.1019 | 6.0827 | | 20,562.8327 | 20,562.8327 | 0.5229 | 0.4819 | 20,719.5166 |
| **Total** | **10.3505** | **40.4918** | **86.1270** | **0.3484** | **27.3543** | **0.3140** | **27.6683** | **7.3644** | **0.2964** | **7.6608** | | **36,562.0735** | **36,562.0735** | **0.9146** | **2.8327** | **37,429.0674** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2024

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.6557 | 4.4694 | 34.9205 | 0.0539 | | 0.0816 | 0.0816 | | 0.0816 | 0.0816 | 0.0000 | 5,111.3978 | 5,111.3978 | 1.2087 | | 5,141.6153 |
| **Total** | **0.6557** | **4.4694** | **34.9205** | **0.0539** | | **0.0816** | **0.0816** | | **0.0816** | **0.0816** | **0.0000** | **5,111.3978** | **5,111.3978** | **1.2087** | | **5,141.6153** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0214 | 36.2168 | 11.1421 | 0.1491 | 4.8072 | 0.2033 | 5.0105 | 1.3836 | 0.1945 | 1.5781 | | 15,999.2408 | 15,999.2408 | 0.3918 | 2.3507 | 16,709.5507 |
| Worker | 9.3291 | 4.2750 | 74.9849 | 0.1993 | 22.5471 | 0.1107 | 22.6578 | 5.9808 | 0.1019 | 6.0827 | | 20,562.8327 | 20,562.8327 | 0.5229 | 0.4819 | 20,719.5166 |
| **Total** | **10.3505** | **40.4918** | **86.1270** | **0.3484** | **27.3543** | **0.3140** | **27.6683** | **7.3644** | **0.2964** | **7.6608** | | **36,562.0735** | **36,562.0735** | **0.9146** | **2.8327** | **37,429.0674** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2025

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9847 | 35.4796 | 10.8808 | 0.1460 | 4.8067 | 0.1993 | 5.0059 | 1.3834 | 0.1906 | 1.5740 | | 15,674.8163 | 15,674.8163 | 0.3836 | 2.3074 | 16,372.0187 |
| Worker | 8.7582 | 3.8378 | 69.9982 | 0.1926 | 22.5471 | 0.1058 | 22.6529 | 5.9808 | 0.0974 | 6.0783 | | 20,060.9225 | 20,060.9225 | 0.4734 | 0.4507 | 20,207.0575 |
| **Total** | **9.7429** | **39.3174** | **80.8790** | **0.3386** | **27.3538** | **0.3051** | **27.6589** | **7.3642** | **0.2880** | **7.6523** | | **35,735.7388** | **35,735.7388** | **0.8571** | **2.7581** | **36,579.0763** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2025

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.6557 | 4.4694 | 34.9205 | 0.0539 | | 0.0816 | 0.0816 | | 0.0816 | 0.0816 | 0.0000 | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **0.6557** | **4.4694** | **34.9205** | **0.0539** | | **0.0816** | **0.0816** | | **0.0816** | **0.0816** | **0.0000** | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9847 | 35.4796 | 10.8808 | 0.1460 | 4.8067 | 0.1993 | 5.0059 | 1.3834 | 0.1906 | 1.5740 | | 15,674.8163 | 15,674.8163 | 0.3836 | 2.3074 | 16,372.0187 |
| Worker | 8.7582 | 3.8378 | 69.9982 | 0.1926 | 22.5471 | 0.1058 | 22.6529 | 5.9808 | 0.0974 | 6.0783 | | 20,060.9225 | 20,060.9225 | 0.4734 | 0.4507 | 20,207.0575 |
| **Total** | **9.7429** | **39.3174** | **80.8790** | **0.3386** | **27.3538** | **0.3051** | **27.6589** | **7.3642** | **0.2880** | **7.6523** | | **35,735.7388** | **35,735.7388** | **0.8571** | **2.7581** | **36,579.0763** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2026

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9504 | 34.7576 | 10.6662 | 0.1430 | 4.8062 | 0.1944 | 5.0006 | 1.3832 | 0.1859 | 1.5692 | | 15,358.7233 | 15,358.7233 | 0.3752 | 2.2655 | 16,043.2163 |
| Worker | 8.2570 | 3.4800 | 65.8207 | 0.1864 | 22.5471 | 0.1009 | 22.6480 | 5.9808 | 0.0929 | 6.0737 | | 19,581.0538 | 19,581.0538 | 0.4309 | 0.4247 | 19,718.3959 |
| **Total** | **9.2075** | **38.2377** | **76.4869** | **0.3294** | **27.3533** | **0.2953** | **27.6486** | **7.3641** | **0.2788** | **7.6429** | | **34,939.7771** | **34,939.7771** | **0.8061** | **2.6902** | **35,761.6122** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2026

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.6557 | 4.4694 | 34.9205 | 0.0539 | | 0.0816 | 0.0816 | | 0.0816 | 0.0816 | 0.0000 | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **0.6557** | **4.4694** | **34.9205** | **0.0539** | | **0.0816** | **0.0816** | | **0.0816** | **0.0816** | **0.0000** | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9504 | 34.7576 | 10.6662 | 0.1430 | 4.8062 | 0.1944 | 5.0006 | 1.3832 | 0.1859 | 1.5692 | | 15,358.7233 | 15,358.7233 | 0.3752 | 2.2655 | 16,043.2163 |
| Worker | 8.2570 | 3.4800 | 65.8207 | 0.1864 | 22.5471 | 0.1009 | 22.6480 | 5.9808 | 0.0929 | 6.0737 | | 19,581.0538 | 19,581.0538 | 0.4309 | 0.4247 | 19,718.3959 |
| **Total** | **9.2075** | **38.2377** | **76.4869** | **0.3294** | **27.3533** | **0.2953** | **27.6486** | **7.3641** | **0.2788** | **7.6429** | | **34,939.7771** | **34,939.7771** | **0.8061** | **2.6902** | **35,761.6122** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2027

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9199 | 34.0960 | 10.4837 | 0.1399 | 4.8057 | 0.1899 | 4.9957 | 1.3831 | 0.1817 | 1.5647 | | 15,028.8258 | 15,028.8258 | 0.3656 | 2.2211 | 15,699.8479 |
| Worker | 7.7950 | 3.1807 | 62.2720 | 0.1808 | 22.5471 | 0.0954 | 22.6425 | 5.9808 | 0.0878 | 6.0686 | | 19,139.1620 | 19,139.1620 | 0.3941 | 0.4030 | 19,269.1018 |
| **Total** | **8.7149** | **37.2767** | **72.7556** | **0.3207** | **27.3529** | **0.2853** | **27.6382** | **7.3639** | **0.2695** | **7.6334** | | **34,167.9879** | **34,167.9879** | **0.7597** | **2.6241** | **34,968.9497** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2027

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.6557 | 4.4694 | 34.9205 | 0.0539 | | 0.0816 | 0.0816 | | 0.0816 | 0.0816 | 0.0000 | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **0.6557** | **4.4694** | **34.9205** | **0.0539** | | **0.0816** | **0.0816** | | **0.0816** | **0.0816** | **0.0000** | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9199 | 34.0960 | 10.4837 | 0.1399 | 4.8057 | 0.1899 | 4.9957 | 1.3831 | 0.1817 | 1.5647 | | 15,028.8258 | 15,028.8258 | 0.3656 | 2.2211 | 15,699.8479 |
| Worker | 7.7950 | 3.1807 | 62.2720 | 0.1808 | 22.5471 | 0.0954 | 22.6425 | 5.9808 | 0.0878 | 6.0686 | | 19,139.1620 | 19,139.1620 | 0.3941 | 0.4030 | 19,269.1018 |
| **Total** | **8.7149** | **37.2767** | **72.7556** | **0.3207** | **27.3529** | **0.2853** | **27.6382** | **7.3639** | **0.2695** | **7.6334** | | **34,167.9879** | **34,167.9879** | **0.7597** | **2.6241** | **34,968.9497** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2028

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8931 | 33.5448 | 10.3379 | 0.1370 | 4.8053 | 0.1860 | 4.9913 | 1.3829 | 0.1779 | 1.5608 | | 14,719.6793 | 14,719.6793 | 0.3584 | 2.1789 | 15,377.9583 |
| Worker | 7.3744 | 2.9340 | 59.3206 | 0.1758 | 22.5471 | 0.0896 | 22.6367 | 5.9808 | 0.0824 | 6.0633 | | 18,743.8747 | 18,743.8747 | 0.3625 | 0.3849 | 18,867.6441 |
| **Total** | **8.2675** | **36.4787** | **69.6585** | **0.3128** | **27.3525** | **0.2755** | **27.6280** | **7.3638** | **0.2603** | **7.6241** | | **33,463.5539** | **33,463.5539** | **0.7209** | **2.5638** | **34,245.6024** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2028

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.6557 | 4.4694 | 34.9205 | 0.0539 | | 0.0816 | 0.0816 | | 0.0816 | 0.0816 | 0.0000 | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **0.6557** | **4.4694** | **34.9205** | **0.0539** | | **0.0816** | **0.0816** | | **0.0816** | **0.0816** | **0.0000** | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8931 | 33.5448 | 10.3379 | 0.1370 | 4.8053 | 0.1860 | 4.9913 | 1.3829 | 0.1779 | 1.5608 | | 14,719.6793 | 14,719.6793 | 0.3584 | 2.1789 | 15,377.9583 |
| Worker | 7.3744 | 2.9340 | 59.3206 | 0.1758 | 22.5471 | 0.0896 | 22.6367 | 5.9808 | 0.0824 | 6.0633 | | 18,743.8747 | 18,743.8747 | 0.3625 | 0.3849 | 18,867.6441 |
| **Total** | **8.2675** | **36.4787** | **69.6585** | **0.3128** | **27.3525** | **0.2755** | **27.6280** | **7.3638** | **0.2603** | **7.6241** | | **33,463.5539** | **33,463.5539** | **0.7209** | **2.5638** | **34,245.6024** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2029

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8682 | 33.0317 | 10.2117 | 0.1343 | 4.8050 | 0.1822 | 4.9871 | 1.3828 | 0.1743 | 1.5570 | | 14,430.3756 | 14,430.3756 | 0.3519 | 2.1392 | 15,076.6485 |
| Worker | 6.9634 | 2.7252 | 56.7782 | 0.1712 | 22.5471 | 0.0839 | 22.6311 | 5.9808 | 0.0772 | 6.0581 | | 18,389.1819 | 18,389.1819 | 0.3347 | 0.3697 | 18,507.7317 |
| **Total** | **7.8315** | **35.7569** | **66.9898** | **0.3055** | **27.3521** | **0.2661** | **27.6182** | **7.3636** | **0.2515** | **7.6151** | | **32,819.5575** | **32,819.5575** | **0.6866** | **2.5089** | **33,584.3802** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2029

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.6557 | 4.4694 | 34.9205 | 0.0539 | | 0.0816 | 0.0816 | | 0.0816 | 0.0816 | 0.0000 | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **0.6557** | **4.4694** | **34.9205** | **0.0539** | | **0.0816** | **0.0816** | | **0.0816** | **0.0816** | **0.0000** | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8682 | 33.0317 | 10.2117 | 0.1343 | 4.8050 | 0.1822 | 4.9871 | 1.3828 | 0.1743 | 1.5570 | | 14,430.3756 | 14,430.3756 | 0.3519 | 2.1392 | 15,076.6485 |
| Worker | 6.9634 | 2.7252 | 56.7782 | 0.1712 | 22.5471 | 0.0839 | 22.6311 | 5.9808 | 0.0772 | 6.0581 | | 18,389.1819 | 18,389.1819 | 0.3347 | 0.3697 | 18,507.7317 |
| **Total** | **7.8315** | **35.7569** | **66.9898** | **0.3055** | **27.3521** | **0.2661** | **27.6182** | **7.3636** | **0.2515** | **7.6151** | | **32,819.5575** | **32,819.5575** | **0.6866** | **2.5089** | **33,584.3802** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2030

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.6183 | 15.8692 | 32.3140 | 0.0619 | | 0.2963 | 0.2963 | | 0.2963 | 0.2963 | | 5,795.0935 | 5,795.0935 | 0.2325 | | 5,800.9057 |
| **Total** | **2.6183** | **15.8692** | **32.3140** | **0.0619** | | **0.2963** | **0.2963** | | **0.2963** | **0.2963** | | **5,795.0935** | **5,795.0935** | **0.2325** | | **5,800.9057** |

**Unmitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8457 | 32.5603 | 10.1123 | 0.1318 | 4.8046 | 0.1784 | 4.9830 | 1.3827 | 0.1707 | 1.5533 | | 14,164.6038 | 14,164.6038 | 0.3465 | 2.1026 | 14,799.8467 |
| Worker | 6.5674 | 2.5497 | 54.6369 | 0.1672 | 22.5471 | 0.0786 | 22.6257 | 5.9808 | 0.0723 | 6.0532 | | 18,077.4232 | 18,077.4232 | 0.3102 | 0.3571 | 18,191.5876 |
| **Total** | **7.4130** | **35.1100** | **64.7492** | **0.2990** | **27.3518** | **0.2570** | **27.6088** | **7.3635** | **0.2430** | **7.6065** | | **32,242.0269** | **32,242.0269** | **0.6567** | **2.4597** | **32,991.4343** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2030

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.6557 | 4.4694 | 34.9205 | 0.0619 | | 0.0816 | 0.0816 | | 0.0816 | 0.0816 | 0.0000 | 5,795.0935 | 5,795.0935 | 0.2325 | | 5,800.9057 |
| **Total** | **0.6557** | **4.4694** | **34.9205** | **0.0619** | | **0.0816** | **0.0816** | | **0.0816** | **0.0816** | **0.0000** | **5,795.0935** | **5,795.0935** | **0.2325** | | **5,800.9057** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8457 | 32.5603 | 10.1123 | 0.1318 | 4.8046 | 0.1784 | 4.9830 | 1.3827 | 0.1707 | 1.5533 | | 14,164.6038 | 14,164.6038 | 0.3465 | 2.1026 | 14,799.8467 |
| Worker | 6.5674 | 2.5497 | 54.6369 | 0.1672 | 22.5471 | 0.0786 | 22.6257 | 5.9808 | 0.0723 | 6.0532 | | 18,077.4232 | 18,077.4232 | 0.3102 | 0.3571 | 18,191.5876 |
| **Total** | **7.4130** | **35.1100** | **64.7492** | **0.2990** | **27.3518** | **0.2570** | **27.6088** | **7.3635** | **0.2430** | **7.6065** | | **32,242.0269** | **32,242.0269** | **0.6567** | **2.4597** | **32,991.4343** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2024

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3615 | 2.4376 | 3.6203 | 5.9400e-003 | | 0.1218 | 0.1218 | | 0.1218 | 0.1218 | | 562.8961 | 562.8961 | 0.0317 | | 563.6885 |
| **Total** | **37.8652** | **2.4376** | **3.6203** | **5.9400e-003** | | **0.1218** | **0.1218** | | **0.1218** | **0.1218** | | **562.8961** | **562.8961** | **0.0317** | | **563.6885** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.8665 | 0.8553 | 15.0020 | 0.0399 | 4.5110 | 0.0221 | 4.5331 | 1.1966 | 0.0204 | 1.2170 | | 4,113.9540 | 4,113.9540 | 0.1046 | 0.0964 | 4,145.3014 |
| **Total** | **1.8665** | **0.8553** | **15.0020** | **0.0399** | **4.5110** | **0.0221** | **4.5331** | **1.1966** | **0.0204** | **1.2170** | | **4,113.9540** | **4,113.9540** | **0.1046** | **0.0964** | **4,145.3014** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2024

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.0594 | 0.2575 | 3.6648 | 5.9400e-003 | | 7.9200e-003 | 7.9200e-003 | | 7.9200e-003 | 7.9200e-003 | 0.0000 | 562.8961 | 562.8961 | 0.0317 | | 563.6885 |
| **Total** | **37.5631** | **0.2575** | **3.6648** | **5.9400e-003** | | **7.9200e-003** | **7.9200e-003** | | **7.9200e-003** | **7.9200e-003** | **0.0000** | **562.8961** | **562.8961** | **0.0317** | | **563.6885** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.8665 | 0.8553 | 15.0020 | 0.0399 | 4.5110 | 0.0221 | 4.5331 | 1.1966 | 0.0204 | 1.2170 | | 4,113.9540 | 4,113.9540 | 0.1046 | 0.0964 | 4,145.3014 |
| **Total** | **1.8665** | **0.8553** | **15.0020** | **0.0399** | **4.5110** | **0.0221** | **4.5331** | **1.1966** | **0.0204** | **1.2170** | | **4,113.9540** | **4,113.9540** | **0.1046** | **0.0964** | **4,145.3014** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2025

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.7522 | 0.7678 | 14.0044 | 0.0385 | 4.5110 | 0.0212 | 4.5321 | 1.1966 | 0.0195 | 1.2161 | | 4,013.5381 | 4,013.5381 | 0.0947 | 0.0902 | 4,042.7750 |
| **Total** | **1.7522** | **0.7678** | **14.0044** | **0.0385** | **4.5110** | **0.0212** | **4.5321** | **1.1966** | **0.0195** | **1.2161** | | **4,013.5381** | **4,013.5381** | **0.0947** | **0.0902** | **4,042.7750** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2025

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.0594 | 0.2575 | 3.6648 | 5.9400e-003 | | 7.9200e-003 | 7.9200e-003 | | 7.9200e-003 | 7.9200e-003 | 0.0000 | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.5631** | **0.2575** | **3.6648** | **5.9400e-003** | | **7.9200e-003** | **7.9200e-003** | | **7.9200e-003** | **7.9200e-003** | **0.0000** | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.7522 | 0.7678 | 14.0044 | 0.0385 | 4.5110 | 0.0212 | 4.5321 | 1.1966 | 0.0195 | 1.2161 | | 4,013.5381 | 4,013.5381 | 0.0947 | 0.0902 | 4,042.7750 |
| **Total** | **1.7522** | **0.7678** | **14.0044** | **0.0385** | **4.5110** | **0.0212** | **4.5321** | **1.1966** | **0.0195** | **1.2161** | | **4,013.5381** | **4,013.5381** | **0.0947** | **0.0902** | **4,042.7750** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2026

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.6520 | 0.6962 | 13.1686 | 0.0373 | 4.5110 | 0.0202 | 4.5311 | 1.1966 | 0.0186 | 1.2152 | | 3,917.5320 | 3,917.5320 | 0.0862 | 0.0850 | 3,945.0097 |
| **Total** | **1.6520** | **0.6962** | **13.1686** | **0.0373** | **4.5110** | **0.0202** | **4.5311** | **1.1966** | **0.0186** | **1.2152** | | **3,917.5320** | **3,917.5320** | **0.0862** | **0.0850** | **3,945.0097** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2026

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.0594 | 0.2575 | 3.6648 | 5.9400e-003 | | 7.9200e-003 | 7.9200e-003 | | 7.9200e-003 | 7.9200e-003 | 0.0000 | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.5631** | **0.2575** | **3.6648** | **5.9400e-003** | | **7.9200e-003** | **7.9200e-003** | | **7.9200e-003** | **7.9200e-003** | **0.0000** | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.6520 | 0.6962 | 13.1686 | 0.0373 | 4.5110 | 0.0202 | 4.5311 | 1.1966 | 0.0186 | 1.2152 | | 3,917.5320 | 3,917.5320 | 0.0862 | 0.0850 | 3,945.0097 |
| **Total** | **1.6520** | **0.6962** | **13.1686** | **0.0373** | **4.5110** | **0.0202** | **4.5311** | **1.1966** | **0.0186** | **1.2152** | | **3,917.5320** | **3,917.5320** | **0.0862** | **0.0850** | **3,945.0097** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2027

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.5595 | 0.6364 | 12.4586 | 0.0362 | 4.5110 | 0.0191 | 4.5300 | 1.1966 | 0.0176 | 1.2141 | | 3,829.1238 | 3,829.1238 | 0.0788 | 0.0806 | 3,855.1206 |
| **Total** | **1.5595** | **0.6364** | **12.4586** | **0.0362** | **4.5110** | **0.0191** | **4.5300** | **1.1966** | **0.0176** | **1.2141** | | **3,829.1238** | **3,829.1238** | **0.0788** | **0.0806** | **3,855.1206** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2027

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.0594 | 0.2575 | 3.6648 | 5.9400e-003 | | 7.9200e-003 | 7.9200e-003 | | 7.9200e-003 | 7.9200e-003 | 0.0000 | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.5631** | **0.2575** | **3.6648** | **5.9400e-003** | | **7.9200e-003** | **7.9200e-003** | | **7.9200e-003** | **7.9200e-003** | **0.0000** | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.5595 | 0.6364 | 12.4586 | 0.0362 | 4.5110 | 0.0191 | 4.5300 | 1.1966 | 0.0176 | 1.2141 | | 3,829.1238 | 3,829.1238 | 0.0788 | 0.0806 | 3,855.1206 |
| **Total** | **1.5595** | **0.6364** | **12.4586** | **0.0362** | **4.5110** | **0.0191** | **4.5300** | **1.1966** | **0.0176** | **1.2141** | | **3,829.1238** | **3,829.1238** | **0.0788** | **0.0806** | **3,855.1206** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2028

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.4754 | 0.5870 | 11.8681 | 0.0352 | 4.5110 | 0.0179 | 4.5289 | 1.1966 | 0.0165 | 1.2131 | | 3,750.0397 | 3,750.0397 | 0.0725 | 0.0770 | 3,774.8019 |
| **Total** | **1.4754** | **0.5870** | **11.8681** | **0.0352** | **4.5110** | **0.0179** | **4.5289** | **1.1966** | **0.0165** | **1.2131** | | **3,750.0397** | **3,750.0397** | **0.0725** | **0.0770** | **3,774.8019** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2028

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.0594 | 0.2575 | 3.6648 | 5.9400e-003 | | 7.9200e-003 | 7.9200e-003 | | 7.9200e-003 | 7.9200e-003 | 0.0000 | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.5631** | **0.2575** | **3.6648** | **5.9400e-003** | | **7.9200e-003** | **7.9200e-003** | | **7.9200e-003** | **7.9200e-003** | **0.0000** | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.4754 | 0.5870 | 11.8681 | 0.0352 | 4.5110 | 0.0179 | 4.5289 | 1.1966 | 0.0165 | 1.2131 | | 3,750.0397 | 3,750.0397 | 0.0725 | 0.0770 | 3,774.8019 |
| **Total** | **1.4754** | **0.5870** | **11.8681** | **0.0352** | **4.5110** | **0.0179** | **4.5289** | **1.1966** | **0.0165** | **1.2131** | | **3,750.0397** | **3,750.0397** | **0.0725** | **0.0770** | **3,774.8019** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2029

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3931 | 0.5452 | 11.3595 | 0.0343 | 4.5110 | 0.0168 | 4.5277 | 1.1966 | 0.0155 | 1.2120 | | 3,679.0772 | 3,679.0772 | 0.0670 | 0.0740 | 3,702.7952 |
| **Total** | **1.3931** | **0.5452** | **11.3595** | **0.0343** | **4.5110** | **0.0168** | **4.5277** | **1.1966** | **0.0155** | **1.2120** | | **3,679.0772** | **3,679.0772** | **0.0670** | **0.0740** | **3,702.7952** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2029

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.0594 | 0.2575 | 3.6648 | 5.9400e-003 | | 7.9200e-003 | 7.9200e-003 | | 7.9200e-003 | 7.9200e-003 | 0.0000 | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.5631** | **0.2575** | **3.6648** | **5.9400e-003** | | **7.9200e-003** | **7.9200e-003** | | **7.9200e-003** | **7.9200e-003** | **0.0000** | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3931 | 0.5452 | 11.3595 | 0.0343 | 4.5110 | 0.0168 | 4.5277 | 1.1966 | 0.0155 | 1.2120 | | 3,679.0772 | 3,679.0772 | 0.0670 | 0.0740 | 3,702.7952 |
| **Total** | **1.3931** | **0.5452** | **11.3595** | **0.0343** | **4.5110** | **0.0168** | **4.5277** | **1.1966** | **0.0155** | **1.2120** | | **3,679.0772** | **3,679.0772** | **0.0670** | **0.0740** | **3,702.7952** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2030

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2615 | 1.7126 | 3.5955 | 5.9400e-003 | | 0.0406 | 0.0406 | | 0.0406 | 0.0406 | | 562.8961 | 562.8961 | 0.0228 | | 563.4656 |
| **Total** | **37.7651** | **1.7126** | **3.5955** | **5.9400e-003** | | **0.0406** | **0.0406** | | **0.0406** | **0.0406** | | **562.8961** | **562.8961** | **0.0228** | | **563.4656** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3139 | 0.5101 | 10.9311 | 0.0335 | 4.5110 | 0.0157 | 4.5267 | 1.1966 | 0.0145 | 1.2110 | | 3,616.7044 | 3,616.7044 | 0.0621 | 0.0714 | 3,639.5450 |
| **Total** | **1.3139** | **0.5101** | **10.9311** | **0.0335** | **4.5110** | **0.0157** | **4.5267** | **1.1966** | **0.0145** | **1.2110** | | **3,616.7044** | **3,616.7044** | **0.0621** | **0.0714** | **3,639.5450** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2030

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.0594 | 0.2575 | 3.6648 | 5.9400e-003 | | 7.9200e-003 | 7.9200e-003 | | 7.9200e-003 | 7.9200e-003 | 0.0000 | 562.8961 | 562.8961 | 0.0228 | | 563.4656 |
| **Total** | **37.5631** | **0.2575** | **3.6648** | **5.9400e-003** | | **7.9200e-003** | **7.9200e-003** | | **7.9200e-003** | **7.9200e-003** | **0.0000** | **562.8961** | **562.8961** | **0.0228** | | **563.4656** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3139 | 0.5101 | 10.9311 | 0.0335 | 4.5110 | 0.0157 | 4.5267 | 1.1966 | 0.0145 | 1.2110 | | 3,616.7044 | 3,616.7044 | 0.0621 | 0.0714 | 3,639.5450 |
| **Total** | **1.3139** | **0.5101** | **10.9311** | **0.0335** | **4.5110** | **0.0157** | **4.5267** | **1.1966** | **0.0145** | **1.2110** | | **3,616.7044** | **3,616.7044** | **0.0621** | **0.0714** | **3,639.5450** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 70.3962 | 62.2346 | 639.8722 | 1.3595 | 190.0352 | 0.6095 | 190.6447 | 50.5937 | 0.5702 | 51.1639 | | 152,880.1138 | 152,880.1138 | 8.7284 | 6.2916 | 154,973.2142 |
| Unmitigated | 70.3962 | 62.2346 | 639.8722 | 1.3595 | 190.0352 | 0.6095 | 190.6447 | 50.5937 | 0.5702 | 51.1639 | | 152,880.1138 | 152,880.1138 | 8.7284 | 6.2916 | 154,973.2142 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments High Rise | 3,631.20 | 3,696.48 | 2929.44 | 9,084,730 | 9,084,730 |
| Apartments Low Rise | 2,957.28 | 3,288.56 | 2537.12 | 7,556,121 | 7,556,121 |
| Apartments Mid Rise | 4,972.16 | 4,487.74 | 3738.26 | 12,129,191 | 12,129,191 |
| City Park | 26.13 | 65.66 | 73.37 | 71,077 | 71,077 |
| Elementary School | 1,606.50 | 0.00 | 0.00 | 2,413,021 | 2,413,021 |
| Office Park | 13,859.64 | 2,053.28 | 951.52 | 22,369,655 | 22,369,655 |
| Single Family Housing | 10,072.48 | 10,179.18 | 9122.85 | 25,538,074 | 25,538,074 |
| Total | 37,125.39 | 23,770.90 | 19,352.56 | 79,161,869 | 79,161,869 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments High Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments Low Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Apartments Mid Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| City Park | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 66 | 28 | 6 |
| Elementary School | 10.00 | 5.00 | 6.50 | 65.00 | 30.00 | 5.00 | 63 | 25 | 12 |
| Office Park | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 82 | 15 | 3 |
| Single Family Housing | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |

### 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apartments High Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Apartments Low Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Apartments Mid Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| City Park | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Elementary School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Office Park | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Single Family Housing | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 1.9833 | 17.2844 | 9.6797 | 0.1082 | | 1.3703 | 1.3703 | | 1.3703 | 1.3703 | | 21,635.5559 | 21,635.5559 | 0.4147 | 0.3967 | 21,764.1252 |
| NaturalGas Unmitigated | 1.9833 | 17.2844 | 9.6797 | 0.1082 | | 1.3703 | 1.3703 | | 1.3703 | 1.3703 | | 21,635.5559 | 21,635.5559 | 0.4147 | 0.3967 | 21,764.1252 |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments High Rise | 21051.1 | 0.2270 | 1.9400 | 0.8255 | 0.0124 | | 0.1569 | 0.1569 | | 0.1569 | 0.1569 | | 2,476.5975 | 2,476.5975 | 0.0475 | 0.0454 | 2,491.3147 |
| Apartments Low Rise | 12901.8 | 0.1391 | 1.1890 | 0.5060 | 7.5900e-003 | | 0.0961 | 0.0961 | | 0.0961 | 0.0961 | | 1,517.8641 | 1,517.8641 | 0.0291 | 0.0278 | 1,526.8840 |
| Apartments Mid Rise | 23579.3 | 0.2543 | 2.1730 | 0.9247 | 0.0139 | | 0.1757 | 0.1757 | | 0.1757 | 0.1757 | | 2,774.0320 | 2,774.0320 | 0.0532 | 0.0509 | 2,790.5167 |
| City Park | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Elementary School | 2943.75 | 0.0318 | 0.2886 | 0.2424 | 1.7300e-003 | | 0.0219 | 0.0219 | | 0.0219 | 0.0219 | | 346.3241 | 346.3241 | 6.6400e-003 | 6.3500e-003 | 348.3821 |
| Office Park | 54264.8 | 0.5852 | 5.3201 | 4.4689 | 0.0319 | | 0.4043 | 0.4043 | | 0.4043 | 0.4043 | | 6,384.0903 | 6,384.0903 | 0.1224 | 0.1170 | 6,422.0277 |
| Single Family Housing | 69161.5 | 0.7459 | 6.3737 | 2.7122 | 0.0407 | | 0.5153 | 0.5153 | | 0.5153 | 0.5153 | | 8,136.6480 | 8,136.6480 | 0.1560 | 0.1492 | 8,185.0000 |
| **Total** | | **1.9833** | **17.2844** | **9.6797** | **0.1082** | | **1.3703** | **1.3703** | | **1.3703** | **1.3703** | | **21,635.5559** | **21,635.5559** | **0.4147** | **0.3967** | **21,764.1252** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments High Rise | 21.0511 | 0.2270 | 1.9400 | 0.8255 | 0.0124 | | 0.1569 | 0.1569 | | 0.1569 | 0.1569 | | 2,476.5975 | 2,476.5975 | 0.0475 | 0.0454 | 2,491.3147 |
| Apartments Low Rise | 12.9018 | 0.1391 | 1.1890 | 0.5060 | 7.5900e-003 | | 0.0961 | 0.0961 | | 0.0961 | 0.0961 | | 1,517.8641 | 1,517.8641 | 0.0291 | 0.0278 | 1,526.8840 |
| Apartments Mid Rise | 23.5793 | 0.2543 | 2.1730 | 0.9247 | 0.0139 | | 0.1757 | 0.1757 | | 0.1757 | 0.1757 | | 2,774.0320 | 2,774.0320 | 0.0532 | 0.0509 | 2,790.5167 |
| City Park | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Elementary School | 2.94375 | 0.0318 | 0.2886 | 0.2424 | 1.7300e-003 | | 0.0219 | 0.0219 | | 0.0219 | 0.0219 | | 346.3241 | 346.3241 | 6.6400e-003 | 6.3500e-003 | 348.3821 |
| Office Park | 54.2648 | 0.5852 | 5.3201 | 4.4689 | 0.0319 | | 0.4043 | 0.4043 | | 0.4043 | 0.4043 | | 6,384.0903 | 6,384.0903 | 0.1224 | 0.1170 | 6,422.0277 |
| Single Family Housing | 69.1615 | 0.7459 | 6.3737 | 2.7122 | 0.0407 | | 0.5153 | 0.5153 | | 0.5153 | 0.5153 | | 8,136.6480 | 8,136.6480 | 0.1560 | 0.1492 | 8,185.0000 |
| **Total** | | **1.9833** | **17.2844** | **9.6797** | **0.1082** | | **1.3703** | **1.3703** | | **1.3703** | **1.3703** | | **21,635.5559** | **21,635.5559** | **0.4147** | **0.3967** | **21,764.1252** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 140.3028 | 3.0368 | 263.1431 | 0.0140 | | 1.4653 | 1.4653 | | 1.4653 | 1.4653 | 0.0000 | 475.9833 | 475.9833 | 0.4538 | 0.0000 | 487.3287 |
| Unmitigated | 140.3028 | 3.0368 | 263.1431 | 0.0140 | | 1.4653 | 1.4653 | | 1.4653 | 1.4653 | 0.0000 | 475.9833 | 475.9833 | 0.4538 | 0.0000 | 487.3287 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 17.2619 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 115.1572 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 7.8837 | 3.0368 | 263.1431 | 0.0140 | | 1.4653 | 1.4653 | | 1.4653 | 1.4653 | | 475.9833 | 475.9833 | 0.4538 | | 487.3287 |
| **Total** | **140.3029** | **3.0368** | **263.1431** | **0.0140** | | **1.4653** | **1.4653** | | **1.4653** | **1.4653** | **0.0000** | **475.9833** | **475.9833** | **0.4538** | **0.0000** | **487.3287** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 17.2619 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 115.1572 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 7.8837 | 3.0368 | 263.1431 | 0.0140 | | 1.4653 | 1.4653 | | 1.4653 | 1.4653 | | 475.9833 | 475.9833 | 0.4538 | | 487.3287 |
| **Total** | **140.3029** | **3.0368** | **263.1431** | **0.0140** | | **1.4653** | **1.4653** | | **1.4653** | **1.4653** | **0.0000** | **475.9833** | **475.9833** | **0.4538** | **0.0000** | **487.3287** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# UWSP - Phase 1 Construction_Mitigated

**Sacramento Metropolitan AQMD Air District, Winter**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Office Park | 1,252.00 | 1000sqft | 47.90 | 1,252,000.00 | 0 |
| Elementary School | 850.00 | Student | 17.00 | 71,062.86 | 0 |
| City Park | 33.50 | Acre | 33.50 | 1,459,260.00 | 0 |
| Apartments High Rise | 816.00 | Dwelling Unit | 25.10 | 816,000.00 | 2179 |
| Apartments Low Rise | 404.00 | Dwelling Unit | 33.70 | 404,000.00 | 1079 |
| Apartments Mid Rise | 914.00 | Dwelling Unit | 40.60 | 914,000.00 | 2440 |
| Single Family Housing | 1,067.00 | Dwelling Unit | 173.50 | 1,920,600.00 | 2849 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 3.5 | **Precipitation Freq (Days)** | 58 |
| **Climate Zone** | 6 | | | **Operational Year** | 2045 |
| **Utility Company** | Sacramento Municipal Utility District | | | | |
| **CO2 Intensity (lb/MWhr)** | 357.98 | **CH4 Intensity (lb/MWhr)** | 0.033 | **N2O Intensity (lb/MWhr)** | 0.004 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreages updated based on preliminary land use summary.

Construction Phase - Construction phase timing adjusted based on applicant-provided information.

Off-road Equipment - Architectural coating equipment doubled.

Off-road Equipment - Building construction phase equipment doubled.

Off-road Equipment - Construction equipment updated per engineer information.

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Off-road Equipment - Construction equipment updated per engineer information.

Off-road Equipment - Number of equipment has been updated.

Grading -

Construction Off-road Equipment Mitigation - Required by Mitigation to use all Tier 4 Final Equipment.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 12.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 6.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 4.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 4.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 4.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 8.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 29.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 21.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstEquipMitigation | Tier | No Change | Tier 4 Final |
| tblConstructionPhase | NumDays | 240.00 | 60.00 |
| tblConstructionPhase | NumDays | 620.00 | 60.00 |
| tblConstructionPhase | NumDays | 440.00 | 60.00 |
| tblConstructionPhase | NumDays | 6,200.00 | 1,680.00 |
| tblConstructionPhase | NumDays | 440.00 | 1,680.00 |
| tblGrading | AcresOfGrading | 1,860.00 | 390.00 |
| tblGrading | AcresOfGrading | 180.00 | 90.00 |
| tblGrading | MaterialExported | 0.00 | 122,750.00 |
| tblLandUse | LotAcreage | 28.74 | 47.90 |
| tblLandUse | LotAcreage | 1.63 | 17.00 |
| tblLandUse | LotAcreage | 13.16 | 25.10 |
| tblLandUse | LotAcreage | 25.25 | 33.70 |
| tblLandUse | LotAcreage | 24.05 | 40.60 |
| tblLandUse | LotAcreage | 346.43 | 173.50 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 29.00 |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 3.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 4.00 | 8.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |

## 2.0 Emissions Summary

### 2.1 Overall Construction (Maximum Daily Emission)

**Unmitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 27.1208 | 316.3406 | 217.9315 | 0.6674 | 37.9895 | 11.1943 | 40.5229 | 20.1038 | 10.3097 | 22.4345 | 0.0000 | 66,627.8937 | 66,627.8937 | 16.3967 | 2.7981 | 67,871.6292 |
| 2024 | 51.7297 | 74.5524 | 126.3548 | 0.4219 | 31.8653 | 1.7579 | 33.5520 | 8.5610 | 1.6173 | 10.1554 | 0.0000 | 43,645.0037 | 43,645.0037 | 3.1250 | 3.0191 | 44,603.6327 |
| 2025 | 50.8687 | 71.0302 | 120.9572 | 0.4117 | 31.8647 | 1.4863 | 33.3511 | 8.5608 | 1.4049 | 9.9657 | 0.0000 | 42,793.8815 | 42,793.8815 | 2.2756 | 2.9324 | 43,724.6230 |
| 2026 | 50.3156 | 69.7357 | 116.5193 | 0.4022 | 31.8643 | 1.4753 | 33.3396 | 8.5606 | 1.3945 | 9.9552 | 0.0000 | 41,971.2754 | 41,971.2754 | 2.2101 | 2.8544 | 42,877.1462 |
| 2027 | 49.8020 | 68.5919 | 112.7121 | 0.3932 | 31.8638 | 1.4641 | 33.3279 | 8.5605 | 1.3840 | 9.9445 | 0.0000 | 41,173.7075 | 41,173.7075 | 2.1509 | 2.7798 | 42,055.8682 |
| 2028 | 49.3304 | 67.6439 | 109.5317 | 0.3849 | 31.8634 | 1.4530 | 33.3164 | 8.5603 | 1.3737 | 9.9340 | 0.0000 | 40,445.3004 | 40,445.3004 | 2.1009 | 2.7126 | 41,306.1792 |
| 2029 | 48.8719 | 66.7922 | 106.7629 | 0.3773 | 31.8630 | 1.4423 | 33.3053 | 8.5602 | 1.3637 | 9.9239 | 0.0000 | 39,778.9238 | 39,778.9238 | 2.0565 | 2.6518 | 40,620.5713 |
| 2030 | 48.2395 | 56.3858 | 104.5597 | 0.3785 | 31.8627 | 0.6107 | 32.4734 | 8.5601 | 0.5954 | 9.1555 | 0.0000 | 39,863.3125 | 39,863.3125 | 1.0400 | 2.5977 | 40,663.4276 |
| **Maximum** | **51.7297** | **316.3406** | **217.9315** | **0.6674** | **37.9895** | **11.1943** | **40.5229** | **20.1038** | **10.3097** | **22.4345** | **0.0000** | **66,627.8937** | **66,627.8937** | **16.3967** | **3.0191** | **67,871.6292** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.1 Overall Construction (Maximum Daily Emission)

**Mitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 7.1051 | 68.3905 | 245.1725 | 0.6674 | 37.9895 | 1.1209 | 38.1150 | 20.1038 | 1.1077 | 20.2292 | 0.0000 | 66,627.8937 | 66,627.8937 | 16.3967 | 2.7981 | 67,871.6292 |
| 2024 | 49.1402 | 49.9542 | 128.9863 | 0.4219 | 31.8653 | 0.4278 | 32.2930 | 8.5610 | 0.4083 | 8.9693 | 0.0000 | 43,645.0037 | 43,645.0037 | 3.1250 | 3.0191 | 44,603.6327 |
| 2025 | 48.5073 | 48.5267 | 123.7549 | 0.4117 | 31.8647 | 0.4177 | 32.2824 | 8.5608 | 0.3989 | 8.9597 | 0.0000 | 42,793.8815 | 42,793.8815 | 2.2756 | 2.9324 | 43,724.6230 |
| 2026 | 47.9542 | 47.2323 | 119.3170 | 0.4022 | 31.8643 | 0.4067 | 32.2709 | 8.5606 | 0.3885 | 8.9492 | 0.0000 | 41,971.2754 | 41,971.2754 | 2.2101 | 2.8544 | 42,877.1462 |
| 2027 | 47.4406 | 46.0885 | 115.5098 | 0.3932 | 31.8638 | 0.3954 | 32.2592 | 8.5605 | 0.3780 | 8.9385 | 0.0000 | 41,173.7075 | 41,173.7075 | 2.1509 | 2.7798 | 42,055.8682 |
| 2028 | 46.9689 | 45.1405 | 112.3294 | 0.3849 | 31.8634 | 0.3843 | 32.2478 | 8.5603 | 0.3676 | 8.9280 | 0.0000 | 40,445.3004 | 40,445.3004 | 2.1009 | 2.7126 | 41,306.1792 |
| 2029 | 46.5105 | 44.2888 | 109.5606 | 0.3773 | 31.8630 | 0.3736 | 32.2367 | 8.5602 | 0.3577 | 8.9178 | 0.0000 | 39,778.9238 | 39,778.9238 | 2.0565 | 2.6518 | 40,620.5713 |
| 2030 | 46.0748 | 43.5310 | 107.2355 | 0.3785 | 31.8627 | 0.3633 | 32.2261 | 8.5601 | 0.3480 | 8.9081 | 0.0000 | 39,863.3125 | 39,863.3125 | 1.0400 | 2.5977 | 40,663.4276 |
| **Maximum** | **49.1402** | **68.3905** | **245.1725** | **0.6674** | **37.9895** | **1.1209** | **38.1150** | **20.1038** | **1.1077** | **20.2292** | **0.0000** | **66,627.8937** | **66,627.8937** | **16.3967** | **3.0191** | **67,871.6292** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **9.72** | **50.30** | **-4.58** | **0.00** | **0.00** | **81.37** | **3.39** | **0.00** | **80.69** | **9.48** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 140.3028 | 3.0368 | 263.1431 | 0.0140 | | 1.4653 | 1.4653 | | 1.4653 | 1.4653 | 0.0000 | 475.9833 | 475.9833 | 0.4538 | 0.0000 | 487.3287 |
| Energy | 1.9833 | 17.2844 | 9.6797 | 0.1082 | | 1.3703 | 1.3703 | | 1.3703 | 1.3703 | | 21,635.5559 | 21,635.5559 | 0.4147 | 0.3967 | 21,764.1252 |
| Mobile | 54.0546 | 72.3602 | 641.9886 | 1.2407 | 190.0352 | 0.6099 | 190.6451 | 50.5937 | 0.5706 | 51.1643 | | 139,391.6327 | 139,391.6327 | 9.4814 | 6.8596 | 141,672.8134 |
| **Total** | **196.3407** | **92.6814** | **914.8114** | **1.3628** | **190.0352** | **3.4455** | **193.4807** | **50.5937** | **3.4061** | **53.9998** | **0.0000** | **161,503.1719** | **161,503.1719** | **10.3499** | **7.2562** | **163,924.2673** |

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 140.3028 | 3.0368 | 263.1431 | 0.0140 | | 1.4653 | 1.4653 | | 1.4653 | 1.4653 | 0.0000 | 475.9833 | 475.9833 | 0.4538 | 0.0000 | 487.3287 |
| Energy | 1.9833 | 17.2844 | 9.6797 | 0.1082 | | 1.3703 | 1.3703 | | 1.3703 | 1.3703 | | 21,635.5559 | 21,635.5559 | 0.4147 | 0.3967 | 21,764.1252 |
| Mobile | 54.0546 | 72.3602 | 641.9886 | 1.2407 | 190.0352 | 0.6099 | 190.6451 | 50.5937 | 0.5706 | 51.1643 | | 139,391.6327 | 139,391.6327 | 9.4814 | 6.8596 | 141,672.8134 |
| **Total** | **196.3407** | **92.6814** | **914.8114** | **1.3628** | **190.0352** | **3.4455** | **193.4807** | **50.5937** | **3.4061** | **53.9998** | **0.0000** | **161,503.1719** | **161,503.1719** | **10.3499** | **7.2562** | **163,924.2673** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 6/1/2023 | 8/23/2023 | 5 | 60 | |
| 2 | Grading | Grading | 8/24/2023 | 11/15/2023 | 5 | 60 | |
| 3 | Paving | Paving | 11/16/2023 | 2/7/2024 | 5 | 60 | |
| 4 | Building Construction | Building Construction | 2/8/2024 | 7/17/2030 | 5 | 1680 | |
| 5 | Architectural Coating | Architectural Coating | 2/22/2024 | 7/31/2030 | 5 | 1680 | |

**Acres of Grading (Site Preparation Phase): 90**

**Acres of Grading (Grading Phase): 390**

**Acres of Paving: 0**

**Residential Indoor: 8,210,565; Residential Outdoor: 2,736,855; Non-Residential Indoor: 1,984,594; Non-Residential Outdoor: 661,531; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | 6 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 8 | 8.00 | 97 | 0.37 |
| Grading | Excavators | 4 | 8.00 | 158 | 0.38 |
| Grading | Graders | 2 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 2 | 8.00 | 247 | 0.40 |
| Grading | Scrapers | 29 | 8.00 | 367 | 0.48 |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | |
|---|---|---|---|---|---|
| Grading | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Paving | Excavators | 8 | 8.00 | 158 | 0.38 |
| Paving | Pavers | 4 | 8.00 | 130 | 0.42 |
| Paving | Paving Equipment | 4 | 8.00 | 132 | 0.36 |
| Paving | Rollers | 4 | 8.00 | 80 | 0.38 |
| Paving | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Building Construction | Cranes | 2 | 7.00 | 231 | 0.29 |
| Building Construction | Forklifts | 6 | 8.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 2 | 8.00 | 84 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | 6 | 7.00 | 97 | 0.37 |
| Building Construction | Welders | 2 | 8.00 | 46 | 0.45 |
| Architectural Coating | Air Compressors | 2 | 6.00 | 78 | 0.48 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 14 | 35.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 40 | 100.00 | 0.00 | 15,344.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 24 | 60.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 18 | 2,964.00 | 798.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 2 | 593.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 37.7233 | 0.0000 | 37.7233 | 20.0331 | 0.0000 | 20.0331 | | | 0.0000 | | | 0.0000 |
| Off-Road | 5.3189 | 55.0484 | 36.4886 | 0.0761 | | 2.5320 | 2.5320 | | 2.3295 | 2.3295 | | 7,374.6162 | 7,374.6162 | 2.3851 | | 7,434.2437 |
| **Total** | **5.3189** | **55.0484** | **36.4886** | **0.0761** | **37.7233** | **2.5320** | **40.2553** | **20.0331** | **2.3295** | **22.3626** | | **7,374.6162** | **7,374.6162** | **2.3851** | | **7,434.2437** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1045 | 0.0695 | 0.8308 | 2.1700e-003 | 0.2662 | 1.3700e-003 | 0.2676 | 0.0706 | 1.2600e-003 | 0.0719 | | 221.5774 | 221.5774 | 7.8700e-003 | 7.0200e-003 | 223.8649 |
| **Total** | **0.1045** | **0.0695** | **0.8308** | **2.1700e-003** | **0.2662** | **1.3700e-003** | **0.2676** | **0.0706** | **1.2600e-003** | **0.0719** | | **221.5774** | **221.5774** | **7.8700e-003** | **7.0200e-003** | **223.8649** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 37.7233 | 0.0000 | 37.7233 | 20.0331 | 0.0000 | 20.0331 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.9312 | 4.0350 | 41.7380 | 0.0761 | | 0.1242 | 0.1242 | | 0.1242 | 0.1242 | 0.0000 | 7,374.6162 | 7,374.6162 | 2.3851 | | 7,434.2437 |
| **Total** | **0.9312** | **4.0350** | **41.7380** | **0.0761** | **37.7233** | **0.1242** | **37.8474** | **20.0331** | **0.1242** | **20.1573** | **0.0000** | **7,374.6162** | **7,374.6162** | **2.3851** | | **7,434.2437** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1045 | 0.0695 | 0.8308 | 2.1700e-003 | 0.2662 | 1.3700e-003 | 0.2676 | 0.0706 | 1.2600e-003 | 0.0719 | | 221.5774 | 221.5774 | 7.8700e-003 | 7.0200e-003 | 223.8649 |
| **Total** | **0.1045** | **0.0695** | **0.8308** | **2.1700e-003** | **0.2662** | **1.3700e-003** | **0.2676** | **0.0706** | **1.2600e-003** | **0.0719** | | **221.5774** | **221.5774** | **7.8700e-003** | **7.0200e-003** | **223.8649** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Grading - 2023

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.3605 | 0.0000 | 19.3605 | 7.4288 | 0.0000 | 7.4288 | | | 0.0000 | | | 0.0000 |
| Off-Road | 26.1612 | 274.5806 | 207.2964 | 0.5007 | | 10.8929 | 10.8929 | | 10.0215 | 10.0215 | | 48,474.5989 | 48,474.5989 | 15.6777 | | 48,866.5406 |
| **Total** | **26.1612** | **274.5806** | **207.2964** | **0.5007** | **19.3605** | **10.8929** | **30.2534** | **7.4288** | **10.0215** | **17.4503** | | **48,474.5989** | **48,474.5989** | **15.6777** | | **48,866.5406** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.6612 | 41.5613 | 8.2615 | 0.1605 | 4.4595 | 0.2975 | 4.7570 | 1.2212 | 0.2847 | 1.5058 | | 17,520.2167 | 17,520.2167 | 0.6966 | 2.7780 | 18,365.4746 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.2984 | 0.1987 | 2.3736 | 6.1900e-003 | 0.7607 | 3.9200e-003 | 0.7646 | 0.2018 | 3.6100e-003 | 0.2054 | | 633.0781 | 633.0781 | 0.0225 | 0.0201 | 639.6141 |
| **Total** | **0.9596** | **41.7600** | **10.6351** | **0.1667** | **5.2202** | **0.3015** | **5.5216** | **1.4229** | **0.2883** | **1.7112** | | **18,153.2948** | **18,153.2948** | **0.7191** | **2.7981** | **19,005.0887** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Grading - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.3605 | 0.0000 | 19.3605 | 7.4288 | 0.0000 | 7.4288 | | | 0.0000 | | | 0.0000 |
| Off-Road | 6.1455 | 26.6306 | 234.5374 | 0.5007 | | 0.8194 | 0.8194 | | 0.8194 | 0.8194 | 0.0000 | 48,474.5988 | 48,474.5988 | 15.6777 | | 48,866.5405 |
| **Total** | **6.1455** | **26.6306** | **234.5374** | **0.5007** | **19.3605** | **0.8194** | **20.1799** | **7.4288** | **0.8194** | **8.2482** | **0.0000** | **48,474.5988** | **48,474.5988** | **15.6777** | | **48,866.5405** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.6612 | 41.5613 | 8.2615 | 0.1605 | 4.4595 | 0.2975 | 4.7570 | 1.2212 | 0.2847 | 1.5058 | | 17,520.2167 | 17,520.2167 | 0.6966 | 2.7780 | 18,365.4746 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.2984 | 0.1987 | 2.3736 | 6.1900e-003 | 0.7607 | 3.9200e-003 | 0.7646 | 0.2018 | 3.6100e-003 | 0.2054 | | 633.0781 | 633.0781 | 0.0225 | 0.0201 | 639.6141 |
| **Total** | **0.9596** | **41.7600** | **10.6351** | **0.1667** | **5.2202** | **0.3015** | **5.5216** | **1.4229** | **0.2883** | **1.7112** | | **18,153.2948** | **18,153.2948** | **0.7191** | **2.7981** | **19,005.0887** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2023

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 4.1803 | 38.9150 | 64.1558 | 0.0994 | | 1.9301 | 1.9301 | | 1.7757 | 1.7757 | | 9,622.3194 | 9,622.3194 | 3.1121 | | 9,700.1207 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **4.1803** | **38.9150** | **64.1558** | **0.0994** | | **1.9301** | **1.9301** | | **1.7757** | **1.7757** | | **9,622.3194** | **9,622.3194** | **3.1121** | | **9,700.1207** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1791 | 0.1192 | 1.4241 | 3.7100e-003 | 0.4564 | 2.3500e-003 | 0.4588 | 0.1211 | 2.1700e-003 | 0.1232 | | 379.8469 | 379.8469 | 0.0135 | 0.0120 | 383.7685 |
| **Total** | **0.1791** | **0.1192** | **1.4241** | **3.7100e-003** | **0.4564** | **2.3500e-003** | **0.4588** | **0.1211** | **2.1700e-003** | **0.1232** | | **379.8469** | **379.8469** | **0.0135** | **0.0120** | **383.7685** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2023

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.2211 | 5.2916 | 75.3038 | 0.0994 | | 0.1628 | 0.1628 | | 0.1628 | 0.1628 | 0.0000 | 9,622.3194 | 9,622.3194 | 3.1121 | | 9,700.1207 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **1.2211** | **5.2916** | **75.3038** | **0.0994** | | **0.1628** | **0.1628** | | **0.1628** | **0.1628** | **0.0000** | **9,622.3194** | **9,622.3194** | **3.1121** | | **9,700.1207** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1791 | 0.1192 | 1.4241 | 3.7100e-003 | 0.4564 | 2.3500e-003 | 0.4588 | 0.1211 | 2.1700e-003 | 0.1232 | | 379.8469 | 379.8469 | 0.0135 | 0.0120 | 383.7685 |
| **Total** | **0.1791** | **0.1192** | **1.4241** | **3.7100e-003** | **0.4564** | **2.3500e-003** | **0.4588** | **0.1211** | **2.1700e-003** | **0.1232** | | **379.8469** | **379.8469** | **0.0135** | **0.0120** | **383.7685** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2024

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.9940 | 36.0650 | 64.3143 | 0.0994 | | 1.7557 | 1.7557 | | 1.6152 | 1.6152 | | 9,624.2843 | 9,624.2843 | 3.1127 | | 9,702.1015 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **3.9940** | **36.0650** | **64.3143** | **0.0994** | | **1.7557** | **1.7557** | | **1.6152** | **1.6152** | | **9,624.2843** | **9,624.2843** | **3.1127** | | **9,702.1015** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1676 | 0.1061 | 1.3283 | 3.5900e-003 | 0.4564 | 2.2400e-003 | 0.4587 | 0.1211 | 2.0600e-003 | 0.1231 | | 370.3903 | 370.3903 | 0.0123 | 0.0112 | 374.0289 |
| **Total** | **0.1676** | **0.1061** | **1.3283** | **3.5900e-003** | **0.4564** | **2.2400e-003** | **0.4587** | **0.1211** | **2.0600e-003** | **0.1231** | | **370.3903** | **370.3903** | **0.0123** | **0.0112** | **374.0289** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2024

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.2211 | 5.2916 | 75.3038 | 0.0994 | | 0.1628 | 0.1628 | | 0.1628 | 0.1628 | 0.0000 | 9,624.2843 | 9,624.2843 | 3.1127 | | 9,702.1015 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **1.2211** | **5.2916** | **75.3038** | **0.0994** | | **0.1628** | **0.1628** | | **0.1628** | **0.1628** | **0.0000** | **9,624.2843** | **9,624.2843** | **3.1127** | | **9,702.1015** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1676 | 0.1061 | 1.3283 | 3.5900e-003 | 0.4564 | 2.2400e-003 | 0.4587 | 0.1211 | 2.0600e-003 | 0.1231 | | 370.3903 | 370.3903 | 0.0123 | 0.0112 | 374.0289 |
| **Total** | **0.1676** | **0.1061** | **1.3283** | **3.5900e-003** | **0.4564** | **2.2400e-003** | **0.4587** | **0.1211** | **2.0600e-003** | **0.1231** | | **370.3903** | **370.3903** | **0.0123** | **0.0112** | **374.0289** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2024

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.9431 | 26.8876 | 32.3336 | 0.0539 | | 1.2266 | 1.2266 | | 1.1538 | 1.1538 | | 5,111.3978 | 5,111.3978 | 1.2087 | | 5,141.6153 |
| **Total** | **2.9431** | **26.8876** | **32.3336** | **0.0539** | | **1.2266** | **1.2266** | | **1.1538** | **1.1538** | | **5,111.3978** | **5,111.3978** | **1.2087** | | **5,141.6153** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9859 | 38.9364 | 11.6558 | 0.1492 | 4.8072 | 0.2054 | 5.0126 | 1.3836 | 0.1965 | 1.5801 | | 16,012.7390 | 16,012.7390 | 0.3899 | 2.3563 | 16,724.6490 |
| Worker | 8.2792 | 5.2421 | 65.6173 | 0.1774 | 22.5471 | 0.1107 | 22.6578 | 5.9808 | 0.1019 | 6.0827 | | 18,297.2802 | 18,297.2802 | 0.6055 | 0.5524 | 18,477.0276 |
| **Total** | **9.2651** | **44.1785** | **77.2731** | **0.3266** | **27.3543** | **0.3161** | **27.6704** | **7.3644** | **0.2984** | **7.6629** | | **34,310.0192** | **34,310.0192** | **0.9954** | **2.9086** | **35,201.6766** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2024

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.6557 | 4.4694 | 34.9205 | 0.0539 | | 0.0816 | 0.0816 | | 0.0816 | 0.0816 | 0.0000 | 5,111.3978 | 5,111.3978 | 1.2087 | | 5,141.6153 |
| **Total** | **0.6557** | **4.4694** | **34.9205** | **0.0539** | | **0.0816** | **0.0816** | | **0.0816** | **0.0816** | **0.0000** | **5,111.3978** | **5,111.3978** | **1.2087** | | **5,141.6153** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9859 | 38.9364 | 11.6558 | 0.1492 | 4.8072 | 0.2054 | 5.0126 | 1.3836 | 0.1965 | 1.5801 | | 16,012.7390 | 16,012.7390 | 0.3899 | 2.3563 | 16,724.6490 |
| Worker | 8.2792 | 5.2421 | 65.6173 | 0.1774 | 22.5471 | 0.1107 | 22.6578 | 5.9808 | 0.1019 | 6.0827 | | 18,297.2802 | 18,297.2802 | 0.6055 | 0.5524 | 18,477.0276 |
| **Total** | **9.2651** | **44.1785** | **77.2731** | **0.3266** | **27.3543** | **0.3161** | **27.6704** | **7.3644** | **0.2984** | **7.6629** | | **34,310.0192** | **34,310.0192** | **0.9954** | **2.9086** | **35,201.6766** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2025

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9488 | 38.1552 | 11.3812 | 0.1462 | 4.8067 | 0.2012 | 5.0079 | 1.3834 | 0.1925 | 1.5759 | | 15,689.8091 | 15,689.8091 | 0.3818 | 2.3128 | 16,388.5703 |
| Worker | 7.7827 | 4.7035 | 61.4869 | 0.1714 | 22.5471 | 0.1058 | 22.6529 | 5.9808 | 0.0974 | 6.0783 | | 17,855.8523 | 17,855.8523 | 0.5509 | 0.5163 | 18,023.4806 |
| **Total** | **8.7315** | **42.8587** | **72.8681** | **0.3175** | **27.3538** | **0.3070** | **27.6608** | **7.3642** | **0.2899** | **7.6541** | | **33,545.6614** | **33,545.6614** | **0.9327** | **2.8291** | **34,412.0508** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2025

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.6557 | 4.4694 | 34.9205 | 0.0539 | | 0.0816 | 0.0816 | | 0.0816 | 0.0816 | 0.0000 | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **0.6557** | **4.4694** | **34.9205** | **0.0539** | | **0.0816** | **0.0816** | | **0.0816** | **0.0816** | **0.0000** | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9488 | 38.1552 | 11.3812 | 0.1462 | 4.8067 | 0.2012 | 5.0079 | 1.3834 | 0.1925 | 1.5759 | | 15,689.8091 | 15,689.8091 | 0.3818 | 2.3128 | 16,388.5703 |
| Worker | 7.7827 | 4.7035 | 61.4869 | 0.1714 | 22.5471 | 0.1058 | 22.6529 | 5.9808 | 0.0974 | 6.0783 | | 17,855.8523 | 17,855.8523 | 0.5509 | 0.5163 | 18,023.4806 |
| **Total** | **8.7315** | **42.8587** | **72.8681** | **0.3175** | **27.3538** | **0.3070** | **27.6608** | **7.3642** | **0.2899** | **7.6541** | | **33,545.6614** | **33,545.6614** | **0.9327** | **2.8291** | **34,412.0508** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2026

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9137 | 37.3895 | 11.1518 | 0.1432 | 4.8062 | 0.1961 | 5.0023 | 1.3832 | 0.1876 | 1.5708 | | 15,375.0585 | 15,375.0585 | 0.3733 | 2.2708 | 16,061.0794 |
| Worker | 7.3511 | 4.2630 | 57.9800 | 0.1660 | 22.5471 | 0.1009 | 22.6480 | 5.9808 | 0.0929 | 6.0737 | | 17,432.6632 | 17,432.6632 | 0.5035 | 0.4864 | 17,590.1833 |
| **Total** | **8.2648** | **41.6525** | **69.1318** | **0.3091** | **27.3533** | **0.2970** | **27.6503** | **7.3641** | **0.2805** | **7.6445** | | **32,807.7217** | **32,807.7217** | **0.8768** | **2.7571** | **33,651.2628** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2026

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.6557 | 4.4694 | 34.9205 | 0.0539 | | 0.0816 | 0.0816 | | 0.0816 | 0.0816 | 0.0000 | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **0.6557** | **4.4694** | **34.9205** | **0.0539** | | **0.0816** | **0.0816** | | **0.0816** | **0.0816** | **0.0000** | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9137 | 37.3895 | 11.1518 | 0.1432 | 4.8062 | 0.1961 | 5.0023 | 1.3832 | 0.1876 | 1.5708 | | 15,375.0585 | 15,375.0585 | 0.3733 | 2.2708 | 16,061.0794 |
| Worker | 7.3511 | 4.2630 | 57.9800 | 0.1660 | 22.5471 | 0.1009 | 22.6480 | 5.9808 | 0.0929 | 6.0737 | | 17,432.6632 | 17,432.6632 | 0.5035 | 0.4864 | 17,590.1833 |
| **Total** | **8.2648** | **41.6525** | **69.1318** | **0.3091** | **27.3533** | **0.2970** | **27.6503** | **7.3641** | **0.2805** | **7.6445** | | **32,807.7217** | **32,807.7217** | **0.8768** | **2.7571** | **33,651.2628** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2027

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8824 | 36.6878 | 10.9550 | 0.1401 | 4.8057 | 0.1915 | 4.9972 | 1.3831 | 0.1832 | 1.5662 | | 15,046.2875 | 15,046.2875 | 0.3637 | 2.2263 | 15,718.8134 |
| Worker | 6.9492 | 3.8945 | 54.9716 | 0.1610 | 22.5471 | 0.0954 | 22.6425 | 5.9808 | 0.0878 | 6.0686 | | 17,042.0210 | 17,042.0210 | 0.4622 | 0.4613 | 17,191.0291 |
| **Total** | **7.8316** | **40.5824** | **65.9265** | **0.3011** | **27.3529** | **0.2868** | **27.6397** | **7.3639** | **0.2709** | **7.6349** | | **32,088.3085** | **32,088.3085** | **0.8259** | **2.6875** | **32,909.8425** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2027

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.6557 | 4.4694 | 34.9205 | 0.0539 | | 0.0816 | 0.0816 | | 0.0816 | 0.0816 | 0.0000 | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **0.6557** | **4.4694** | **34.9205** | **0.0539** | | **0.0816** | **0.0816** | | **0.0816** | **0.0816** | **0.0000** | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8824 | 36.6878 | 10.9550 | 0.1401 | 4.8057 | 0.1915 | 4.9972 | 1.3831 | 0.1832 | 1.5662 | | 15,046.2875 | 15,046.2875 | 0.3637 | 2.2263 | 15,718.8134 |
| Worker | 6.9492 | 3.8945 | 54.9716 | 0.1610 | 22.5471 | 0.0954 | 22.6425 | 5.9808 | 0.0878 | 6.0686 | | 17,042.0210 | 17,042.0210 | 0.4622 | 0.4613 | 17,191.0291 |
| **Total** | **7.8316** | **40.5824** | **65.9265** | **0.3011** | **27.3529** | **0.2868** | **27.6397** | **7.3639** | **0.2709** | **7.6349** | | **32,088.3085** | **32,088.3085** | **0.8259** | **2.6875** | **32,909.8425** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2028

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8548 | 36.1044 | 10.7955 | 0.1372 | 4.8053 | 0.1874 | 4.9927 | 1.3829 | 0.1792 | 1.5622 | | 14,738.0678 | 14,738.0678 | 0.3565 | 2.1841 | 15,397.8323 |
| Worker | 6.5792 | 3.5907 | 52.4542 | 0.1565 | 22.5471 | 0.0896 | 22.6367 | 5.9808 | 0.0824 | 6.0633 | | 16,691.8846 | 16,691.8846 | 0.4265 | 0.4404 | 16,833.7927 |
| **Total** | **7.4340** | **39.6951** | **63.2497** | **0.2937** | **27.3525** | **0.2769** | **27.6294** | **7.3638** | **0.2617** | **7.6254** | | **31,429.9524** | **31,429.9524** | **0.7830** | **2.6245** | **32,231.6249** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2028

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.6557 | 4.4694 | 34.9205 | 0.0539 | | 0.0816 | 0.0816 | | 0.0816 | 0.0816 | 0.0000 | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **0.6557** | **4.4694** | **34.9205** | **0.0539** | | **0.0816** | **0.0816** | | **0.0816** | **0.0816** | **0.0000** | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8548 | 36.1044 | 10.7955 | 0.1372 | 4.8053 | 0.1874 | 4.9927 | 1.3829 | 0.1792 | 1.5622 | | 14,738.0678 | 14,738.0678 | 0.3565 | 2.1841 | 15,397.8323 |
| Worker | 6.5792 | 3.5907 | 52.4542 | 0.1565 | 22.5471 | 0.0896 | 22.6367 | 5.9808 | 0.0824 | 6.0633 | | 16,691.8846 | 16,691.8846 | 0.4265 | 0.4404 | 16,833.7927 |
| **Total** | **7.4340** | **39.6951** | **63.2497** | **0.2937** | **27.3525** | **0.2769** | **27.6294** | **7.3638** | **0.2617** | **7.6254** | | **31,429.9524** | **31,429.9524** | **0.7830** | **2.6245** | **32,231.6249** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2029

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.7348 | 24.9394 | 32.1693 | 0.0539 | | 1.0551 | 1.0551 | | 0.9925 | 0.9925 | | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **2.7348** | **24.9394** | **32.1693** | **0.0539** | | **1.0551** | **1.0551** | | **0.9925** | **0.9925** | | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8291 | 35.5615 | 10.6561 | 0.1345 | 4.8050 | 0.1834 | 4.9884 | 1.3828 | 0.1755 | 1.5583 | | 14,449.5918 | 14,449.5918 | 0.3499 | 2.1443 | 15,097.3378 |
| Worker | 6.2185 | 3.3334 | 50.2632 | 0.1525 | 22.5471 | 0.0839 | 22.6311 | 5.9808 | 0.0772 | 6.0581 | | 16,376.9852 | 16,376.9852 | 0.3949 | 0.4229 | 16,512.8828 |
| **Total** | **7.0477** | **38.8949** | **60.9193** | **0.2870** | **27.3521** | **0.2674** | **27.6194** | **7.3636** | **0.2527** | **7.6163** | | **30,826.5769** | **30,826.5769** | **0.7449** | **2.5672** | **31,610.2206** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2029

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.6557 | 4.4694 | 34.9205 | 0.0539 | | 0.0816 | 0.0816 | | 0.0816 | 0.0816 | 0.0000 | 5,112.9487 | 5,112.9487 | 1.2019 | | 5,142.9961 |
| **Total** | **0.6557** | **4.4694** | **34.9205** | **0.0539** | | **0.0816** | **0.0816** | | **0.0816** | **0.0816** | **0.0000** | **5,112.9487** | **5,112.9487** | **1.2019** | | **5,142.9961** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8291 | 35.5615 | 10.6561 | 0.1345 | 4.8050 | 0.1834 | 4.9884 | 1.3828 | 0.1755 | 1.5583 | | 14,449.5918 | 14,449.5918 | 0.3499 | 2.1443 | 15,097.3378 |
| Worker | 6.2185 | 3.3334 | 50.2632 | 0.1525 | 22.5471 | 0.0839 | 22.6311 | 5.9808 | 0.0772 | 6.0581 | | 16,376.9852 | 16,376.9852 | 0.3949 | 0.4229 | 16,512.8828 |
| **Total** | **7.0477** | **38.8949** | **60.9193** | **0.2870** | **27.3521** | **0.2674** | **27.6194** | **7.3636** | **0.2527** | **7.6163** | | **30,826.5769** | **30,826.5769** | **0.7449** | **2.5672** | **31,610.2206** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2030

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.6183 | 15.8692 | 32.3140 | 0.0619 | | 0.2963 | 0.2963 | | 0.2963 | 0.2963 | | 5,795.0935 | 5,795.0935 | 0.2325 | | 5,800.9057 |
| **Total** | **2.6183** | **15.8692** | **32.3140** | **0.0619** | | **0.2963** | **0.2963** | | **0.2963** | **0.2963** | | **5,795.0935** | **5,795.0935** | **0.2325** | | **5,800.9057** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8058 | 35.0632 | 10.5443 | 0.1320 | 4.8046 | 0.1795 | 4.9842 | 1.3827 | 0.1717 | 1.5544 | | 14,184.6255 | 14,184.6255 | 0.3445 | 2.1077 | 14,821.3373 |
| Worker | 5.8750 | 3.1172 | 48.4189 | 0.1489 | 22.5471 | 0.0786 | 22.6257 | 5.9808 | 0.0723 | 6.0532 | | 16,099.6759 | 16,099.6759 | 0.3669 | 0.4083 | 16,230.5199 |
| **Total** | **6.6807** | **38.1804** | **58.9632** | **0.2809** | **27.3518** | **0.2581** | **27.6099** | **7.3635** | **0.2441** | **7.6076** | | **30,284.3014** | **30,284.3014** | **0.7114** | **2.5160** | **31,051.8571** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2030

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.6557 | 4.4694 | 34.9205 | 0.0619 | | 0.0816 | 0.0816 | | 0.0816 | 0.0816 | 0.0000 | 5,795.0935 | 5,795.0935 | 0.2325 | | 5,800.9057 |
| **Total** | **0.6557** | **4.4694** | **34.9205** | **0.0619** | | **0.0816** | **0.0816** | | **0.0816** | **0.0816** | **0.0000** | **5,795.0935** | **5,795.0935** | **0.2325** | | **5,800.9057** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.8058 | 35.0632 | 10.5443 | 0.1320 | 4.8046 | 0.1795 | 4.9842 | 1.3827 | 0.1717 | 1.5544 | | 14,184.6255 | 14,184.6255 | 0.3445 | 2.1077 | 14,821.3373 |
| Worker | 5.8750 | 3.1172 | 48.4189 | 0.1489 | 22.5471 | 0.0786 | 22.6257 | 5.9808 | 0.0723 | 6.0532 | | 16,099.6759 | 16,099.6759 | 0.3669 | 0.4083 | 16,230.5199 |
| **Total** | **6.6807** | **38.1804** | **58.9632** | **0.2809** | **27.3518** | **0.2581** | **27.6099** | **7.3635** | **0.2441** | **7.6076** | | **30,284.3014** | **30,284.3014** | **0.7114** | **2.5160** | **31,051.8571** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2024

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3615 | 2.4376 | 3.6203 | 5.9400e-003 | | 0.1218 | 0.1218 | | 0.1218 | 0.1218 | | 562.8961 | 562.8961 | 0.0317 | | 563.6885 |
| **Total** | **37.8652** | **2.4376** | **3.6203** | **5.9400e-003** | | **0.1218** | **0.1218** | | **0.1218** | **0.1218** | | **562.8961** | **562.8961** | **0.0317** | | **563.6885** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.6564 | 1.0488 | 13.1279 | 0.0355 | 4.5110 | 0.0221 | 4.5331 | 1.1966 | 0.0204 | 1.2170 | | 3,660.6907 | 3,660.6907 | 0.1211 | 0.1105 | 3,696.6523 |
| **Total** | **1.6564** | **1.0488** | **13.1279** | **0.0355** | **4.5110** | **0.0221** | **4.5331** | **1.1966** | **0.0204** | **1.2170** | | **3,660.6907** | **3,660.6907** | **0.1211** | **0.1105** | **3,696.6523** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2024

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.0594 | 0.2575 | 3.6648 | 5.9400e-003 | | 7.9200e-003 | 7.9200e-003 | | 7.9200e-003 | 7.9200e-003 | 0.0000 | 562.8961 | 562.8961 | 0.0317 | | 563.6885 |
| **Total** | **37.5631** | **0.2575** | **3.6648** | **5.9400e-003** | | **7.9200e-003** | **7.9200e-003** | | **7.9200e-003** | **7.9200e-003** | **0.0000** | **562.8961** | **562.8961** | **0.0317** | | **563.6885** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.6564 | 1.0488 | 13.1279 | 0.0355 | 4.5110 | 0.0221 | 4.5331 | 1.1966 | 0.0204 | 1.2170 | | 3,660.6907 | 3,660.6907 | 0.1211 | 0.1105 | 3,696.6523 |
| **Total** | **1.6564** | **1.0488** | **13.1279** | **0.0355** | **4.5110** | **0.0221** | **4.5331** | **1.1966** | **0.0204** | **1.2170** | | **3,660.6907** | **3,660.6907** | **0.1211** | **0.1105** | **3,696.6523** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2025

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.5571 | 0.9410 | 12.3015 | 0.0343 | 4.5110 | 0.0212 | 4.5321 | 1.1966 | 0.0195 | 1.2161 | | 3,572.3753 | 3,572.3753 | 0.1102 | 0.1033 | 3,605.9123 |
| **Total** | **1.5571** | **0.9410** | **12.3015** | **0.0343** | **4.5110** | **0.0212** | **4.5321** | **1.1966** | **0.0195** | **1.2161** | | **3,572.3753** | **3,572.3753** | **0.1102** | **0.1033** | **3,605.9123** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2025

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.0594 | 0.2575 | 3.6648 | 5.9400e-003 | | 7.9200e-003 | 7.9200e-003 | | 7.9200e-003 | 7.9200e-003 | 0.0000 | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.5631** | **0.2575** | **3.6648** | **5.9400e-003** | | **7.9200e-003** | **7.9200e-003** | | **7.9200e-003** | **7.9200e-003** | **0.0000** | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.5571 | 0.9410 | 12.3015 | 0.0343 | 4.5110 | 0.0212 | 4.5321 | 1.1966 | 0.0195 | 1.2161 | | 3,572.3753 | 3,572.3753 | 0.1102 | 0.1033 | 3,605.9123 |
| **Total** | **1.5571** | **0.9410** | **12.3015** | **0.0343** | **4.5110** | **0.0212** | **4.5321** | **1.1966** | **0.0195** | **1.2161** | | **3,572.3753** | **3,572.3753** | **0.1102** | **0.1033** | **3,605.9123** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2026

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.4707 | 0.8529 | 11.5999 | 0.0332 | 4.5110 | 0.0202 | 4.5311 | 1.1966 | 0.0186 | 1.2152 | | 3,487.7089 | 3,487.7089 | 0.1007 | 0.0973 | 3,519.2236 |
| **Total** | **1.4707** | **0.8529** | **11.5999** | **0.0332** | **4.5110** | **0.0202** | **4.5311** | **1.1966** | **0.0186** | **1.2152** | | **3,487.7089** | **3,487.7089** | **0.1007** | **0.0973** | **3,519.2236** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2026

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.0594 | 0.2575 | 3.6648 | 5.9400e-003 | | 7.9200e-003 | 7.9200e-003 | | 7.9200e-003 | 7.9200e-003 | 0.0000 | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.5631** | **0.2575** | **3.6648** | **5.9400e-003** | | **7.9200e-003** | **7.9200e-003** | | **7.9200e-003** | **7.9200e-003** | **0.0000** | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.4707 | 0.8529 | 11.5999 | 0.0332 | 4.5110 | 0.0202 | 4.5311 | 1.1966 | 0.0186 | 1.2152 | | 3,487.7089 | 3,487.7089 | 0.1007 | 0.0973 | 3,519.2236 |
| **Total** | **1.4707** | **0.8529** | **11.5999** | **0.0332** | **4.5110** | **0.0202** | **4.5311** | **1.1966** | **0.0186** | **1.2152** | | **3,487.7089** | **3,487.7089** | **0.1007** | **0.0973** | **3,519.2236** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2027

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3903 | 0.7792 | 10.9980 | 0.0322 | 4.5110 | 0.0191 | 4.5300 | 1.1966 | 0.0176 | 1.2141 | | 3,409.5541 | 3,409.5541 | 0.0925 | 0.0923 | 3,439.3658 |
| **Total** | **1.3903** | **0.7792** | **10.9980** | **0.0322** | **4.5110** | **0.0191** | **4.5300** | **1.1966** | **0.0176** | **1.2141** | | **3,409.5541** | **3,409.5541** | **0.0925** | **0.0923** | **3,439.3658** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2027

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.0594 | 0.2575 | 3.6648 | 5.9400e-003 | | 7.9200e-003 | 7.9200e-003 | | 7.9200e-003 | 7.9200e-003 | 0.0000 | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.5631** | **0.2575** | **3.6648** | **5.9400e-003** | | **7.9200e-003** | **7.9200e-003** | | **7.9200e-003** | **7.9200e-003** | **0.0000** | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3903 | 0.7792 | 10.9980 | 0.0322 | 4.5110 | 0.0191 | 4.5300 | 1.1966 | 0.0176 | 1.2141 | | 3,409.5541 | 3,409.5541 | 0.0925 | 0.0923 | 3,439.3658 |
| **Total** | **1.3903** | **0.7792** | **10.9980** | **0.0322** | **4.5110** | **0.0191** | **4.5300** | **1.1966** | **0.0176** | **1.2141** | | **3,409.5541** | **3,409.5541** | **0.0925** | **0.0923** | **3,439.3658** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2028

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3163 | 0.7184 | 10.4944 | 0.0313 | 4.5110 | 0.0179 | 4.5289 | 1.1966 | 0.0165 | 1.2131 | | 3,339.5032 | 3,339.5032 | 0.0853 | 0.0881 | 3,367.8944 |
| **Total** | **1.3163** | **0.7184** | **10.4944** | **0.0313** | **4.5110** | **0.0179** | **4.5289** | **1.1966** | **0.0165** | **1.2131** | | **3,339.5032** | **3,339.5032** | **0.0853** | **0.0881** | **3,367.8944** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2028

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.0594 | 0.2575 | 3.6648 | 5.9400e-003 | | 7.9200e-003 | 7.9200e-003 | | 7.9200e-003 | 7.9200e-003 | 0.0000 | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.5631** | **0.2575** | **3.6648** | **5.9400e-003** | | **7.9200e-003** | **7.9200e-003** | | **7.9200e-003** | **7.9200e-003** | **0.0000** | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3163 | 0.7184 | 10.4944 | 0.0313 | 4.5110 | 0.0179 | 4.5289 | 1.1966 | 0.0165 | 1.2131 | | 3,339.5032 | 3,339.5032 | 0.0853 | 0.0881 | 3,367.8944 |
| **Total** | **1.3163** | **0.7184** | **10.4944** | **0.0313** | **4.5110** | **0.0179** | **4.5289** | **1.1966** | **0.0165** | **1.2131** | | **3,339.5032** | **3,339.5032** | **0.0853** | **0.0881** | **3,367.8944** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2029

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.3417 | 2.2910 | 3.6183 | 5.9400e-003 | | 0.1030 | 0.1030 | | 0.1030 | 0.1030 | | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.8453** | **2.2910** | **3.6183** | **5.9400e-003** | | **0.1030** | **0.1030** | | **0.1030** | **0.1030** | | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.2441 | 0.6669 | 10.0560 | 0.0305 | 4.5110 | 0.0168 | 4.5277 | 1.1966 | 0.0155 | 1.2120 | | 3,276.5021 | 3,276.5021 | 0.0790 | 0.0846 | 3,303.6908 |
| **Total** | **1.2441** | **0.6669** | **10.0560** | **0.0305** | **4.5110** | **0.0168** | **4.5277** | **1.1966** | **0.0155** | **1.2120** | | **3,276.5021** | **3,276.5021** | **0.0790** | **0.0846** | **3,303.6908** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2029

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.0594 | 0.2575 | 3.6648 | 5.9400e-003 | | 7.9200e-003 | 7.9200e-003 | | 7.9200e-003 | 7.9200e-003 | 0.0000 | 562.8961 | 562.8961 | 0.0307 | | 563.6637 |
| **Total** | **37.5631** | **0.2575** | **3.6648** | **5.9400e-003** | | **7.9200e-003** | **7.9200e-003** | | **7.9200e-003** | **7.9200e-003** | **0.0000** | **562.8961** | **562.8961** | **0.0307** | | **563.6637** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.2441 | 0.6669 | 10.0560 | 0.0305 | 4.5110 | 0.0168 | 4.5277 | 1.1966 | 0.0155 | 1.2120 | | 3,276.5021 | 3,276.5021 | 0.0790 | 0.0846 | 3,303.6908 |
| **Total** | **1.2441** | **0.6669** | **10.0560** | **0.0305** | **4.5110** | **0.0168** | **4.5277** | **1.1966** | **0.0155** | **1.2120** | | **3,276.5021** | **3,276.5021** | **0.0790** | **0.0846** | **3,303.6908** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2030

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2615 | 1.7126 | 3.5955 | 5.9400e-003 | | 0.0406 | 0.0406 | | 0.0406 | 0.0406 | | 562.8961 | 562.8961 | 0.0228 | | 563.4656 |
| **Total** | **37.7651** | **1.7126** | **3.5955** | **5.9400e-003** | | **0.0406** | **0.0406** | | **0.0406** | **0.0406** | | **562.8961** | **562.8961** | **0.0228** | | **563.4656** |

**Unmitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.1754 | 0.6237 | 9.6871 | 0.0298 | 4.5110 | 0.0157 | 4.5267 | 1.1966 | 0.0145 | 1.2110 | | 3,221.0215 | 3,221.0215 | 0.0734 | 0.0817 | 3,247.1992 |
| **Total** | **1.1754** | **0.6237** | **9.6871** | **0.0298** | **4.5110** | **0.0157** | **4.5267** | **1.1966** | **0.0145** | **1.2110** | | **3,221.0215** | **3,221.0215** | **0.0734** | **0.0817** | **3,247.1992** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Architectural Coating - 2030

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 37.5036 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.0594 | 0.2575 | 3.6648 | 5.9400e-003 | | 7.9200e-003 | 7.9200e-003 | | 7.9200e-003 | 7.9200e-003 | 0.0000 | 562.8961 | 562.8961 | 0.0228 | | 563.4656 |
| **Total** | **37.5631** | **0.2575** | **3.6648** | **5.9400e-003** | | **7.9200e-003** | **7.9200e-003** | | **7.9200e-003** | **7.9200e-003** | **0.0000** | **562.8961** | **562.8961** | **0.0228** | | **563.4656** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.1754 | 0.6237 | 9.6871 | 0.0298 | 4.5110 | 0.0157 | 4.5267 | 1.1966 | 0.0145 | 1.2110 | | 3,221.0215 | 3,221.0215 | 0.0734 | 0.0817 | 3,247.1992 |
| **Total** | **1.1754** | **0.6237** | **9.6871** | **0.0298** | **4.5110** | **0.0157** | **4.5267** | **1.1966** | **0.0145** | **1.2110** | | **3,221.0215** | **3,221.0215** | **0.0734** | **0.0817** | **3,247.1992** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 54.0546 | 72.3602 | 641.9886 | 1.2407 | 190.0352 | 0.6099 | 190.6451 | 50.5937 | 0.5706 | 51.1643 | | 139,391.6327 | 139,391.6327 | 9.4814 | 6.8596 | 141,672.8134 |
| Unmitigated | 54.0546 | 72.3602 | 641.9886 | 1.2407 | 190.0352 | 0.6099 | 190.6451 | 50.5937 | 0.5706 | 51.1643 | | 139,391.6327 | 139,391.6327 | 9.4814 | 6.8596 | 141,672.8134 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments High Rise | 3,631.20 | 3,696.48 | 2929.44 | 9,084,730 | 9,084,730 |
| Apartments Low Rise | 2,957.28 | 3,288.56 | 2537.12 | 7,556,121 | 7,556,121 |
| Apartments Mid Rise | 4,972.16 | 4,487.74 | 3738.26 | 12,129,191 | 12,129,191 |
| City Park | 26.13 | 65.66 | 73.37 | 71,077 | 71,077 |
| Elementary School | 1,606.50 | 0.00 | 0.00 | 2,413,021 | 2,413,021 |
| Office Park | 13,859.64 | 2,053.28 | 951.52 | 22,369,655 | 22,369,655 |
| Single Family Housing | 10,072.48 | 10,179.18 | 9122.85 | 25,538,074 | 25,538,074 |
| Total | 37,125.39 | 23,770.90 | 19,352.56 | 79,161,869 | 79,161,869 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments High Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments Low Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Apartments Mid Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| City Park | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 66 | 28 | 6 |
| Elementary School | 10.00 | 5.00 | 6.50 | 65.00 | 30.00 | 5.00 | 63 | 25 | 12 |
| Office Park | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 82 | 15 | 3 |
| Single Family Housing | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |

### 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apartments High Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Apartments Low Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Apartments Mid Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| City Park | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Elementary School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Office Park | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Single Family Housing | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 1.9833 | 17.2844 | 9.6797 | 0.1082 | | 1.3703 | 1.3703 | | 1.3703 | 1.3703 | | 21,635.5559 | 21,635.5559 | 0.4147 | 0.3967 | 21,764.1252 |
| NaturalGas Unmitigated | 1.9833 | 17.2844 | 9.6797 | 0.1082 | | 1.3703 | 1.3703 | | 1.3703 | 1.3703 | | 21,635.5559 | 21,635.5559 | 0.4147 | 0.3967 | 21,764.1252 |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments High Rise | 21051.1 | 0.2270 | 1.9400 | 0.8255 | 0.0124 | | 0.1569 | 0.1569 | | 0.1569 | 0.1569 | | 2,476.5975 | 2,476.5975 | 0.0475 | 0.0454 | 2,491.3147 |
| Apartments Low Rise | 12901.8 | 0.1391 | 1.1890 | 0.5060 | 7.5900e-003 | | 0.0961 | 0.0961 | | 0.0961 | 0.0961 | | 1,517.8641 | 1,517.8641 | 0.0291 | 0.0278 | 1,526.8840 |
| Apartments Mid Rise | 23579.3 | 0.2543 | 2.1730 | 0.9247 | 0.0139 | | 0.1757 | 0.1757 | | 0.1757 | 0.1757 | | 2,774.0320 | 2,774.0320 | 0.0532 | 0.0509 | 2,790.5167 |
| City Park | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Elementary School | 2943.75 | 0.0318 | 0.2886 | 0.2424 | 1.7300e-003 | | 0.0219 | 0.0219 | | 0.0219 | 0.0219 | | 346.3241 | 346.3241 | 6.6400e-003 | 6.3500e-003 | 348.3821 |
| Office Park | 54264.8 | 0.5852 | 5.3201 | 4.4689 | 0.0319 | | 0.4043 | 0.4043 | | 0.4043 | 0.4043 | | 6,384.0903 | 6,384.0903 | 0.1224 | 0.1170 | 6,422.0277 |
| Single Family Housing | 69161.5 | 0.7459 | 6.3737 | 2.7122 | 0.0407 | | 0.5153 | 0.5153 | | 0.5153 | 0.5153 | | 8,136.6480 | 8,136.6480 | 0.1560 | 0.1492 | 8,185.0000 |
| **Total** | | **1.9833** | **17.2844** | **9.6797** | **0.1082** | | **1.3703** | **1.3703** | | **1.3703** | **1.3703** | | **21,635.5559** | **21,635.5559** | **0.4147** | **0.3967** | **21,764.1252** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments High Rise | 21.0511 | 0.2270 | 1.9400 | 0.8255 | 0.0124 | | 0.1569 | 0.1569 | | 0.1569 | 0.1569 | | 2,476.5975 | 2,476.5975 | 0.0475 | 0.0454 | 2,491.3147 |
| Apartments Low Rise | 12.9018 | 0.1391 | 1.1890 | 0.5060 | 7.5900e-003 | | 0.0961 | 0.0961 | | 0.0961 | 0.0961 | | 1,517.8641 | 1,517.8641 | 0.0291 | 0.0278 | 1,526.8840 |
| Apartments Mid Rise | 23.5793 | 0.2543 | 2.1730 | 0.9247 | 0.0139 | | 0.1757 | 0.1757 | | 0.1757 | 0.1757 | | 2,774.0320 | 2,774.0320 | 0.0532 | 0.0509 | 2,790.5167 |
| City Park | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Elementary School | 2.94375 | 0.0318 | 0.2886 | 0.2424 | 1.7300e-003 | | 0.0219 | 0.0219 | | 0.0219 | 0.0219 | | 346.3241 | 346.3241 | 6.6400e-003 | 6.3500e-003 | 348.3821 |
| Office Park | 54.2648 | 0.5852 | 5.3201 | 4.4689 | 0.0319 | | 0.4043 | 0.4043 | | 0.4043 | 0.4043 | | 6,384.0903 | 6,384.0903 | 0.1224 | 0.1170 | 6,422.0277 |
| Single Family Housing | 69.1615 | 0.7459 | 6.3737 | 2.7122 | 0.0407 | | 0.5153 | 0.5153 | | 0.5153 | 0.5153 | | 8,136.6480 | 8,136.6480 | 0.1560 | 0.1492 | 8,185.0000 |
| **Total** | | **1.9833** | **17.2844** | **9.6797** | **0.1082** | | **1.3703** | **1.3703** | | **1.3703** | **1.3703** | | **21,635.5559** | **21,635.5559** | **0.4147** | **0.3967** | **21,764.1252** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 140.3028 | 3.0368 | 263.1431 | 0.0140 | | 1.4653 | 1.4653 | | 1.4653 | 1.4653 | 0.0000 | 475.9833 | 475.9833 | 0.4538 | 0.0000 | 487.3287 |
| Unmitigated | 140.3028 | 3.0368 | 263.1431 | 0.0140 | | 1.4653 | 1.4653 | | 1.4653 | 1.4653 | 0.0000 | 475.9833 | 475.9833 | 0.4538 | 0.0000 | 487.3287 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 17.2619 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 115.1572 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 7.8837 | 3.0368 | 263.1431 | 0.0140 | | 1.4653 | 1.4653 | | 1.4653 | 1.4653 | | 475.9833 | 475.9833 | 0.4538 | | 487.3287 |
| **Total** | **140.3029** | **3.0368** | **263.1431** | **0.0140** | | **1.4653** | **1.4653** | | **1.4653** | **1.4653** | **0.0000** | **475.9833** | **475.9833** | **0.4538** | **0.0000** | **487.3287** |

UWSP - Phase 1 Construction_Mitigated - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 17.2619 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 115.1572 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 7.8837 | 3.0368 | 263.1431 | 0.0140 | | 1.4653 | 1.4653 | | 1.4653 | 1.4653 | | 475.9833 | 475.9833 | 0.4538 | | 487.3287 |
| **Total** | **140.3029** | **3.0368** | **263.1431** | **0.0140** | | **1.4653** | **1.4653** | | **1.4653** | **1.4653** | **0.0000** | **475.9833** | **475.9833** | **0.4538** | **0.0000** | **487.3287** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

# UWSP - Phase 1 Construction_Mitigated

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Sacramento Metropolitan AQMD Air District, Mitigation Report**

## Construction Mitigation Summary

| Phase | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Architectural Coating | 0.01 | 0.67 | 0.00 | 0.00 | 0.77 | 0.78 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Building Construction | 0.20 | 0.31 | -0.03 | 0.00 | 0.72 | 0.71 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Grading | 0.74 | 0.79 | -0.13 | 0.00 | 0.90 | 0.89 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving | 0.67 | 0.86 | -0.17 | 0.00 | 0.91 | 0.90 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Site Preparation | 0.81 | 0.93 | -0.14 | 0.00 | 0.95 | 0.95 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## OFFROAD Equipment Mitigation

# UWSP - Phase 1 Construction_Mitigated

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Equipment Type | Fuel Type | Tier | Number Mitigated | Total Number of Equipment | DPF | Oxidation Catalyst |
|---|---|---|---|---|---|---|
| Air Compressors | Diesel | Tier 4 Final | 2 | 2 | No Change | 0.00 |
| Cranes | Diesel | Tier 4 Final | 2 | 2 | No Change | 0.00 |
| Excavators | Diesel | Tier 4 Final | 12 | 12 | No Change | 0.00 |
| Forklifts | Diesel | Tier 4 Final | 6 | 6 | No Change | 0.00 |
| Generator Sets | Diesel | Tier 4 Final | 2 | 2 | No Change | 0.00 |
| Graders | Diesel | Tier 4 Final | 2 | 2 | No Change | 0.00 |
| Pavers | Diesel | Tier 4 Final | 4 | 4 | No Change | 0.00 |
| Paving Equipment | Diesel | Tier 4 Final | 4 | 4 | No Change | 0.00 |
| Rollers | Diesel | Tier 4 Final | 4 | 4 | No Change | 0.00 |
| Rubber Tired Dozers | Diesel | Tier 4 Final | 8 | 8 | No Change | 0.00 |
| Scrapers | Diesel | Tier 4 Final | 29 | 29 | No Change | 0.00 |
| Tractors/Loaders/Backhoes | Diesel | Tier 4 Final | 21 | 21 | No Change | 0.00 |
| Welders | Diesel | Tier 4 Final | 2 | 2 | No Change | 0.00 |

# UWSP - Phase 1 Construction_Mitigated

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Unmitigated tons/yr | | | | | | Unmitigated mt/yr | | | | | |
| Air Compressors | 2.83170E-001 | 1.89690E+000 | 3.03784E+000 | 4.99000E-003 | 8.38900E-002 | 8.38900E-002 | 0.00000E+000 | 4.28947E+002 | 4.28947E+002 | 2.29500E-002 | 0.00000E+000 | 4.29520E+002 |
| Cranes | 4.57720E-001 | 4.44193E+000 | 2.51305E+000 | 8.65000E-003 | 1.87020E-001 | 1.72340E-001 | 0.00000E+000 | 7.57920E+002 | 7.57920E+002 | 2.23310E-001 | 0.00000E+000 | 7.63503E+002 |
| Excavators | 6.69800E-002 | 5.41180E-001 | 1.17361E+000 | 1.86000E-003 | 2.65400E-002 | 2.44200E-002 | 0.00000E+000 | 1.63344E+002 | 1.63344E+002 | 5.28300E-002 | 0.00000E+000 | 1.64665E+002 |
| Forklifts | 4.43890E-001 | 4.03032E+000 | 5.74310E+000 | 7.86000E-003 | 2.10050E-001 | 1.93470E-001 | 0.00000E+000 | 6.88569E+002 | 6.88569E+002 | 2.03430E-001 | 0.00000E+000 | 6.93655E+002 |
| Generator Sets | 4.41800E-001 | 3.97518E+000 | 6.14556E+000 | 1.10500E-002 | 1.55580E-001 | 1.55580E-001 | 0.00000E+000 | 9.49549E+002 | 9.49549E+002 | 3.48500E-002 | 0.00000E+000 | 9.50420E+002 |
| Graders | 2.30100E-002 | 2.79180E-001 | 1.01560E-001 | 4.00000E-004 | 9.05000E-003 | 8.32000E-003 | 0.00000E+000 | 3.48824E+001 | 3.48824E+001 | 1.12800E-002 | 0.00000E+000 | 3.51645E+001 |
| Pavers | 2.25700E-002 | 2.18040E-001 | 3.46530E-001 | 5.60000E-004 | 1.02200E-002 | 9.41000E-003 | 0.00000E+000 | 4.95532E+001 | 4.95532E+001 | 1.60300E-002 | 0.00000E+000 | 4.99538E+001 |
| Paving Equipment | 2.01500E-002 | 1.86370E-001 | 3.07540E-001 | 4.90000E-004 | 9.03000E-003 | 8.31000E-003 | 0.00000E+000 | 4.29425E+001 | 4.29425E+001 | 1.38900E-002 | 0.00000E+000 | 4.32897E+001 |
| Rollers | 1.80000E-002 | 1.88410E-001 | 2.22150E-001 | 3.10000E-004 | 1.01900E-002 | 9.37000E-003 | 0.00000E+000 | 2.76646E+001 | 2.76646E+001 | 8.95000E-003 | 0.00000E+000 | 2.78883E+001 |
| Rubber Tired Dozers | 1.64320E-001 | 1.71052E+000 | 7.45520E-001 | 2.05000E-003 | 7.70200E-002 | 7.08600E-002 | 0.00000E+000 | 1.80058E+002 | 1.80058E+002 | 5.82300E-002 | 0.00000E+000 | 1.81514E+002 |
| Scrapers | 6.84490E-001 | 7.20656E+000 | 5.33920E+000 | 1.32100E-002 | 2.82570E-001 | 2.59960E-001 | 0.00000E+000 | 1.16030E+003 | 1.16030E+003 | 3.75260E-001 | 0.00000E+000 | 1.16968E+003 |
| Tractors/Loaders/ Backhoes | 6.72550E-001 | 6.52895E+000 | 1.08839E+001 | 1.54100E-002 | 2.66670E-001 | 2.45900E-001 | 0.00000E+000 | 1.35089E+003 | 1.35089E+003 | 4.02700E-001 | 0.00000E+000 | 1.36096E+003 |
| Welders | 3.65060E-001 | 2.24281E+000 | 2.77048E+000 | 4.29000E-003 | 6.67600E-002 | 6.67600E-002 | 0.00000E+000 | 3.16211E+002 | 3.16211E+002 | 2.97000E-002 | 0.00000E+000 | 3.16953E+002 |

# UWSP - Phase 1 Construction_Mitigated

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mitigated tons/yr | | | | | | Mitigated mt/yr | | | | | |
| Air Compressors | 4.99200E-002 | 2.16320E-001 | 3.07845E+000 | 4.99000E-003 | 6.66000E-003 | 6.66000E-003 | 0.00000E+000 | 4.28946E+002 | 4.28946E+002 | 2.29500E-002 | 0.00000E+000 | 4.29520E+002 |
| Cranes | 1.04210E-001 | 4.51570E-001 | 3.82097E+000 | 8.65000E-003 | 1.38900E-002 | 1.38900E-002 | 0.00000E+000 | 7.57919E+002 | 7.57919E+002 | 2.23310E-001 | 0.00000E+000 | 7.63502E+002 |
| Excavators | 2.28700E-002 | 9.91200E-002 | 1.41049E+000 | 1.86000E-003 | 3.05000E-003 | 3.05000E-003 | 0.00000E+000 | 1.63344E+002 | 1.63344E+002 | 5.28300E-002 | 0.00000E+000 | 1.64665E+002 |
| Forklifts | 9.49300E-002 | 4.11380E-001 | 5.85431E+000 | 7.86000E-003 | 1.26600E-002 | 1.26600E-002 | 0.00000E+000 | 6.88568E+002 | 6.88568E+002 | 2.03430E-001 | 0.00000E+000 | 6.93654E+002 |
| Generator Sets | 1.10510E-001 | 4.78870E-001 | 6.81468E+000 | 1.10500E-002 | 1.47300E-002 | 1.47300E-002 | 0.00000E+000 | 9.49547E+002 | 9.49547E+002 | 3.48500E-002 | 0.00000E+000 | 9.50419E+002 |
| Graders | 4.87000E-003 | 2.10900E-002 | 1.78490E-001 | 4.00000E-004 | 6.50000E-004 | 6.50000E-004 | 0.00000E+000 | 3.48824E+001 | 3.48824E+001 | 1.12800E-002 | 0.00000E+000 | 3.51644E+001 |
| Pavers | 6.93000E-003 | 3.00400E-002 | 4.27560E-001 | 5.60000E-004 | 9.20000E-004 | 9.20000E-004 | 0.00000E+000 | 4.95531E+001 | 4.95531E+001 | 1.60300E-002 | 0.00000E+000 | 4.99538E+001 |
| Paving Equipment | 6.03000E-003 | 2.61500E-002 | 3.72120E-001 | 4.90000E-004 | 8.00000E-004 | 8.00000E-004 | 0.00000E+000 | 4.29424E+001 | 4.29424E+001 | 1.38900E-002 | 0.00000E+000 | 4.32896E+001 |
| Rollers | 3.86000E-003 | 1.67300E-002 | 2.38060E-001 | 3.10000E-004 | 5.10000E-004 | 5.10000E-004 | 0.00000E+000 | 2.76646E+001 | 2.76646E+001 | 8.95000E-003 | 0.00000E+000 | 2.78883E+001 |
| Rubber Tired Dozers | 2.50900E-002 | 1.08730E-001 | 9.20060E-001 | 2.05000E-003 | 3.35000E-003 | 3.35000E-003 | 0.00000E+000 | 1.80058E+002 | 1.80058E+002 | 5.82300E-002 | 0.00000E+000 | 1.81514E+002 |
| Scrapers | 1.62180E-001 | 7.02790E-001 | 5.94666E+000 | 1.32100E-002 | 2.16200E-002 | 2.16200E-002 | 0.00000E+000 | 1.16030E+003 | 1.16030E+003 | 3.75260E-001 | 0.00000E+000 | 1.16968E+003 |
| Tractors/Loaders/Backhoes | 1.84580E-001 | 7.99850E-001 | 1.13824E+001 | 1.54100E-002 | 2.46100E-002 | 2.46100E-002 | 0.00000E+000 | 1.35089E+003 | 1.35089E+003 | 4.02700E-001 | 0.00000E+000 | 1.36096E+003 |
| Welders | 7.36000E-002 | 1.68669E+000 | 2.51471E+000 | 4.29000E-003 | 4.91000E-003 | 4.91000E-003 | 0.00000E+000 | 3.16210E+002 | 3.16210E+002 | 2.97000E-002 | 0.00000E+000 | 3.16953E+002 |

# UWSP - Phase 1 Construction_Mitigated

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Air Compressors | 8.23710E-001 | 8.85961E-001 | -1.33681E-002 | 0.00000E+000 | 9.20610E-001 | 9.20610E-001 | 0.00000E+000 | 1.18896E-006 | 1.18896E-006 | 0.00000E+000 | 0.00000E+000 | 1.18737E-006 |
| Cranes | 7.72328E-001 | 8.98339E-001 | -5.20451E-001 | 0.00000E+000 | 9.25730E-001 | 9.19404E-001 | 0.00000E+000 | 1.18746E-006 | 1.18746E-006 | 0.00000E+000 | 0.00000E+000 | 1.19188E-006 |
| Excavators | 6.58555E-001 | 8.16845E-001 | -2.01839E-001 | 0.00000E+000 | 8.85079E-001 | 8.75102E-001 | 0.00000E+000 | 1.16319E-006 | 1.16319E-006 | 0.00000E+000 | 0.00000E+000 | 1.15386E-006 |
| Forklifts | 7.86141E-001 | 8.97929E-001 | -1.93641E-002 | 0.00000E+000 | 9.39729E-001 | 9.34563E-001 | 0.00000E+000 | 1.19088E-006 | 1.19088E-006 | 0.00000E+000 | 0.00000E+000 | 1.19656E-006 |
| Generator Sets | 7.49864E-001 | 8.79535E-001 | -1.08879E-001 | 0.00000E+000 | 9.05322E-001 | 9.05322E-001 | 0.00000E+000 | 1.19004E-006 | 1.19004E-006 | 0.00000E+000 | 0.00000E+000 | 1.18895E-006 |
| Graders | 7.88353E-001 | 9.24457E-001 | -7.57483E-001 | 0.00000E+000 | 9.28177E-001 | 9.21875E-001 | 0.00000E+000 | 1.14671E-006 | 1.14671E-006 | 0.00000E+000 | 0.00000E+000 | 1.13751E-006 |
| Pavers | 6.92955E-001 | 8.62227E-001 | -2.33833E-001 | 0.00000E+000 | 9.09980E-001 | 9.02232E-001 | 0.00000E+000 | 1.21082E-006 | 1.21082E-006 | 0.00000E+000 | 0.00000E+000 | 1.20111E-006 |
| Paving Equipment | 7.00744E-001 | 8.59688E-001 | -2.09989E-001 | 0.00000E+000 | 9.11406E-001 | 9.03730E-001 | 0.00000E+000 | 1.16435E-006 | 1.16435E-006 | 0.00000E+000 | 0.00000E+000 | 1.15501E-006 |
| Rollers | 7.85556E-001 | 9.11204E-001 | -7.16183E-002 | 0.00000E+000 | 9.49951E-001 | 9.45571E-001 | 0.00000E+000 | 1.08442E-006 | 1.08442E-006 | 0.00000E+000 | 0.00000E+000 | 1.43429E-006 |
| Rubber Tired Dozers | 8.47310E-001 | 9.36435E-001 | -2.34118E-001 | 0.00000E+000 | 9.56505E-001 | 9.52724E-001 | 0.00000E+000 | 1.16629E-006 | 1.16629E-006 | 0.00000E+000 | 0.00000E+000 | 1.15694E-006 |
| Scrapers | 7.63064E-001 | 9.02479E-001 | -1.13774E-001 | 0.00000E+000 | 9.23488E-001 | 9.16833E-001 | 0.00000E+000 | 1.18935E-006 | 1.18935E-006 | 0.00000E+000 | 0.00000E+000 | 1.18836E-006 |
| Tractors/Loaders/Backhoes | 7.25552E-001 | 8.77492E-001 | -4.58082E-002 | 0.00000E+000 | 9.07714E-001 | 8.99919E-001 | 0.00000E+000 | 1.18440E-006 | 1.18440E-006 | 0.00000E+000 | 0.00000E+000 | 1.19033E-006 |
| Welders | 7.98389E-001 | 2.47957E-001 | 9.23197E-002 | 0.00000E+000 | 9.26453E-001 | 9.26453E-001 | 0.00000E+000 | 1.20173E-006 | 1.20173E-006 | 0.00000E+000 | 0.00000E+000 | 1.19892E-006 |

## Fugitive Dust Mitigation

| Yes/No | Mitigation Measure | Mitigation Input | | Mitigation Input | | Mitigation Input | |
|---|---|---|---|---|---|---|---|
| No | Soil Stabilizer for unpaved Roads | PM10 Reduction | 0.00 | PM2.5 Reduction | 0.00 | | |

# UWSP - Phase 1 Construction_Mitigated

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| No | Replace Ground Cover of Area Disturbed | PM10 Reduction | 0.00 | PM2.5 Reduction | 0.00 | | |
| No | Water Exposed Area | PM10 Reduction | 0.00 | PM2.5 Reduction | 0.00 | Frequency (per day) | |
| No | Unpaved Road Mitigation | Moisture Content % | 0.00 | Vehicle Speed (mph) | 0.00 | | |
| No | Clean Paved Road | % PM Reduction | 0.00 | | | | |

| | | Unmitigated | | Mitigated | | Percent Reduction | |
|---|---|---|---|---|---|---|---|
| Phase | Source | PM10 | PM2.5 | PM10 | PM2.5 | PM10 | PM2.5 |
| Architectural Coating | Fugitive Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Architectural Coating | Roads | 3.66 | 0.97 | 3.66 | 0.97 | 0.00 | 0.00 |
| Building Construction | Fugitive Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Building Construction | Roads | 22.21 | 6.00 | 22.21 | 6.00 | 0.00 | 0.00 |
| Grading | Fugitive Dust | 0.58 | 0.22 | 0.58 | 0.22 | 0.00 | 0.00 |
| Grading | Roads | 0.15 | 0.04 | 0.15 | 0.04 | 0.00 | 0.00 |
| Paving | Fugitive Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving | Roads | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Site Preparation | Fugitive Dust | 1.13 | 0.60 | 1.13 | 0.60 | 0.00 | 0.00 |
| Site Preparation | Roads | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |

## Operational Percent Reduction Summary

# UWSP - Phase 1 Construction_Mitigated

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Category | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Architectural Coating | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Consumer Products | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hearth | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mobile | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Natural Gas | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water Indoor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water Outdoor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## Operational Mobile Mitigation

Project Setting:

| Mitigation | Category | Measure | % Reduction | Input Value 1 | Input Value 2 | Input Value 3 |
|---|---|---|---|---|---|---|
| No | Land Use | Increase Density | 0.00 | | | |
| No | Land Use | Increase Diversity | 0.30 | 0.81 | | |
| No | Land Use | Improve Walkability Design | 0.00 | | | |
| No | Land Use | Improve Destination Accessibility | 0.00 | | | |
| No | Land Use | Increase Transit Accessibility | 0.25 | | | |
| No | Land Use | Integrate Below Market Rate Housing | 0.00 | | | |
| | Land Use | Land Use SubTotal | 0.00 | | | |

## UWSP - Phase 1 Construction_Mitigated

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | |
|---|---|---|---|---|---|---|
| No | Neighborhood Enhancements | Improve Pedestrian Network | | | | |
| No | Neighborhood Enhancements | Provide Traffic Calming Measures | | | | |
| No | Neighborhood Enhancements | Implement NEV Network | 0.00 | | | |
| | Neighborhood Enhancements | Neighborhood Enhancements Subtotal | 0.00 | | | |
| No | Parking Policy Pricing | Limit Parking Supply | 0.00 | | | |
| No | Parking Policy Pricing | Unbundle Parking Costs | 0.00 | | | |
| No | Parking Policy Pricing | On-street Market Pricing | 0.00 | | | |
| | Parking Policy Pricing | Parking Policy Pricing Subtotal | 0.00 | | | |
| No | Transit Improvements | Provide BRT System | 0.00 | | | |
| No | Transit Improvements | Expand Transit Network | 0.00 | | | |
| No | Transit Improvements | Increase Transit Frequency | 0.00 | | | |
| | Transit Improvements | Transit Improvements Subtotal | 0.00 | | | |
| | | Land Use and Site Enhancement Subtotal | 0.00 | | | |
| No | Commute | Implement Trip Reduction Program | | | | |
| No | Commute | Transit Subsidy | | | | |
| No | Commute | Implement Employee Parking "Cash Out" | | | | |
| No | Commute | Workplace Parking Charge | | | | |
| No | Commute | Encourage Telecommuting and Alternative Work Schedules | 0.00 | | | |
| No | Commute | Market Commute Trip Reduction Option | 0.00 | | | |
| No | Commute | Employee Vanpool/Shuttle | 0.00 | | 2.00 | |

# UWSP - Phase 1 Construction_Mitigated

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | |
|---|---|---|---|---|---|---|
| No | Commute | Provide Ride Sharing Program | | | | |
| | Commute | Commute Subtotal | 0.00 | | | |
| No | School Trip | Implement School Bus Program | 0.00 | | | |
| | | Total VMT Reduction | 0.00 | | | |

## Area Mitigation

| Measure Implemented | Mitigation Measure | Input Value |
|---|---|---|
| No | Only Natural Gas Hearth | |
| No | No Hearth | |
| No | Use Low VOC Cleaning Supplies | |
| No | Use Low VOC Paint (Residential Interior) | 100.00 |
| No | Use Low VOC Paint (Residential Exterior) | 100.00 |
| No | Use Low VOC Paint (Non-residential Interior) | 100.00 |
| No | Use Low VOC Paint (Non-residential Exterior) | 100.00 |
| No | Use Low VOC Paint (Parking) | 100.00 |
| No | % Electric Lawnmower | |
| No | % Electric Leafblower | |
| No | % Electric Chainsaw | |

## Energy Mitigation Measures

| Measure Implemented | Mitigation Measure | Input Value 1 | Input Value 2 |
|---|---|---|---|
| No | Exceed Title 24 | | |

# UWSP - Phase 1 Construction_Mitigated

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| No | Install High Efficiency Lighting | | |
| No | On-site Renewable | | |

| Appliance Type | Land Use Subtype | % Improvement |
|---|---|---|
| ClothWasher | | 30.00 |
| DishWasher | | 15.00 |
| Fan | | 50.00 |
| Refrigerator | | 15.00 |

## Water Mitigation Measures

| Measure Implemented | Mitigation Measure | Input Value 1 | Input Value 2 |
|---|---|---|---|
| No | Apply Water Conservation on Strategy | | |
| No | Use Reclaimed Water | | |
| No | Use Grey Water | | |
| No | Install low-flow bathroom faucet | 32.00 | |
| No | Install low-flow Kitchen faucet | 18.00 | |
| No | Install low-flow Toilet | 20.00 | |
| No | Install low-flow Shower | 20.00 | |
| No | Turf Reduction | | |
| No | Use Water Efficient Irrigation Systems | 6.10 | |
| No | Water Efficient Landscape | | |

## Solid Waste Mitigation

# UWSP - Phase 1 Construction_Mitigated

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Mitigation Measures | Input Value |
|---|---|
| Institute Recycling and Composting Services<br>Percent Reduction in Waste Disposed | |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# UWSP - Construction of Non-Phase I

**Sacramento Metropolitan AQMD Air District, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| General Office Building | 321.00 | 1000sqft | 7.37 | 321,000.00 | 0 |
| Government Office Building | 74.00 | 1000sqft | 1.70 | 74,000.00 | 0 |
| Medical Office Building | 41.60 | 1000sqft | 0.96 | 41,600.00 | 0 |
| High School | 1,500.00 | Student | 4.57 | 198,991.47 | 0 |
| Junior College (2yr) | 2,500.00 | Student | 2.51 | 208,000.00 | 0 |
| Junior High School | 2,150.00 | Student | 5.80 | 252,757.62 | 0 |
| Arena | 72.00 | 1000sqft | 23.14 | 72,000.00 | 0 |
| Fast Food Restaurant with Drive Thru | 24.00 | 1000sqft | 0.55 | 24,000.00 | 0 |
| Health Club | 65.00 | 1000sqft | 1.49 | 65,000.00 | 0 |
| High Turnover (Sit Down Restaurant) | 104.00 | 1000sqft | 2.39 | 104,000.00 | 0 |
| Hotel | 410.00 | Room | 13.67 | 595,320.00 | 0 |
| Hotel | 410.00 | Room | 13.67 | 595,320.00 | 0 |
| Apartments Mid Rise | 2,855.00 | Dwelling Unit | 75.13 | 2,855,000.00 | 7623 |
| Single Family Housing | 3,300.00 | Dwelling Unit | 1,071.43 | 5,940,000.00 | 8811 |
| Regional Shopping Center | 245.00 | 1000sqft | 5.62 | 245,000.00 | 0 |
| Supermarket | 65.00 | 1000sqft | 1.49 | 65,000.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 3.5 | **Precipitation Freq (Days)** | 58 |
| **Climate Zone** | 6 | | | **Operational Year** | 2045 |
| **Utility Company** | Sacramento Municipal Utility District | | | | |
| **CO2 Intensity** | 0 | **CH4 Intensity** | 0.033 | **N2O Intensity** | 0.004 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**(lb/MWhr) (lb/MWhr) (lb/MWhr)**

## 1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity factor adjusted to reflect SMUD's RPS projections.

Land Use - Land uses adjusted to remove Phase I.

Construction Phase - Construction phasing adjusted to reflect 20-year buildout.

Off-road Equipment - Fleet mix adjusted based on size/timing of project.

Off-road Equipment - Fleet mix adjusted based on size/timing of project.

Off-road Equipment - Fleet mix adjusted based on size/timing of grading phase.

Off-road Equipment -

Grading -

Vehicle Trips - Trip rates adjusted per the project-specific traffic report from F&P.

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Area Mitigation -

Water Mitigation - Water conservation strategy applied to reflect project compliance with MWELO.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 11,000.00 | 3,369.00 |
| tblConstructionPhase | NumDays | 155,000.00 | 3,369.00 |
| tblConstructionPhase | NumDays | 15,500.00 | 120.00 |
| tblConstructionPhase | NumDays | 11,000.00 | 120.00 |
| tblConstructionPhase | NumDays | 6,000.00 | 120.00 |
| tblGrading | AcresOfGrading | 3,660.00 | 360.00 |
| tblLandUse | LandUseSquareFeet | 109,130.59 | 208,000.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 29.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 357.98 | 0 |

## 2.0 Emissions Summary

### 2.1 Overall Construction

**Unmitigated Construction**

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2030 | 0.1348 | 0.7458 | 0.9035 | 2.5900e-003 | 1.0873 | 0.0238 | 1.1111 | 0.5534 | 0.0238 | 0.5773 | 0.0000 | 222.9830 | 222.9830 | 0.0109 | 1.1000e-004 | 223.2883 |
| 2031 | 1.6836 | 7.0522 | 9.1427 | 0.0344 | 0.9875 | 0.2582 | 1.2457 | 0.3489 | 0.2581 | 0.6070 | 0.0000 | 3,452.1035 | 3,452.1035 | 0.1361 | 0.0165 | 3,460.4070 |
| 2032 | 6.9707 | 9.0744 | 16.8260 | 0.0665 | 5.9067 | 0.0920 | 5.9987 | 1.5909 | 0.0894 | 1.6803 | 0.0000 | 6,429.9060 | 6,429.9060 | 0.1473 | 0.4182 | 6,558.2140 |
| 2033 | 6.8774 | 8.9248 | 16.4307 | 0.0651 | 5.8647 | 0.0899 | 5.9547 | 1.5796 | 0.0874 | 1.6670 | 0.0000 | 6,311.9945 | 6,311.9945 | 0.1419 | 0.4093 | 6,437.5069 |
| 2034 | 6.8217 | 8.8495 | 16.1866 | 0.0643 | 5.8647 | 0.0886 | 5.9533 | 1.5796 | 0.0862 | 1.6657 | 0.0000 | 6,248.5213 | 6,248.5213 | 0.1379 | 0.4041 | 6,372.3971 |
| 2035 | 6.7695 | 8.5913 | 16.0284 | 0.0638 | 5.8872 | 0.0700 | 5.9572 | 1.5856 | 0.0676 | 1.6532 | 0.0000 | 6,217.0666 | 6,217.0666 | 0.1328 | 0.4012 | 6,339.9417 |
| 2036 | 6.7955 | 8.6242 | 16.0898 | 0.0641 | 5.9098 | 0.0702 | 5.9800 | 1.5917 | 0.0679 | 1.6595 | 0.0000 | 6,240.8867 | 6,240.8867 | 0.1333 | 0.4027 | 6,364.2327 |
| 2037 | 6.7695 | 8.5913 | 16.0284 | 0.0638 | 5.8872 | 0.0700 | 5.9572 | 1.5856 | 0.0676 | 1.6532 | 0.0000 | 6,217.0666 | 6,217.0666 | 0.1328 | 0.4012 | 6,339.9417 |
| 2038 | 6.7695 | 8.5913 | 16.0284 | 0.0638 | 5.8872 | 0.0700 | 5.9572 | 1.5856 | 0.0676 | 1.6532 | 0.0000 | 6,217.0666 | 6,217.0666 | 0.1328 | 0.4012 | 6,339.9417 |
| 2039 | 6.7436 | 8.5584 | 15.9670 | 0.0636 | 5.8647 | 0.0697 | 5.9344 | 1.5795 | 0.0673 | 1.6469 | 0.0000 | 6,193.2464 | 6,193.2464 | 0.1323 | 0.3997 | 6,315.6507 |
| 2040 | 6.5663 | 8.2921 | 15.3306 | 0.0614 | 5.8871 | 0.0613 | 5.9484 | 1.5856 | 0.0592 | 1.6447 | 0.0000 | 6,025.4964 | 6,025.4964 | 0.1199 | 0.3848 | 6,143.1655 |
| 2041 | 6.5663 | 8.2921 | 15.3306 | 0.0614 | 5.8871 | 0.0613 | 5.9484 | 1.5856 | 0.0592 | 1.6447 | 0.0000 | 6,025.4964 | 6,025.4964 | 0.1199 | 0.3848 | 6,143.1655 |
| 2042 | 6.5663 | 8.2921 | 15.3306 | 0.0614 | 5.8871 | 0.0613 | 5.9484 | 1.5856 | 0.0592 | 1.6447 | 0.0000 | 6,025.4964 | 6,025.4964 | 0.1199 | 0.3848 | 6,143.1655 |
| 2043 | 6.5663 | 8.2921 | 15.3306 | 0.0614 | 5.8871 | 0.0613 | 5.9484 | 1.5856 | 0.0592 | 1.6447 | 0.0000 | 6,025.4964 | 6,025.4964 | 0.1199 | 0.3848 | 6,143.1655 |
| 2044 | 5.9660 | 7.2549 | 13.4738 | 0.0539 | 5.1780 | 0.0537 | 5.2317 | 1.3945 | 0.0518 | 1.4463 | 0.0000 | 5,288.6202 | 5,288.6202 | 0.1051 | 0.3366 | 5,391.5638 |
| **Maximum** | **6.9707** | **9.0744** | **16.8260** | **0.0665** | **5.9098** | **0.2582** | **5.9987** | **1.5917** | **0.2581** | **1.6803** | **0.0000** | **6,429.9060** | **6,429.9060** | **0.1473** | **0.4182** | **6,558.2140** |

## 2.1 Overall Construction

**Mitigated Construction**

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2030 | 0.1348 | 0.7458 | 0.9035 | 2.5900e-003 | 1.0873 | 0.0238 | 1.1111 | 0.5534 | 0.0238 | 0.5773 | 0.0000 | 222.9828 | 222.9828 | 0.0109 | 1.1000e-004 | 223.2881 |
| 2031 | 1.6836 | 7.0522 | 9.1427 | 0.0344 | 0.9875 | 0.2582 | 1.2457 | 0.3489 | 0.2581 | 0.6070 | 0.0000 | 3,452.0996 | 3,452.0996 | 0.1361 | 0.0165 | 3,460.4031 |
| 2032 | 6.9707 | 9.0744 | 16.8260 | 0.0665 | 5.9067 | 0.0920 | 5.9987 | 1.5909 | 0.0894 | 1.6803 | 0.0000 | 6,429.9051 | 6,429.9051 | 0.1473 | 0.4182 | 6,558.2131 |
| 2033 | 6.8774 | 8.9248 | 16.4307 | 0.0651 | 5.8647 | 0.0899 | 5.9547 | 1.5796 | 0.0874 | 1.6670 | 0.0000 | 6,311.9936 | 6,311.9936 | 0.1419 | 0.4093 | 6,437.5060 |
| 2034 | 6.8217 | 8.8495 | 16.1866 | 0.0643 | 5.8647 | 0.0886 | 5.9533 | 1.5796 | 0.0862 | 1.6657 | 0.0000 | 6,248.5204 | 6,248.5204 | 0.1379 | 0.4041 | 6,372.3962 |
| 2035 | 6.7695 | 8.5913 | 16.0284 | 0.0638 | 5.8872 | 0.0700 | 5.9572 | 1.5856 | 0.0676 | 1.6532 | 0.0000 | 6,217.0657 | 6,217.0657 | 0.1328 | 0.4012 | 6,339.9408 |
| 2036 | 6.7955 | 8.6242 | 16.0898 | 0.0641 | 5.9098 | 0.0702 | 5.9800 | 1.5917 | 0.0679 | 1.6595 | 0.0000 | 6,240.8858 | 6,240.8858 | 0.1333 | 0.4027 | 6,364.2318 |
| 2037 | 6.7695 | 8.5913 | 16.0284 | 0.0638 | 5.8872 | 0.0700 | 5.9572 | 1.5856 | 0.0676 | 1.6532 | 0.0000 | 6,217.0657 | 6,217.0657 | 0.1328 | 0.4012 | 6,339.9408 |
| 2038 | 6.7695 | 8.5913 | 16.0284 | 0.0638 | 5.8872 | 0.0700 | 5.9572 | 1.5856 | 0.0676 | 1.6532 | 0.0000 | 6,217.0657 | 6,217.0657 | 0.1328 | 0.4012 | 6,339.9408 |
| 2039 | 6.7436 | 8.5584 | 15.9669 | 0.0636 | 5.8647 | 0.0697 | 5.9344 | 1.5795 | 0.0673 | 1.6469 | 0.0000 | 6,193.2455 | 6,193.2455 | 0.1323 | 0.3997 | 6,315.6498 |
| 2040 | 6.5663 | 8.2921 | 15.3306 | 0.0614 | 5.8871 | 0.0613 | 5.9484 | 1.5856 | 0.0592 | 1.6447 | 0.0000 | 6,025.4955 | 6,025.4955 | 0.1199 | 0.3848 | 6,143.1646 |
| 2041 | 6.5663 | 8.2921 | 15.3306 | 0.0614 | 5.8871 | 0.0613 | 5.9484 | 1.5856 | 0.0592 | 1.6447 | 0.0000 | 6,025.4955 | 6,025.4955 | 0.1199 | 0.3848 | 6,143.1646 |
| 2042 | 6.5663 | 8.2921 | 15.3306 | 0.0614 | 5.8871 | 0.0613 | 5.9484 | 1.5856 | 0.0592 | 1.6447 | 0.0000 | 6,025.4955 | 6,025.4955 | 0.1199 | 0.3848 | 6,143.1646 |
| 2043 | 6.5663 | 8.2921 | 15.3306 | 0.0614 | 5.8871 | 0.0613 | 5.9484 | 1.5856 | 0.0592 | 1.6447 | 0.0000 | 6,025.4955 | 6,025.4955 | 0.1199 | 0.3848 | 6,143.1646 |
| 2044 | 5.9660 | 7.2549 | 13.4738 | 0.0539 | 5.1780 | 0.0537 | 5.2317 | 1.3945 | 0.0518 | 1.4463 | 0.0000 | 5,288.6194 | 5,288.6194 | 0.1051 | 0.3366 | 5,391.5631 |
| **Maximum** | **6.9707** | **9.0744** | **16.8260** | **0.0665** | **5.9098** | **0.2582** | **5.9987** | **1.5917** | **0.2581** | **1.6803** | **0.0000** | **6,429.9051** | **6,429.9051** | **0.1473** | **0.4182** | **6,558.2131** |

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## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| 1 | 8-1-2030 | 10-31-2030 | 0.5311 | 0.5311 |
| 2 | 11-1-2030 | 1-31-2031 | 1.1758 | 1.1758 |
| 3 | 2-1-2031 | 4-30-2031 | 4.1003 | 4.1003 |
| 4 | 5-1-2031 | 7-31-2031 | 2.9910 | 2.9910 |
| 5 | 8-1-2031 | 10-31-2031 | 0.2809 | 0.2809 |
| 6 | 11-1-2031 | 1-31-2032 | 1.9129 | 1.9129 |
| 7 | 2-1-2032 | 4-30-2032 | 3.9727 | 3.9727 |
| 8 | 5-1-2032 | 7-31-2032 | 3.9896 | 3.9896 |
| 9 | 8-1-2032 | 10-31-2032 | 4.0257 | 4.0257 |
| 10 | 11-1-2032 | 1-31-2033 | 4.0841 | 4.0841 |
| 11 | 2-1-2033 | 4-30-2033 | 3.8920 | 3.8920 |
| 12 | 5-1-2033 | 7-31-2033 | 3.9519 | 3.9519 |
| 13 | 8-1-2033 | 10-31-2033 | 3.9881 | 3.9881 |
| 14 | 11-1-2033 | 1-31-2034 | 4.0479 | 4.0479 |
| 15 | 2-1-2034 | 4-30-2034 | 3.8587 | 3.8587 |
| 16 | 5-1-2034 | 7-31-2034 | 3.9170 | 3.9170 |
| 17 | 8-1-2034 | 10-31-2034 | 3.9535 | 3.9535 |
| 18 | 11-1-2034 | 1-31-2035 | 3.9936 | 3.9936 |
| 19 | 2-1-2035 | 4-30-2035 | 3.7674 | 3.7674 |
| 20 | 5-1-2035 | 7-31-2035 | 3.8218 | 3.8218 |
| 21 | 8-1-2035 | 10-31-2035 | 3.8587 | 3.8587 |
| 22 | 11-1-2035 | 1-31-2036 | 3.9312 | 3.9312 |
| 23 | 2-1-2036 | 4-30-2036 | 3.8101 | 3.8101 |
| 24 | 5-1-2036 | 7-31-2036 | 3.8218 | 3.8218 |
| 25 | 8-1-2036 | 10-31-2036 | 3.8587 | 3.8587 |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | |
|---|---|---|---|---|
| **26** | **11-1-2036** | **1-31-2037** | 3.9312 | 3.9312 |
| **27** | **2-1-2037** | **4-30-2037** | 3.7674 | 3.7674 |
| **28** | **5-1-2037** | **7-31-2037** | 3.8218 | 3.8218 |
| **29** | **8-1-2037** | **10-31-2037** | 3.8587 | 3.8587 |
| **30** | **11-1-2037** | **1-31-2038** | 3.9312 | 3.9312 |
| **31** | **2-1-2038** | **4-30-2038** | 3.7674 | 3.7674 |
| **32** | **5-1-2038** | **7-31-2038** | 3.8218 | 3.8218 |
| **33** | **8-1-2038** | **10-31-2038** | 3.8587 | 3.8587 |
| **34** | **11-1-2038** | **1-31-2039** | 3.9312 | 3.9312 |
| **35** | **2-1-2039** | **4-30-2039** | 3.7674 | 3.7674 |
| **36** | **5-1-2039** | **7-31-2039** | 3.8218 | 3.8218 |
| **37** | **8-1-2039** | **10-31-2039** | 3.8587 | 3.8587 |
| **38** | **11-1-2039** | **1-31-2040** | 3.8879 | 3.8879 |
| **39** | **2-1-2040** | **4-30-2040** | 3.6820 | 3.6820 |
| **40** | **5-1-2040** | **7-31-2040** | 3.6862 | 3.6862 |
| **41** | **8-1-2040** | **10-31-2040** | 3.7255 | 3.7255 |
| **42** | **11-1-2040** | **1-31-2041** | 3.8027 | 3.8027 |
| **43** | **2-1-2041** | **4-30-2041** | 3.6407 | 3.6407 |
| **44** | **5-1-2041** | **7-31-2041** | 3.6862 | 3.6862 |
| **45** | **8-1-2041** | **10-31-2041** | 3.7255 | 3.7255 |
| **46** | **11-1-2041** | **1-31-2042** | 3.8027 | 3.8027 |
| **47** | **2-1-2042** | **4-30-2042** | 3.6407 | 3.6407 |
| **48** | **5-1-2042** | **7-31-2042** | 3.6862 | 3.6862 |
| **49** | **8-1-2042** | **10-31-2042** | 3.7255 | 3.7255 |
| **50** | **11-1-2042** | **1-31-2043** | 3.8027 | 3.8027 |
| **51** | **2-1-2043** | **4-30-2043** | 3.6407 | 3.6407 |
| **52** | **5-1-2043** | **7-31-2043** | 3.6862 | 3.6862 |
| **53** | **8-1-2043** | **10-31-2043** | 3.7255 | 3.7255 |
| **54** | **11-1-2043** | **1-31-2044** | 3.8027 | 3.8027 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | |
|---|---|---|---|---|
| **55** | **2-1-2044** | **4-30-2044** | 3.6820 | 3.6820 |
| **56** | **5-1-2044** | **7-31-2044** | 3.6862 | 3.6862 |
| **57** | **8-1-2044** | **9-30-2044** | 2.4441 | 2.4441 |
| | | **Highest** | 4.1003 | 4.1003 |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 54.2555 | 0.7304 | 63.2968 | 3.3600e-003 | | 0.3524 | 0.3524 | | 0.3524 | 0.3524 | 0.0000 | 103.8824 | 103.8824 | 0.0992 | 0.0000 | 106.3625 |
| Energy | 1.0724 | 9.4407 | 5.9257 | 0.0585 | | 0.7410 | 0.7410 | | 0.7410 | 0.7410 | 0.0000 | 10,613.4348 | 10,613.4348 | 1.2808 | 0.3252 | 10,742.3577 |
| Mobile | 25.7928 | 29.2084 | 255.1674 | 0.5021 | 72.1700 | 0.2478 | 72.4178 | 19.2673 | 0.2317 | 19.4990 | 0.0000 | 51,181.4254 | 51,181.4254 | 3.4580 | 2.5285 | 52,021.3662 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 1,904.7860 | 0.0000 | 1,904.7860 | 112.5696 | 0.0000 | 4,719.0267 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 217.8858 | 0.0000 | 217.8858 | 0.8146 | 0.4817 | 381.7864 |
| **Total** | **81.1208** | **39.3795** | **324.3899** | **0.5640** | **72.1700** | **1.3411** | **73.5111** | **19.2673** | **1.3250** | **20.5923** | **2,122.6718** | **61,898.7426** | **64,021.4144** | **118.2222** | **3.3353** | **67,970.8994** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.2 Overall Operational

**Mitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 54.2555 | 0.7304 | 63.2968 | 3.3600e-003 | | 0.3524 | 0.3524 | | 0.3524 | 0.3524 | 0.0000 | 103.8824 | 103.8824 | 0.0992 | 0.0000 | 106.3625 |
| Energy | 1.0724 | 9.4407 | 5.9257 | 0.0585 | | 0.7410 | 0.7410 | | 0.7410 | 0.7410 | 0.0000 | 10,613.4348 | 10,613.4348 | 1.2808 | 0.3252 | 10,742.3577 |
| Mobile | 25.7928 | 29.2084 | 255.1674 | 0.5021 | 72.1700 | 0.2478 | 72.4178 | 19.2673 | 0.2317 | 19.4990 | 0.0000 | 51,181.4254 | 51,181.4254 | 3.4580 | 2.5285 | 52,021.3662 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 1,904.7860 | 0.0000 | 1,904.7860 | 112.5696 | 0.0000 | 4,719.0267 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 217.8858 | 0.0000 | 217.8858 | 0.8108 | 0.4812 | 381.5577 |
| **Total** | **81.1208** | **39.3795** | **324.3899** | **0.5640** | **72.1700** | **1.3411** | **73.5111** | **19.2673** | **1.3250** | **20.5923** | **2,122.6718** | **61,898.7426** | **64,021.4144** | **118.2185** | **3.3349** | **67,970.6707** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.01** | **0.00** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 8/1/2030 | 1/15/2031 | 5 | 120 | |
| 2 | Grading | Grading | 1/16/2031 | 7/2/2031 | 5 | 120 | |
| 3 | Paving | Paving | 7/3/2031 | 12/17/2031 | 5 | 120 | |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4 | Building Construction | Building Construction | 12/18/2031 | 11/15/2044 | 5 | 3369 | |
| 5 | Arch Coating | Architectural Coating | 1/2/2032 | 11/30/2044 | 5 | 3369 | |

**Acres of Grading (Site Preparation Phase): 180**

**Acres of Grading (Grading Phase): 360**

**Acres of Paving: 0**

**Residential Indoor: 17,809,875; Residential Outdoor: 5,936,625; Non-Residential Indoor: 4,292,984; Non-Residential Outdoor: 1,430,995; Striped Parking Area: 0 (Architectural Coating – sqft)**

## OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Grading | Excavators | 2 | 8.00 | 158 | 0.38 |
| Grading | Graders | 2 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Grading | Scrapers | 29 | 8.00 | 367 | 0.48 |
| Grading | Tractors/Loaders/Backhoes | 2 | 8.00 | 97 | 0.37 |
| Paving | Pavers | 2 | 8.00 | 130 | 0.42 |
| Paving | Paving Equipment | 2 | 8.00 | 132 | 0.36 |
| Paving | Rollers | 2 | 8.00 | 80 | 0.38 |
| Building Construction | Cranes | 2 | 7.00 | 231 | 0.29 |
| Building Construction | Forklifts | 6 | 8.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 2 | 8.00 | 84 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | 6 | 7.00 | 97 | 0.37 |
| Building Construction | Welders | 2 | 8.00 | 46 | 0.45 |
| Arch Coating | Air Compressors | 2 | 6.00 | 78 | 0.48 |

## Trips and VMT

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 7 | 18.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 36 | 90.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 6 | 15.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 18 | 4,371.00 | 1,127.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Arch Coating | 2 | 874.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

## 3.2 Site Preparation - 2030

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 1.0801 | 0.0000 | 1.0801 | 0.5515 | 0.0000 | 0.5515 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.1330 | 0.7449 | 0.8879 | 2.5400e-003 | | 0.0238 | 0.0238 | | 0.0238 | 0.0238 | 0.0000 | 218.0251 | 218.0251 | 0.0108 | 0.0000 | 218.2941 |
| **Total** | **0.1330** | **0.7449** | **0.8879** | **2.5400e-003** | **1.0801** | **0.0238** | **1.1039** | **0.5515** | **0.0238** | **0.5753** | **0.0000** | **218.0251** | **218.0251** | **0.0108** | **0.0000** | **218.2941** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2030

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.8600e-003 | 9.2000e-004 | 0.0156 | 5.0000e-005 | 7.2000e-003 | 3.0000e-005 | 7.2300e-003 | 1.9200e-003 | 2.0000e-005 | 1.9400e-003 | 0.0000 | 4.9579 | 4.9579 | 1.0000e-004 | 1.1000e-004 | 4.9943 |
| **Total** | **1.8600e-003** | **9.2000e-004** | **0.0156** | **5.0000e-005** | **7.2000e-003** | **3.0000e-005** | **7.2300e-003** | **1.9200e-003** | **2.0000e-005** | **1.9400e-003** | **0.0000** | **4.9579** | **4.9579** | **1.0000e-004** | **1.1000e-004** | **4.9943** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 1.0801 | 0.0000 | 1.0801 | 0.5515 | 0.0000 | 0.5515 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.1330 | 0.7449 | 0.8879 | 2.5400e-003 | | 0.0238 | 0.0238 | | 0.0238 | 0.0238 | 0.0000 | 218.0249 | 218.0249 | 0.0108 | 0.0000 | 218.2938 |
| **Total** | **0.1330** | **0.7449** | **0.8879** | **2.5400e-003** | **1.0801** | **0.0238** | **1.1039** | **0.5515** | **0.0238** | **0.5753** | **0.0000** | **218.0249** | **218.0249** | **0.0108** | **0.0000** | **218.2938** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2030

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.8600e-003 | 9.2000e-004 | 0.0156 | 5.0000e-005 | 7.2000e-003 | 3.0000e-005 | 7.2300e-003 | 1.9200e-003 | 2.0000e-005 | 1.9400e-003 | 0.0000 | 4.9579 | 4.9579 | 1.0000e-004 | 1.1000e-004 | 4.9943 |
| **Total** | **1.8600e-003** | **9.2000e-004** | **0.0156** | **5.0000e-005** | **7.2000e-003** | **3.0000e-005** | **7.2300e-003** | **1.9200e-003** | **2.0000e-005** | **1.9400e-003** | **0.0000** | **4.9579** | **4.9579** | **1.0000e-004** | **1.1000e-004** | **4.9943** |

## 3.2 Site Preparation - 2031

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.1948 | 0.0000 | 0.1948 | 0.0649 | 0.0000 | 0.0649 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0134 | 0.0752 | 0.0896 | 2.6000e-004 | | 2.4000e-003 | 2.4000e-003 | | 2.4000e-003 | 2.4000e-003 | 0.0000 | 22.0025 | 22.0025 | 1.0900e-003 | 0.0000 | 22.0297 |
| **Total** | **0.0134** | **0.0752** | **0.0896** | **2.6000e-004** | **0.1948** | **2.4000e-003** | **0.1972** | **0.0649** | **2.4000e-003** | **0.0673** | **0.0000** | **22.0025** | **22.0025** | **1.0900e-003** | **0.0000** | **22.0297** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2031

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.8000e-004 | 9.0000e-005 | 1.5200e-003 | 0.0000 | 7.3000e-004 | 0.0000 | 7.3000e-004 | 1.9000e-004 | 0.0000 | 2.0000e-004 | 0.0000 | 0.4927 | 0.4927 | 1.0000e-005 | 1.0000e-005 | 0.4962 |
| **Total** | **1.8000e-004** | **9.0000e-005** | **1.5200e-003** | **0.0000** | **7.3000e-004** | **0.0000** | **7.3000e-004** | **1.9000e-004** | **0.0000** | **2.0000e-004** | **0.0000** | **0.4927** | **0.4927** | **1.0000e-005** | **1.0000e-005** | **0.4962** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.1948 | 0.0000 | 0.1948 | 0.0649 | 0.0000 | 0.0649 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0134 | 0.0752 | 0.0896 | 2.6000e-004 | | 2.4000e-003 | 2.4000e-003 | | 2.4000e-003 | 2.4000e-003 | 0.0000 | 22.0025 | 22.0025 | 1.0900e-003 | 0.0000 | 22.0297 |
| **Total** | **0.0134** | **0.0752** | **0.0896** | **2.6000e-004** | **0.1948** | **2.4000e-003** | **0.1972** | **0.0649** | **2.4000e-003** | **0.0673** | **0.0000** | **22.0025** | **22.0025** | **1.0900e-003** | **0.0000** | **22.0297** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2031

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.8000e-004 | 9.0000e-005 | 1.5200e-003 | 0.0000 | 7.3000e-004 | 0.0000 | 7.3000e-004 | 1.9000e-004 | 0.0000 | 2.0000e-004 | 0.0000 | 0.4927 | 0.4927 | 1.0000e-005 | 1.0000e-005 | 0.4962 |
| **Total** | **1.8000e-004** | **9.0000e-005** | **1.5200e-003** | **0.0000** | **7.3000e-004** | **0.0000** | **7.3000e-004** | **1.9000e-004** | **0.0000** | **2.0000e-004** | **0.0000** | **0.4927** | **0.4927** | **1.0000e-005** | **1.0000e-005** | **0.4962** |

## 3.3 Grading - 2031

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.5522 | 0.0000 | 0.5522 | 0.2192 | 0.0000 | 0.2192 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.5180 | 6.2064 | 7.4339 | 0.0299 | | 0.2326 | 0.2326 | | 0.2326 | 0.2326 | 0.0000 | 3,029.3374 | 3,029.3374 | 0.1223 | 0.0000 | 3,032.3945 |
| **Total** | **1.5180** | **6.2064** | **7.4339** | **0.0299** | **0.5522** | **0.2326** | **0.7848** | **0.2192** | **0.2326** | **0.4518** | **0.0000** | **3,029.3374** | **3,029.3374** | **0.1223** | **0.0000** | **3,032.3945** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Grading - 2031

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 9.6400e-003 | 4.7700e-003 | 0.0830 | 2.7000e-004 | 0.0397 | 1.3000e-004 | 0.0398 | 0.0106 | 1.2000e-004 | 0.0107 | 0.0000 | 26.8734 | 26.8734 | 5.1000e-004 | 6.1000e-004 | 27.0670 |
| **Total** | **9.6400e-003** | **4.7700e-003** | **0.0830** | **2.7000e-004** | **0.0397** | **1.3000e-004** | **0.0398** | **0.0106** | **1.2000e-004** | **0.0107** | **0.0000** | **26.8734** | **26.8734** | **5.1000e-004** | **6.1000e-004** | **27.0670** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.5522 | 0.0000 | 0.5522 | 0.2192 | 0.0000 | 0.2192 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.5180 | 6.2064 | 7.4339 | 0.0299 | | 0.2326 | 0.2326 | | 0.2326 | 0.2326 | 0.0000 | 3,029.3338 | 3,029.3338 | 0.1223 | 0.0000 | 3,032.3909 |
| **Total** | **1.5180** | **6.2064** | **7.4339** | **0.0299** | **0.5522** | **0.2326** | **0.7848** | **0.2192** | **0.2326** | **0.4518** | **0.0000** | **3,029.3338** | **3,029.3338** | **0.1223** | **0.0000** | **3,032.3909** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Grading - 2031

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 9.6400e-003 | 4.7700e-003 | 0.0830 | 2.7000e-004 | 0.0397 | 1.3000e-004 | 0.0398 | 0.0106 | 1.2000e-004 | 0.0107 | 0.0000 | 26.8734 | 26.8734 | 5.1000e-004 | 6.1000e-004 | 27.0670 |
| **Total** | **9.6400e-003** | **4.7700e-003** | **0.0830** | **2.7000e-004** | **0.0397** | **1.3000e-004** | **0.0398** | **0.0106** | **1.2000e-004** | **0.0107** | **0.0000** | **26.8734** | **26.8734** | **5.1000e-004** | **6.1000e-004** | **27.0670** |

## 3.4 Paving - 2031

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0831 | 0.4272 | 0.9510 | 1.6800e-003 | | 0.0198 | 0.0198 | | 0.0198 | 0.0198 | 0.0000 | 144.5971 | 144.5971 | 6.7800e-003 | 0.0000 | 144.7666 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0831** | **0.4272** | **0.9510** | **1.6800e-003** | | **0.0198** | **0.0198** | | **0.0198** | **0.0198** | **0.0000** | **144.5971** | **144.5971** | **6.7800e-003** | **0.0000** | **144.7666** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2031

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.6100e-003 | 7.9000e-004 | 0.0138 | 5.0000e-005 | 6.6100e-003 | 2.0000e-005 | 6.6300e-003 | 1.7600e-003 | 2.0000e-005 | 1.7800e-003 | 0.0000 | 4.4789 | 4.4789 | 9.0000e-005 | 1.0000e-004 | 4.5112 |
| **Total** | **1.6100e-003** | **7.9000e-004** | **0.0138** | **5.0000e-005** | **6.6100e-003** | **2.0000e-005** | **6.6300e-003** | **1.7600e-003** | **2.0000e-005** | **1.7800e-003** | **0.0000** | **4.4789** | **4.4789** | **9.0000e-005** | **1.0000e-004** | **4.5112** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0831 | 0.4272 | 0.9510 | 1.6800e-003 | | 0.0198 | 0.0198 | | 0.0198 | 0.0198 | 0.0000 | 144.5969 | 144.5969 | 6.7800e-003 | 0.0000 | 144.7664 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0831** | **0.4272** | **0.9510** | **1.6800e-003** | | **0.0198** | **0.0198** | | **0.0198** | **0.0198** | **0.0000** | **144.5969** | **144.5969** | **6.7800e-003** | **0.0000** | **144.7664** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2031

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.6100e-003 | 7.9000e-004 | 0.0138 | 5.0000e-005 | 6.6100e-003 | 2.0000e-005 | 6.6300e-003 | 1.7600e-003 | 2.0000e-005 | 1.7800e-003 | 0.0000 | 4.4789 | 4.4789 | 9.0000e-005 | 1.0000e-004 | 4.5112 |
| **Total** | **1.6100e-003** | **7.9000e-004** | **0.0138** | **5.0000e-005** | **6.6100e-003** | **2.0000e-005** | **6.6300e-003** | **1.7600e-003** | **2.0000e-005** | **1.7800e-003** | **0.0000** | **4.4789** | **4.4789** | **9.0000e-005** | **1.0000e-004** | **4.5112** |

## 3.5 Building Construction - 2031

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0131 | 0.0794 | 0.1616 | 3.1000e-004 | | 1.4800e-003 | 1.4800e-003 | | 1.4800e-003 | 1.4800e-003 | 0.0000 | 26.2861 | 26.2861 | 1.0500e-003 | 0.0000 | 26.3125 |
| **Total** | **0.0131** | **0.0794** | **0.1616** | **3.1000e-004** | | **1.4800e-003** | **1.4800e-003** | | **1.4800e-003** | **1.4800e-003** | **0.0000** | **26.2861** | **26.2861** | **1.0500e-003** | **0.0000** | **26.3125** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2031

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 5.6700e-003 | 0.2391 | 0.0722 | 9.2000e-004 | 0.0330 | 1.2400e-003 | 0.0342 | 9.5300e-003 | 1.1900e-003 | 0.0107 | 0.0000 | 89.2728 | 89.2728 | 2.1800e-003 | 0.0133 | 93.2834 |
| Worker | 0.0390 | 0.0193 | 0.3360 | 1.1000e-003 | 0.1605 | 5.4000e-004 | 0.1611 | 0.0427 | 5.0000e-004 | 0.0432 | 0.0000 | 108.7626 | 108.7626 | 2.0700e-003 | 2.4600e-003 | 109.5460 |
| **Total** | **0.0447** | **0.2584** | **0.4083** | **2.0200e-003** | **0.1935** | **1.7800e-003** | **0.1953** | **0.0522** | **1.6900e-003** | **0.0539** | **0.0000** | **198.0354** | **198.0354** | **4.2500e-003** | **0.0157** | **202.8294** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0131 | 0.0794 | 0.1616 | 3.1000e-004 | | 1.4800e-003 | 1.4800e-003 | | 1.4800e-003 | 1.4800e-003 | 0.0000 | 26.2861 | 26.2861 | 1.0500e-003 | 0.0000 | 26.3124 |
| **Total** | **0.0131** | **0.0794** | **0.1616** | **3.1000e-004** | | **1.4800e-003** | **1.4800e-003** | | **1.4800e-003** | **1.4800e-003** | **0.0000** | **26.2861** | **26.2861** | **1.0500e-003** | **0.0000** | **26.3124** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2031

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 5.6700e-003 | 0.2391 | 0.0722 | 9.2000e-004 | 0.0330 | 1.2400e-003 | 0.0342 | 9.5300e-003 | 1.1900e-003 | 0.0107 | 0.0000 | 89.2728 | 89.2728 | 2.1800e-003 | 0.0133 | 93.2834 |
| Worker | 0.0390 | 0.0193 | 0.3360 | 1.1000e-003 | 0.1605 | 5.4000e-004 | 0.1611 | 0.0427 | 5.0000e-004 | 0.0432 | 0.0000 | 108.7626 | 108.7626 | 2.0700e-003 | 2.4600e-003 | 109.5460 |
| **Total** | **0.0447** | **0.2584** | **0.4083** | **2.0200e-003** | **0.1935** | **1.7800e-003** | **0.1953** | **0.0522** | **1.6900e-003** | **0.0539** | **0.0000** | **198.0354** | **198.0354** | **4.2500e-003** | **0.0157** | **202.8294** |

## 3.5 Building Construction - 2032

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3430 | 2.0789 | 4.2331 | 8.1100e-003 | | 0.0388 | 0.0388 | | 0.0388 | 0.0388 | 0.0000 | 688.6959 | 688.6959 | 0.0276 | 0.0000 | 689.3866 |
| **Total** | **0.3430** | **2.0789** | **4.2331** | **8.1100e-003** | | **0.0388** | **0.0388** | | **0.0388** | **0.0388** | **0.0000** | **688.6959** | **688.6959** | **0.0276** | **0.0000** | **689.3866** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2032

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1456 | 6.1971 | 1.8833 | 0.0236 | 0.8636 | 0.0319 | 0.8955 | 0.2496 | 0.0306 | 0.2801 | 0.0000 | 2,303.9480 | 2,303.9480 | 0.0563 | 0.3430 | 2,407.5744 |
| Worker | 0.9647 | 0.4794 | 8.5394 | 0.0283 | 4.2054 | 0.0133 | 4.2187 | 1.1185 | 0.0123 | 1.1308 | 0.0000 | 2,810.7467 | 2,810.7467 | 0.0507 | 0.0627 | 2,830.6963 |
| **Total** | **1.1103** | **6.6765** | **10.4227** | **0.0519** | **5.0690** | **0.0453** | **5.1143** | **1.3681** | **0.0428** | **1.4109** | **0.0000** | **5,114.6946** | **5,114.6946** | **0.1069** | **0.4057** | **5,238.2707** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3430 | 2.0789 | 4.2331 | 8.1100e-003 | | 0.0388 | 0.0388 | | 0.0388 | 0.0388 | 0.0000 | 688.6951 | 688.6951 | 0.0276 | 0.0000 | 689.3858 |
| **Total** | **0.3430** | **2.0789** | **4.2331** | **8.1100e-003** | | **0.0388** | **0.0388** | | **0.0388** | **0.0388** | **0.0000** | **688.6951** | **688.6951** | **0.0276** | **0.0000** | **689.3858** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2032

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1456 | 6.1971 | 1.8833 | 0.0236 | 0.8636 | 0.0319 | 0.8955 | 0.2496 | 0.0306 | 0.2801 | 0.0000 | 2,303.9480 | 2,303.9480 | 0.0563 | 0.3430 | 2,407.5744 |
| Worker | 0.9647 | 0.4794 | 8.5394 | 0.0283 | 4.2054 | 0.0133 | 4.2187 | 1.1185 | 0.0123 | 1.1308 | 0.0000 | 2,810.7467 | 2,810.7467 | 0.0507 | 0.0627 | 2,830.6963 |
| **Total** | **1.1103** | **6.6765** | **10.4227** | **0.0519** | **5.0690** | **0.0453** | **5.1143** | **1.3681** | **0.0428** | **1.4109** | **0.0000** | **5,114.6946** | **5,114.6946** | **0.1069** | **0.4057** | **5,238.2707** |

## 3.5 Building Construction - 2033

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3404 | 2.0630 | 4.2008 | 8.0500e-003 | | 0.0385 | 0.0385 | | 0.0385 | 0.0385 | 0.0000 | 683.4387 | 683.4387 | 0.0274 | 0.0000 | 684.1241 |
| **Total** | **0.3404** | **2.0630** | **4.2008** | **8.0500e-003** | | **0.0385** | **0.0385** | | **0.0385** | **0.0385** | **0.0000** | **683.4387** | **683.4387** | **0.0274** | **0.0000** | **684.1241** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2033

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1421 | 6.0934 | 1.8631 | 0.0231 | 0.8570 | 0.0313 | 0.8882 | 0.2477 | 0.0299 | 0.2776 | 0.0000 | 2,255.6418 | 2,255.6418 | 0.0551 | 0.3362 | 2,357.2041 |
| Worker | 0.9085 | 0.4548 | 8.2498 | 0.0276 | 4.1733 | 0.0124 | 4.1857 | 1.1100 | 0.0114 | 1.1214 | 0.0000 | 2,755.5463 | 2,755.5463 | 0.0472 | 0.0609 | 2,774.8783 |
| **Total** | **1.0505** | **6.5482** | **10.1129** | **0.0507** | **5.0303** | **0.0437** | **5.0739** | **1.3576** | **0.0413** | **1.3990** | **0.0000** | **5,011.1880** | **5,011.1880** | **0.1023** | **0.3971** | **5,132.0823** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3404 | 2.0630 | 4.2008 | 8.0500e-003 | | 0.0385 | 0.0385 | | 0.0385 | 0.0385 | 0.0000 | 683.4378 | 683.4378 | 0.0274 | 0.0000 | 684.1233 |
| **Total** | **0.3404** | **2.0630** | **4.2008** | **8.0500e-003** | | **0.0385** | **0.0385** | | **0.0385** | **0.0385** | **0.0000** | **683.4378** | **683.4378** | **0.0274** | **0.0000** | **684.1233** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2033

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1421 | 6.0934 | 1.8631 | 0.0231 | 0.8570 | 0.0313 | 0.8882 | 0.2477 | 0.0299 | 0.2776 | 0.0000 | 2,255.6418 | 2,255.6418 | 0.0551 | 0.3362 | 2,357.2041 |
| Worker | 0.9085 | 0.4548 | 8.2498 | 0.0276 | 4.1733 | 0.0124 | 4.1857 | 1.1100 | 0.0114 | 1.1214 | 0.0000 | 2,755.5463 | 2,755.5463 | 0.0472 | 0.0609 | 2,774.8783 |
| **Total** | **1.0505** | **6.5482** | **10.1129** | **0.0507** | **5.0303** | **0.0437** | **5.0739** | **1.3576** | **0.0413** | **1.3990** | **0.0000** | **5,011.1880** | **5,011.1880** | **0.1023** | **0.3971** | **5,132.0823** |

## 3.5 Building Construction - 2034

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3404 | 2.0630 | 4.2008 | 8.0500e-003 | | 0.0385 | 0.0385 | | 0.0385 | 0.0385 | 0.0000 | 683.4387 | 683.4387 | 0.0274 | 0.0000 | 684.1241 |
| **Total** | **0.3404** | **2.0630** | **4.2008** | **8.0500e-003** | | **0.0385** | **0.0385** | | **0.0385** | **0.0385** | **0.0000** | **683.4387** | **683.4387** | **0.0274** | **0.0000** | **684.1241** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2034

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1398 | 6.0389 | 1.8585 | 0.0229 | 0.8569 | 0.0308 | 0.8877 | 0.2477 | 0.0295 | 0.2771 | 0.0000 | 2,227.5347 | 2,227.5347 | 0.0544 | 0.3323 | 2,327.9272 |
| Worker | 0.8640 | 0.4375 | 8.0502 | 0.0272 | 4.1733 | 0.0117 | 4.1850 | 1.1100 | 0.0108 | 1.1207 | 0.0000 | 2,726.0734 | 2,726.0734 | 0.0445 | 0.0598 | 2,745.0164 |
| **Total** | **1.0038** | **6.4764** | **9.9087** | **0.0500** | **5.0302** | **0.0425** | **5.0727** | **1.3576** | **0.0402** | **1.3978** | **0.0000** | **4,953.6081** | **4,953.6081** | **0.0989** | **0.3922** | **5,072.9436** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3404 | 2.0630 | 4.2008 | 8.0500e-003 | | 0.0385 | 0.0385 | | 0.0385 | 0.0385 | 0.0000 | 683.4378 | 683.4378 | 0.0274 | 0.0000 | 684.1233 |
| **Total** | **0.3404** | **2.0630** | **4.2008** | **8.0500e-003** | | **0.0385** | **0.0385** | | **0.0385** | **0.0385** | **0.0000** | **683.4378** | **683.4378** | **0.0274** | **0.0000** | **684.1233** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2034

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1398 | 6.0389 | 1.8585 | 0.0229 | 0.8569 | 0.0308 | 0.8877 | 0.2477 | 0.0295 | 0.2771 | 0.0000 | 2,227.5347 | 2,227.5347 | 0.0544 | 0.3323 | 2,327.9272 |
| Worker | 0.8640 | 0.4375 | 8.0502 | 0.0272 | 4.1733 | 0.0117 | 4.1850 | 1.1100 | 0.0108 | 1.1207 | 0.0000 | 2,726.0734 | 2,726.0734 | 0.0445 | 0.0598 | 2,745.0164 |
| **Total** | **1.0038** | **6.4764** | **9.9087** | **0.0500** | **5.0302** | **0.0425** | **5.0727** | **1.3576** | **0.0402** | **1.3978** | **0.0000** | **4,953.6081** | **4,953.6081** | **0.0989** | **0.3922** | **5,072.9436** |

## 3.5 Building Construction - 2035

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3176 | 1.8691 | 4.2067 | 8.0800e-003 | | 0.0236 | 0.0236 | | 0.0236 | 0.0236 | 0.0000 | 686.0673 | 686.0673 | 0.0256 | 0.0000 | 686.7061 |
| **Total** | **0.3176** | **1.8691** | **4.2067** | **8.0800e-003** | | **0.0236** | **0.0236** | | **0.0236** | **0.0236** | **0.0000** | **686.0673** | **686.0673** | **0.0256** | **0.0000** | **686.7061** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2035

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1383 | 6.0140 | 1.8618 | 0.0227 | 0.8602 | 0.0305 | 0.8907 | 0.2486 | 0.0292 | 0.2778 | 0.0000 | 2,211.0084 | 2,211.0084 | 0.0541 | 0.3301 | 2,310.7428 |
| Worker | 0.8265 | 0.4254 | 7.9099 | 0.0269 | 4.1894 | 0.0111 | 4.2004 | 1.1142 | 0.0102 | 1.1244 | 0.0000 | 2,711.2292 | 2,711.2292 | 0.0422 | 0.0592 | 2,729.9302 |
| **Total** | **0.9648** | **6.4394** | **9.7717** | **0.0496** | **5.0495** | **0.0416** | **5.0911** | **1.3628** | **0.0394** | **1.4022** | **0.0000** | **4,922.2376** | **4,922.2376** | **0.0963** | **0.3894** | **5,040.6730** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3176 | 1.8691 | 4.2067 | 8.0800e-003 | | 0.0236 | 0.0236 | | 0.0236 | 0.0236 | 0.0000 | 686.0664 | 686.0664 | 0.0256 | 0.0000 | 686.7053 |
| **Total** | **0.3176** | **1.8691** | **4.2067** | **8.0800e-003** | | **0.0236** | **0.0236** | | **0.0236** | **0.0236** | **0.0000** | **686.0664** | **686.0664** | **0.0256** | **0.0000** | **686.7053** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2035

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1383 | 6.0140 | 1.8618 | 0.0227 | 0.8602 | 0.0305 | 0.8907 | 0.2486 | 0.0292 | 0.2778 | 0.0000 | 2,211.0084 | 2,211.0084 | 0.0541 | 0.3301 | 2,310.7428 |
| Worker | 0.8265 | 0.4254 | 7.9099 | 0.0269 | 4.1894 | 0.0111 | 4.2004 | 1.1142 | 0.0102 | 1.1244 | 0.0000 | 2,711.2292 | 2,711.2292 | 0.0422 | 0.0592 | 2,729.9302 |
| **Total** | **0.9648** | **6.4394** | **9.7717** | **0.0496** | **5.0495** | **0.0416** | **5.0911** | **1.3628** | **0.0394** | **1.4022** | **0.0000** | **4,922.2376** | **4,922.2376** | **0.0963** | **0.3894** | **5,040.6730** |

## 3.5 Building Construction - 2036

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3188 | 1.8763 | 4.2229 | 8.1100e-003 | | 0.0237 | 0.0237 | | 0.0237 | 0.0237 | 0.0000 | 688.6959 | 688.6959 | 0.0257 | 0.0000 | 689.3371 |
| **Total** | **0.3188** | **1.8763** | **4.2229** | **8.1100e-003** | | **0.0237** | **0.0237** | | **0.0237** | **0.0237** | **0.0000** | **688.6959** | **688.6959** | **0.0257** | **0.0000** | **689.3371** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2036

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1388 | 6.0370 | 1.8690 | 0.0228 | 0.8635 | 0.0306 | 0.8941 | 0.2496 | 0.0293 | 0.2789 | 0.0000 | 2,219.4797 | 2,219.4797 | 0.0543 | 0.3314 | 2,319.5963 |
| Worker | 0.8297 | 0.4270 | 7.9402 | 0.0270 | 4.2054 | 0.0111 | 4.2165 | 1.1185 | 0.0102 | 1.1287 | 0.0000 | 2,721.6171 | 2,721.6171 | 0.0424 | 0.0594 | 2,740.3897 |
| **Total** | **0.9685** | **6.4641** | **9.8091** | **0.0498** | **5.0689** | **0.0417** | **5.1106** | **1.3681** | **0.0395** | **1.4076** | **0.0000** | **4,941.0967** | **4,941.0967** | **0.0967** | **0.3908** | **5,059.9859** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3188 | 1.8763 | 4.2229 | 8.1100e-003 | | 0.0237 | 0.0237 | | 0.0237 | 0.0237 | 0.0000 | 688.6951 | 688.6951 | 0.0257 | 0.0000 | 689.3363 |
| **Total** | **0.3188** | **1.8763** | **4.2229** | **8.1100e-003** | | **0.0237** | **0.0237** | | **0.0237** | **0.0237** | **0.0000** | **688.6951** | **688.6951** | **0.0257** | **0.0000** | **689.3363** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2036

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1388 | 6.0370 | 1.8690 | 0.0228 | 0.8635 | 0.0306 | 0.8941 | 0.2496 | 0.0293 | 0.2789 | 0.0000 | 2,219.4797 | 2,219.4797 | 0.0543 | 0.3314 | 2,319.5963 |
| Worker | 0.8297 | 0.4270 | 7.9402 | 0.0270 | 4.2054 | 0.0111 | 4.2165 | 1.1185 | 0.0102 | 1.1287 | 0.0000 | 2,721.6171 | 2,721.6171 | 0.0424 | 0.0594 | 2,740.3897 |
| **Total** | **0.9685** | **6.4641** | **9.8091** | **0.0498** | **5.0689** | **0.0417** | **5.1106** | **1.3681** | **0.0395** | **1.4076** | **0.0000** | **4,941.0967** | **4,941.0967** | **0.0967** | **0.3908** | **5,059.9859** |

## 3.5 Building Construction - 2037

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3176 | 1.8691 | 4.2067 | 8.0800e-003 | | 0.0236 | 0.0236 | | 0.0236 | 0.0236 | 0.0000 | 686.0673 | 686.0673 | 0.0256 | 0.0000 | 686.7061 |
| **Total** | **0.3176** | **1.8691** | **4.2067** | **8.0800e-003** | | **0.0236** | **0.0236** | | **0.0236** | **0.0236** | **0.0000** | **686.0673** | **686.0673** | **0.0256** | **0.0000** | **686.7061** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2037

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1383 | 6.0140 | 1.8618 | 0.0227 | 0.8602 | 0.0305 | 0.8907 | 0.2486 | 0.0292 | 0.2778 | 0.0000 | 2,211.0084 | 2,211.0084 | 0.0541 | 0.3301 | 2,310.7428 |
| Worker | 0.8265 | 0.4254 | 7.9099 | 0.0269 | 4.1894 | 0.0111 | 4.2004 | 1.1142 | 0.0102 | 1.1244 | 0.0000 | 2,711.2292 | 2,711.2292 | 0.0422 | 0.0592 | 2,729.9302 |
| **Total** | **0.9648** | **6.4394** | **9.7717** | **0.0496** | **5.0495** | **0.0416** | **5.0911** | **1.3628** | **0.0394** | **1.4022** | **0.0000** | **4,922.2376** | **4,922.2376** | **0.0963** | **0.3894** | **5,040.6730** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3176 | 1.8691 | 4.2067 | 8.0800e-003 | | 0.0236 | 0.0236 | | 0.0236 | 0.0236 | 0.0000 | 686.0664 | 686.0664 | 0.0256 | 0.0000 | 686.7053 |
| **Total** | **0.3176** | **1.8691** | **4.2067** | **8.0800e-003** | | **0.0236** | **0.0236** | | **0.0236** | **0.0236** | **0.0000** | **686.0664** | **686.0664** | **0.0256** | **0.0000** | **686.7053** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2037

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1383 | 6.0140 | 1.8618 | 0.0227 | 0.8602 | 0.0305 | 0.8907 | 0.2486 | 0.0292 | 0.2778 | 0.0000 | 2,211.0084 | 2,211.0084 | 0.0541 | 0.3301 | 2,310.7428 |
| Worker | 0.8265 | 0.4254 | 7.9099 | 0.0269 | 4.1894 | 0.0111 | 4.2004 | 1.1142 | 0.0102 | 1.1244 | 0.0000 | 2,711.2292 | 2,711.2292 | 0.0422 | 0.0592 | 2,729.9302 |
| **Total** | **0.9648** | **6.4394** | **9.7717** | **0.0496** | **5.0495** | **0.0416** | **5.0911** | **1.3628** | **0.0394** | **1.4022** | **0.0000** | **4,922.2376** | **4,922.2376** | **0.0963** | **0.3894** | **5,040.6730** |

## 3.5 Building Construction - 2038

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3176 | 1.8691 | 4.2067 | 8.0800e-003 | | 0.0236 | 0.0236 | | 0.0236 | 0.0236 | 0.0000 | 686.0673 | 686.0673 | 0.0256 | 0.0000 | 686.7061 |
| **Total** | **0.3176** | **1.8691** | **4.2067** | **8.0800e-003** | | **0.0236** | **0.0236** | | **0.0236** | **0.0236** | **0.0000** | **686.0673** | **686.0673** | **0.0256** | **0.0000** | **686.7061** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2038

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1383 | 6.0140 | 1.8618 | 0.0227 | 0.8602 | 0.0305 | 0.8907 | 0.2486 | 0.0292 | 0.2778 | 0.0000 | 2,211.0084 | 2,211.0084 | 0.0541 | 0.3301 | 2,310.7428 |
| Worker | 0.8265 | 0.4254 | 7.9099 | 0.0269 | 4.1894 | 0.0111 | 4.2004 | 1.1142 | 0.0102 | 1.1244 | 0.0000 | 2,711.2292 | 2,711.2292 | 0.0422 | 0.0592 | 2,729.9302 |
| **Total** | **0.9648** | **6.4394** | **9.7717** | **0.0496** | **5.0495** | **0.0416** | **5.0911** | **1.3628** | **0.0394** | **1.4022** | **0.0000** | **4,922.2376** | **4,922.2376** | **0.0963** | **0.3894** | **5,040.6730** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3176 | 1.8691 | 4.2067 | 8.0800e-003 | | 0.0236 | 0.0236 | | 0.0236 | 0.0236 | 0.0000 | 686.0664 | 686.0664 | 0.0256 | 0.0000 | 686.7053 |
| **Total** | **0.3176** | **1.8691** | **4.2067** | **8.0800e-003** | | **0.0236** | **0.0236** | | **0.0236** | **0.0236** | **0.0000** | **686.0664** | **686.0664** | **0.0256** | **0.0000** | **686.7053** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2038

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1383 | 6.0140 | 1.8618 | 0.0227 | 0.8602 | 0.0305 | 0.8907 | 0.2486 | 0.0292 | 0.2778 | 0.0000 | 2,211.0084 | 2,211.0084 | 0.0541 | 0.3301 | 2,310.7428 |
| Worker | 0.8265 | 0.4254 | 7.9099 | 0.0269 | 4.1894 | 0.0111 | 4.2004 | 1.1142 | 0.0102 | 1.1244 | 0.0000 | 2,711.2292 | 2,711.2292 | 0.0422 | 0.0592 | 2,729.9302 |
| **Total** | **0.9648** | **6.4394** | **9.7717** | **0.0496** | **5.0495** | **0.0416** | **5.0911** | **1.3628** | **0.0394** | **1.4022** | **0.0000** | **4,922.2376** | **4,922.2376** | **0.0963** | **0.3894** | **5,040.6730** |

## 3.5 Building Construction - 2039

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3164 | 1.8619 | 4.1906 | 8.0500e-003 | | 0.0235 | 0.0235 | | 0.0235 | 0.0235 | 0.0000 | 683.4387 | 683.4387 | 0.0255 | 0.0000 | 684.0750 |
| **Total** | **0.3164** | **1.8619** | **4.1906** | **8.0500e-003** | | **0.0235** | **0.0235** | | **0.0235** | **0.0235** | **0.0000** | **683.4387** | **683.4387** | **0.0255** | **0.0000** | **684.0750** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2039

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1378 | 5.9909 | 1.8547 | 0.0226 | 0.8569 | 0.0304 | 0.8873 | 0.2476 | 0.0291 | 0.2767 | 0.0000 | 2,202.5371 | 2,202.5371 | 0.0539 | 0.3289 | 2,301.8894 |
| Worker | 0.8234 | 0.4238 | 7.8796 | 0.0268 | 4.1733 | 0.0110 | 4.1843 | 1.1100 | 0.0101 | 1.1201 | 0.0000 | 2,700.8413 | 2,700.8413 | 0.0420 | 0.0590 | 2,719.4707 |
| **Total** | **0.9611** | **6.4147** | **9.7343** | **0.0494** | **5.0302** | **0.0414** | **5.0716** | **1.3576** | **0.0392** | **1.3968** | **0.0000** | **4,903.3784** | **4,903.3784** | **0.0960** | **0.3879** | **5,021.3601** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3164 | 1.8619 | 4.1906 | 8.0500e-003 | | 0.0235 | 0.0235 | | 0.0235 | 0.0235 | 0.0000 | 683.4378 | 683.4378 | 0.0255 | 0.0000 | 684.0742 |
| **Total** | **0.3164** | **1.8619** | **4.1906** | **8.0500e-003** | | **0.0235** | **0.0235** | | **0.0235** | **0.0235** | **0.0000** | **683.4378** | **683.4378** | **0.0255** | **0.0000** | **684.0742** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2039

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1378 | 5.9909 | 1.8547 | 0.0226 | 0.8569 | 0.0304 | 0.8873 | 0.2476 | 0.0291 | 0.2767 | 0.0000 | 2,202.5371 | 2,202.5371 | 0.0539 | 0.3289 | 2,301.8894 |
| Worker | 0.8234 | 0.4238 | 7.8796 | 0.0268 | 4.1733 | 0.0110 | 4.1843 | 1.1100 | 0.0101 | 1.1201 | 0.0000 | 2,700.8413 | 2,700.8413 | 0.0420 | 0.0590 | 2,719.4707 |
| **Total** | **0.9611** | **6.4147** | **9.7343** | **0.0494** | **5.0302** | **0.0414** | **5.0716** | **1.3576** | **0.0392** | **1.3968** | **0.0000** | **4,903.3784** | **4,903.3784** | **0.0960** | **0.3879** | **5,021.3601** |

## 3.5 Building Construction - 2040

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3124 | 1.7984 | 4.2069 | 8.0800e-003 | | 0.0192 | 0.0192 | | 0.0192 | 0.0192 | 0.0000 | 686.0674 | 686.0674 | 0.0247 | 0.0000 | 686.6837 |
| **Total** | **0.3124** | **1.7984** | **4.2069** | **8.0800e-003** | | **0.0192** | **0.0192** | | **0.0192** | **0.0192** | **0.0000** | **686.0674** | **686.0674** | **0.0247** | **0.0000** | **686.6837** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2040

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1323 | 5.8421 | 1.8537 | 0.0217 | 0.8600 | 0.0296 | 0.8897 | 0.2485 | 0.0284 | 0.2769 | 0.0000 | 2,117.4665 | 2,117.4665 | 0.0524 | 0.3166 | 2,213.1279 |
| Worker | 0.6671 | 0.3849 | 7.3355 | 0.0257 | 4.1894 | 8.7200e-003 | 4.1981 | 1.1142 | 8.0300e-003 | 1.1223 | 0.0000 | 2,629.5358 | 2,629.5358 | 0.0337 | 0.0568 | 2,647.3136 |
| **Total** | **0.7994** | **6.2270** | **9.1892** | **0.0474** | **5.0494** | **0.0384** | **5.0878** | **1.3628** | **0.0364** | **1.3992** | **0.0000** | **4,747.0023** | **4,747.0023** | **0.0861** | **0.3735** | **4,860.4416** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3124 | 1.7984 | 4.2069 | 8.0800e-003 | | 0.0192 | 0.0192 | | 0.0192 | 0.0192 | 0.0000 | 686.0665 | 686.0665 | 0.0247 | 0.0000 | 686.6829 |
| **Total** | **0.3124** | **1.7984** | **4.2069** | **8.0800e-003** | | **0.0192** | **0.0192** | | **0.0192** | **0.0192** | **0.0000** | **686.0665** | **686.0665** | **0.0247** | **0.0000** | **686.6829** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2040

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1323 | 5.8421 | 1.8537 | 0.0217 | 0.8600 | 0.0296 | 0.8897 | 0.2485 | 0.0284 | 0.2769 | 0.0000 | 2,117.4665 | 2,117.4665 | 0.0524 | 0.3166 | 2,213.1279 |
| Worker | 0.6671 | 0.3849 | 7.3355 | 0.0257 | 4.1894 | 8.7200e-003 | 4.1981 | 1.1142 | 8.0300e-003 | 1.1223 | 0.0000 | 2,629.5358 | 2,629.5358 | 0.0337 | 0.0568 | 2,647.3136 |
| **Total** | **0.7994** | **6.2270** | **9.1892** | **0.0474** | **5.0494** | **0.0384** | **5.0878** | **1.3628** | **0.0364** | **1.3992** | **0.0000** | **4,747.0023** | **4,747.0023** | **0.0861** | **0.3735** | **4,860.4416** |

## 3.5 Building Construction - 2041

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3124 | 1.7984 | 4.2069 | 8.0800e-003 | | 0.0192 | 0.0192 | | 0.0192 | 0.0192 | 0.0000 | 686.0674 | 686.0674 | 0.0247 | 0.0000 | 686.6837 |
| **Total** | **0.3124** | **1.7984** | **4.2069** | **8.0800e-003** | | **0.0192** | **0.0192** | | **0.0192** | **0.0192** | **0.0000** | **686.0674** | **686.0674** | **0.0247** | **0.0000** | **686.6837** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2041

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1323 | 5.8421 | 1.8537 | 0.0217 | 0.8600 | 0.0296 | 0.8897 | 0.2485 | 0.0284 | 0.2769 | 0.0000 | 2,117.4665 | 2,117.4665 | 0.0524 | 0.3166 | 2,213.1279 |
| Worker | 0.6671 | 0.3849 | 7.3355 | 0.0257 | 4.1894 | 8.7200e-003 | 4.1981 | 1.1142 | 8.0300e-003 | 1.1223 | 0.0000 | 2,629.5358 | 2,629.5358 | 0.0337 | 0.0568 | 2,647.3136 |
| **Total** | **0.7994** | **6.2270** | **9.1892** | **0.0474** | **5.0494** | **0.0384** | **5.0878** | **1.3628** | **0.0364** | **1.3992** | **0.0000** | **4,747.0023** | **4,747.0023** | **0.0861** | **0.3735** | **4,860.4416** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3124 | 1.7984 | 4.2069 | 8.0800e-003 | | 0.0192 | 0.0192 | | 0.0192 | 0.0192 | 0.0000 | 686.0665 | 686.0665 | 0.0247 | 0.0000 | 686.6829 |
| **Total** | **0.3124** | **1.7984** | **4.2069** | **8.0800e-003** | | **0.0192** | **0.0192** | | **0.0192** | **0.0192** | **0.0000** | **686.0665** | **686.0665** | **0.0247** | **0.0000** | **686.6829** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2041

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1323 | 5.8421 | 1.8537 | 0.0217 | 0.8600 | 0.0296 | 0.8897 | 0.2485 | 0.0284 | 0.2769 | 0.0000 | 2,117.4665 | 2,117.4665 | 0.0524 | 0.3166 | 2,213.1279 |
| Worker | 0.6671 | 0.3849 | 7.3355 | 0.0257 | 4.1894 | 8.7200e-003 | 4.1981 | 1.1142 | 8.0300e-003 | 1.1223 | 0.0000 | 2,629.5358 | 2,629.5358 | 0.0337 | 0.0568 | 2,647.3136 |
| **Total** | **0.7994** | **6.2270** | **9.1892** | **0.0474** | **5.0494** | **0.0384** | **5.0878** | **1.3628** | **0.0364** | **1.3992** | **0.0000** | **4,747.0023** | **4,747.0023** | **0.0861** | **0.3735** | **4,860.4416** |

## 3.5 Building Construction - 2042

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3124 | 1.7984 | 4.2069 | 8.0800e-003 | | 0.0192 | 0.0192 | | 0.0192 | 0.0192 | 0.0000 | 686.0674 | 686.0674 | 0.0247 | 0.0000 | 686.6837 |
| **Total** | **0.3124** | **1.7984** | **4.2069** | **8.0800e-003** | | **0.0192** | **0.0192** | | **0.0192** | **0.0192** | **0.0000** | **686.0674** | **686.0674** | **0.0247** | **0.0000** | **686.6837** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2042

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1323 | 5.8421 | 1.8537 | 0.0217 | 0.8600 | 0.0296 | 0.8897 | 0.2485 | 0.0284 | 0.2769 | 0.0000 | 2,117.4665 | 2,117.4665 | 0.0524 | 0.3166 | 2,213.1279 |
| Worker | 0.6671 | 0.3849 | 7.3355 | 0.0257 | 4.1894 | 8.7200e-003 | 4.1981 | 1.1142 | 8.0300e-003 | 1.1223 | 0.0000 | 2,629.5358 | 2,629.5358 | 0.0337 | 0.0568 | 2,647.3136 |
| **Total** | **0.7994** | **6.2270** | **9.1892** | **0.0474** | **5.0494** | **0.0384** | **5.0878** | **1.3628** | **0.0364** | **1.3992** | **0.0000** | **4,747.0023** | **4,747.0023** | **0.0861** | **0.3735** | **4,860.4416** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3124 | 1.7984 | 4.2069 | 8.0800e-003 | | 0.0192 | 0.0192 | | 0.0192 | 0.0192 | 0.0000 | 686.0665 | 686.0665 | 0.0247 | 0.0000 | 686.6829 |
| **Total** | **0.3124** | **1.7984** | **4.2069** | **8.0800e-003** | | **0.0192** | **0.0192** | | **0.0192** | **0.0192** | **0.0000** | **686.0665** | **686.0665** | **0.0247** | **0.0000** | **686.6829** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2042

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1323 | 5.8421 | 1.8537 | 0.0217 | 0.8600 | 0.0296 | 0.8897 | 0.2485 | 0.0284 | 0.2769 | 0.0000 | 2,117.4665 | 2,117.4665 | 0.0524 | 0.3166 | 2,213.1279 |
| Worker | 0.6671 | 0.3849 | 7.3355 | 0.0257 | 4.1894 | 8.7200e-003 | 4.1981 | 1.1142 | 8.0300e-003 | 1.1223 | 0.0000 | 2,629.5358 | 2,629.5358 | 0.0337 | 0.0568 | 2,647.3136 |
| **Total** | **0.7994** | **6.2270** | **9.1892** | **0.0474** | **5.0494** | **0.0384** | **5.0878** | **1.3628** | **0.0364** | **1.3992** | **0.0000** | **4,747.0023** | **4,747.0023** | **0.0861** | **0.3735** | **4,860.4416** |

## 3.5 Building Construction - 2043

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3124 | 1.7984 | 4.2069 | 8.0800e-003 | | 0.0192 | 0.0192 | | 0.0192 | 0.0192 | 0.0000 | 686.0674 | 686.0674 | 0.0247 | 0.0000 | 686.6837 |
| **Total** | **0.3124** | **1.7984** | **4.2069** | **8.0800e-003** | | **0.0192** | **0.0192** | | **0.0192** | **0.0192** | **0.0000** | **686.0674** | **686.0674** | **0.0247** | **0.0000** | **686.6837** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2043

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1323 | 5.8421 | 1.8537 | 0.0217 | 0.8600 | 0.0296 | 0.8897 | 0.2485 | 0.0284 | 0.2769 | 0.0000 | 2,117.4665 | 2,117.4665 | 0.0524 | 0.3166 | 2,213.1279 |
| Worker | 0.6671 | 0.3849 | 7.3355 | 0.0257 | 4.1894 | 8.7200e-003 | 4.1981 | 1.1142 | 8.0300e-003 | 1.1223 | 0.0000 | 2,629.5358 | 2,629.5358 | 0.0337 | 0.0568 | 2,647.3136 |
| **Total** | **0.7994** | **6.2270** | **9.1892** | **0.0474** | **5.0494** | **0.0384** | **5.0878** | **1.3628** | **0.0364** | **1.3992** | **0.0000** | **4,747.0023** | **4,747.0023** | **0.0861** | **0.3735** | **4,860.4416** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3124 | 1.7984 | 4.2069 | 8.0800e-003 | | 0.0192 | 0.0192 | | 0.0192 | 0.0192 | 0.0000 | 686.0665 | 686.0665 | 0.0247 | 0.0000 | 686.6829 |
| **Total** | **0.3124** | **1.7984** | **4.2069** | **8.0800e-003** | | **0.0192** | **0.0192** | | **0.0192** | **0.0192** | **0.0000** | **686.0665** | **686.0665** | **0.0247** | **0.0000** | **686.6829** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2043

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1323 | 5.8421 | 1.8537 | 0.0217 | 0.8600 | 0.0296 | 0.8897 | 0.2485 | 0.0284 | 0.2769 | 0.0000 | 2,117.4665 | 2,117.4665 | 0.0524 | 0.3166 | 2,213.1279 |
| Worker | 0.6671 | 0.3849 | 7.3355 | 0.0257 | 4.1894 | 8.7200e-003 | 4.1981 | 1.1142 | 8.0300e-003 | 1.1223 | 0.0000 | 2,629.5358 | 2,629.5358 | 0.0337 | 0.0568 | 2,647.3136 |
| **Total** | **0.7994** | **6.2270** | **9.1892** | **0.0474** | **5.0494** | **0.0384** | **5.0878** | **1.3628** | **0.0364** | **1.3992** | **0.0000** | **4,747.0023** | **4,747.0023** | **0.0861** | **0.3735** | **4,860.4416** |

## 3.5 Building Construction - 2044

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.2729 | 1.5710 | 3.6750 | 7.0600e-003 | | 0.0168 | 0.0168 | | 0.0168 | 0.0168 | 0.0000 | 599.3232 | 599.3232 | 0.0215 | 0.0000 | 599.8617 |
| **Total** | **0.2729** | **1.5710** | **3.6750** | **7.0600e-003** | | **0.0168** | **0.0168** | | **0.0168** | **0.0168** | **0.0000** | **599.3232** | **599.3232** | **0.0215** | **0.0000** | **599.8617** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2044

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1156 | 5.1035 | 1.6193 | 0.0190 | 0.7513 | 0.0259 | 0.7772 | 0.2171 | 0.0248 | 0.2419 | 0.0000 | 1,849.7409 | 1,849.7409 | 0.0458 | 0.2766 | 1,933.3072 |
| Worker | 0.5828 | 0.3362 | 6.4080 | 0.0225 | 3.6597 | 7.6200e-003 | 3.6673 | 0.9734 | 7.0100e-003 | 0.9804 | 0.0000 | 2,297.0657 | 2,297.0657 | 0.0295 | 0.0496 | 2,312.5958 |
| **Total** | **0.6983** | **5.4397** | **8.0273** | **0.0414** | **4.4110** | **0.0335** | **4.4445** | **1.1905** | **0.0318** | **1.2223** | **0.0000** | **4,146.8066** | **4,146.8066** | **0.0752** | **0.3262** | **4,245.9030** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.2729 | 1.5710 | 3.6750 | 7.0600e-003 | | 0.0168 | 0.0168 | | 0.0168 | 0.0168 | 0.0000 | 599.3225 | 599.3225 | 0.0215 | 0.0000 | 599.8609 |
| **Total** | **0.2729** | **1.5710** | **3.6750** | **7.0600e-003** | | **0.0168** | **0.0168** | | **0.0168** | **0.0168** | **0.0000** | **599.3225** | **599.3225** | **0.0215** | **0.0000** | **599.8609** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2044

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.1156 | 5.1035 | 1.6193 | 0.0190 | 0.7513 | 0.0259 | 0.7772 | 0.2171 | 0.0248 | 0.2419 | 0.0000 | 1,849.7409 | 1,849.7409 | 0.0458 | 0.2766 | 1,933.3072 |
| Worker | 0.5828 | 0.3362 | 6.4080 | 0.0225 | 3.6597 | 7.6200e-003 | 3.6673 | 0.9734 | 7.0100e-003 | 0.9804 | 0.0000 | 2,297.0657 | 2,297.0657 | 0.0295 | 0.0496 | 2,312.5958 |
| **Total** | **0.6983** | **5.4397** | **8.0273** | **0.0414** | **4.4110** | **0.0335** | **4.4445** | **1.1905** | **0.0318** | **1.2223** | **0.0000** | **4,146.8066** | **4,146.8066** | **0.0752** | **0.3262** | **4,245.9030** |

## 3.6 Arch Coating - 2032

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 5.2911 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0341 | 0.2235 | 0.4692 | 7.8000e-004 | | 5.3000e-003 | 5.3000e-003 | | 5.3000e-003 | 5.3000e-003 | 0.0000 | 66.6399 | 66.6399 | 2.7000e-003 | 0.0000 | 66.7074 |
| **Total** | **5.3252** | **0.2235** | **0.4692** | **7.8000e-004** | | **5.3000e-003** | **5.3000e-003** | | **5.3000e-003** | **5.3000e-003** | **0.0000** | **66.6399** | **66.6399** | **2.7000e-003** | **0.0000** | **66.7074** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2032

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1922 | 0.0955 | 1.7010 | 5.6400e-003 | 0.8377 | 2.6500e-003 | 0.8403 | 0.2228 | 2.4400e-003 | 0.2252 | 0.0000 | 559.8756 | 559.8756 | 0.0101 | 0.0125 | 563.8494 |
| **Total** | **0.1922** | **0.0955** | **1.7010** | **5.6400e-003** | **0.8377** | **2.6500e-003** | **0.8403** | **0.2228** | **2.4400e-003** | **0.2252** | **0.0000** | **559.8756** | **559.8756** | **0.0101** | **0.0125** | **563.8494** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 5.2911 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0341 | 0.2235 | 0.4692 | 7.8000e-004 | | 5.3000e-003 | 5.3000e-003 | | 5.3000e-003 | 5.3000e-003 | 0.0000 | 66.6398 | 66.6398 | 2.7000e-003 | 0.0000 | 66.7073 |
| **Total** | **5.3252** | **0.2235** | **0.4692** | **7.8000e-004** | | **5.3000e-003** | **5.3000e-003** | | **5.3000e-003** | **5.3000e-003** | **0.0000** | **66.6398** | **66.6398** | **2.7000e-003** | **0.0000** | **66.7073** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2032

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1922 | 0.0955 | 1.7010 | 5.6400e-003 | 0.8377 | 2.6500e-003 | 0.8403 | 0.2228 | 2.4400e-003 | 0.2252 | 0.0000 | 559.8756 | 559.8756 | 0.0101 | 0.0125 | 563.8494 |
| **Total** | **0.1922** | **0.0955** | **1.7010** | **5.6400e-003** | **0.8377** | **2.6500e-003** | **0.8403** | **0.2228** | **2.4400e-003** | **0.2252** | **0.0000** | **559.8756** | **559.8756** | **0.0101** | **0.0125** | **563.8494** |

## 3.6 Arch Coating - 2033

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 5.2708 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0340 | 0.2226 | 0.4674 | 7.7000e-004 | | 5.2800e-003 | 5.2800e-003 | | 5.2800e-003 | 5.2800e-003 | 0.0000 | 66.3846 | 66.3846 | 2.6900e-003 | 0.0000 | 66.4518 |
| **Total** | **5.3048** | **0.2226** | **0.4674** | **7.7000e-004** | | **5.2800e-003** | **5.2800e-003** | | **5.2800e-003** | **5.2800e-003** | **0.0000** | **66.3846** | **66.3846** | **2.6900e-003** | **0.0000** | **66.4518** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2033

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1817 | 0.0910 | 1.6496 | 5.5200e-003 | 0.8345 | 2.4800e-003 | 0.8370 | 0.2219 | 2.2800e-003 | 0.2242 | 0.0000 | 550.9832 | 550.9832 | 9.4400e-003 | 0.0122 | 554.8487 |
| **Total** | **0.1817** | **0.0910** | **1.6496** | **5.5200e-003** | **0.8345** | **2.4800e-003** | **0.8370** | **0.2219** | **2.2800e-003** | **0.2242** | **0.0000** | **550.9832** | **550.9832** | **9.4400e-003** | **0.0122** | **554.8487** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 5.2708 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0340 | 0.2226 | 0.4674 | 7.7000e-004 | | 5.2800e-003 | 5.2800e-003 | | 5.2800e-003 | 5.2800e-003 | 0.0000 | 66.3845 | 66.3845 | 2.6900e-003 | 0.0000 | 66.4517 |
| **Total** | **5.3048** | **0.2226** | **0.4674** | **7.7000e-004** | | **5.2800e-003** | **5.2800e-003** | | **5.2800e-003** | **5.2800e-003** | **0.0000** | **66.3845** | **66.3845** | **2.6900e-003** | **0.0000** | **66.4517** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2033

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1817 | 0.0910 | 1.6496 | 5.5200e-003 | 0.8345 | 2.4800e-003 | 0.8370 | 0.2219 | 2.2800e-003 | 0.2242 | 0.0000 | 550.9832 | 550.9832 | 9.4400e-003 | 0.0122 | 554.8487 |
| **Total** | **0.1817** | **0.0910** | **1.6496** | **5.5200e-003** | **0.8345** | **2.4800e-003** | **0.8370** | **0.2219** | **2.2800e-003** | **0.2242** | **0.0000** | **550.9832** | **550.9832** | **9.4400e-003** | **0.0122** | **554.8487** |

## 3.6 Arch Coating - 2034

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 5.2708 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0340 | 0.2226 | 0.4674 | 7.7000e-004 | | 5.2800e-003 | 5.2800e-003 | | 5.2800e-003 | 5.2800e-003 | 0.0000 | 66.3846 | 66.3846 | 2.6900e-003 | 0.0000 | 66.4518 |
| **Total** | **5.3048** | **0.2226** | **0.4674** | **7.7000e-004** | | **5.2800e-003** | **5.2800e-003** | | **5.2800e-003** | **5.2800e-003** | **0.0000** | **66.3846** | **66.3846** | **2.6900e-003** | **0.0000** | **66.4518** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2034

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1728 | 0.0875 | 1.6097 | 5.4300e-003 | 0.8345 | 2.3300e-003 | 0.8368 | 0.2219 | 2.1500e-003 | 0.2241 | 0.0000 | 545.0900 | 545.0900 | 8.8900e-003 | 0.0120 | 548.8777 |
| **Total** | **0.1728** | **0.0875** | **1.6097** | **5.4300e-003** | **0.8345** | **2.3300e-003** | **0.8368** | **0.2219** | **2.1500e-003** | **0.2241** | **0.0000** | **545.0900** | **545.0900** | **8.8900e-003** | **0.0120** | **548.8777** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 5.2708 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0340 | 0.2226 | 0.4674 | 7.7000e-004 | | 5.2800e-003 | 5.2800e-003 | | 5.2800e-003 | 5.2800e-003 | 0.0000 | 66.3845 | 66.3845 | 2.6900e-003 | 0.0000 | 66.4517 |
| **Total** | **5.3048** | **0.2226** | **0.4674** | **7.7000e-004** | | **5.2800e-003** | **5.2800e-003** | | **5.2800e-003** | **5.2800e-003** | **0.0000** | **66.3845** | **66.3845** | **2.6900e-003** | **0.0000** | **66.4517** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2034

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1728 | 0.0875 | 1.6097 | 5.4300e-003 | 0.8345 | 2.3300e-003 | 0.8368 | 0.2219 | 2.1500e-003 | 0.2241 | 0.0000 | 545.0900 | 545.0900 | 8.8900e-003 | 0.0120 | 548.8777 |
| **Total** | **0.1728** | **0.0875** | **1.6097** | **5.4300e-003** | **0.8345** | **2.3300e-003** | **0.8368** | **0.2219** | **2.1500e-003** | **0.2241** | **0.0000** | **545.0900** | **545.0900** | **8.8900e-003** | **0.0120** | **548.8777** |

## 3.6 Arch Coating - 2035

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 5.2911 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0308 | 0.1978 | 0.4683 | 7.8000e-004 | | 2.5900e-003 | 2.5900e-003 | | 2.5900e-003 | 2.5900e-003 | 0.0000 | 66.6399 | 66.6399 | 2.4600e-003 | 0.0000 | 66.7015 |
| **Total** | **5.3219** | **0.1978** | **0.4683** | **7.8000e-004** | | **2.5900e-003** | **2.5900e-003** | | **2.5900e-003** | **2.5900e-003** | **0.0000** | **66.6399** | **66.6399** | **2.4600e-003** | **0.0000** | **66.7015** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2035

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1653 | 0.0851 | 1.5816 | 5.3800e-003 | 0.8377 | 2.2100e-003 | 0.8399 | 0.2228 | 2.0300e-003 | 0.2248 | 0.0000 | 542.1218 | 542.1218 | 8.4400e-003 | 0.0118 | 545.8611 |
| **Total** | **0.1653** | **0.0851** | **1.5816** | **5.3800e-003** | **0.8377** | **2.2100e-003** | **0.8399** | **0.2228** | **2.0300e-003** | **0.2248** | **0.0000** | **542.1218** | **542.1218** | **8.4400e-003** | **0.0118** | **545.8611** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 5.2911 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0308 | 0.1978 | 0.4683 | 7.8000e-004 | | 2.5900e-003 | 2.5900e-003 | | 2.5900e-003 | 2.5900e-003 | 0.0000 | 66.6398 | 66.6398 | 2.4600e-003 | 0.0000 | 66.7014 |
| **Total** | **5.3219** | **0.1978** | **0.4683** | **7.8000e-004** | | **2.5900e-003** | **2.5900e-003** | | **2.5900e-003** | **2.5900e-003** | **0.0000** | **66.6398** | **66.6398** | **2.4600e-003** | **0.0000** | **66.7014** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2035

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1653 | 0.0851 | 1.5816 | 5.3800e-003 | 0.8377 | 2.2100e-003 | 0.8399 | 0.2228 | 2.0300e-003 | 0.2248 | 0.0000 | 542.1218 | 542.1218 | 8.4400e-003 | 0.0118 | 545.8611 |
| **Total** | **0.1653** | **0.0851** | **1.5816** | **5.3800e-003** | **0.8377** | **2.2100e-003** | **0.8399** | **0.2228** | **2.0300e-003** | **0.2248** | **0.0000** | **542.1218** | **542.1218** | **8.4400e-003** | **0.0118** | **545.8611** |

## 3.6 Arch Coating - 2036

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 5.3114 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0309 | 0.1985 | 0.4701 | 7.8000e-004 | | 2.6000e-003 | 2.6000e-003 | | 2.6000e-003 | 2.6000e-003 | 0.0000 | 66.8953 | 66.8953 | 2.4700e-003 | 0.0000 | 66.9571 |
| **Total** | **5.3423** | **0.1985** | **0.4701** | **7.8000e-004** | | **2.6000e-003** | **2.6000e-003** | | **2.6000e-003** | **2.6000e-003** | **0.0000** | **66.8953** | **66.8953** | **2.4700e-003** | **0.0000** | **66.9571** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2036

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1659 | 0.0854 | 1.5877 | 5.4000e-003 | 0.8409 | 2.2200e-003 | 0.8431 | 0.2237 | 2.0400e-003 | 0.2257 | 0.0000 | 544.1989 | 544.1989 | 8.4700e-003 | 0.0119 | 547.9525 |
| **Total** | **0.1659** | **0.0854** | **1.5877** | **5.4000e-003** | **0.8409** | **2.2200e-003** | **0.8431** | **0.2237** | **2.0400e-003** | **0.2257** | **0.0000** | **544.1989** | **544.1989** | **8.4700e-003** | **0.0119** | **547.9525** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 5.3114 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0309 | 0.1985 | 0.4701 | 7.8000e-004 | | 2.6000e-003 | 2.6000e-003 | | 2.6000e-003 | 2.6000e-003 | 0.0000 | 66.8952 | 66.8952 | 2.4700e-003 | 0.0000 | 66.9570 |
| **Total** | **5.3423** | **0.1985** | **0.4701** | **7.8000e-004** | | **2.6000e-003** | **2.6000e-003** | | **2.6000e-003** | **2.6000e-003** | **0.0000** | **66.8952** | **66.8952** | **2.4700e-003** | **0.0000** | **66.9570** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2036

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1659 | 0.0854 | 1.5877 | 5.4000e-003 | 0.8409 | 2.2200e-003 | 0.8431 | 0.2237 | 2.0400e-003 | 0.2257 | 0.0000 | 544.1989 | 544.1989 | 8.4700e-003 | 0.0119 | 547.9525 |
| **Total** | **0.1659** | **0.0854** | **1.5877** | **5.4000e-003** | **0.8409** | **2.2200e-003** | **0.8431** | **0.2237** | **2.0400e-003** | **0.2257** | **0.0000** | **544.1989** | **544.1989** | **8.4700e-003** | **0.0119** | **547.9525** |

## 3.6 Arch Coating - 2037

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 5.2911 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0308 | 0.1978 | 0.4683 | 7.8000e-004 | | 2.5900e-003 | 2.5900e-003 | | 2.5900e-003 | 2.5900e-003 | 0.0000 | 66.6399 | 66.6399 | 2.4600e-003 | 0.0000 | 66.7015 |
| **Total** | **5.3219** | **0.1978** | **0.4683** | **7.8000e-004** | | **2.5900e-003** | **2.5900e-003** | | **2.5900e-003** | **2.5900e-003** | **0.0000** | **66.6399** | **66.6399** | **2.4600e-003** | **0.0000** | **66.7015** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2037

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1653 | 0.0851 | 1.5816 | 5.3800e-003 | 0.8377 | 2.2100e-003 | 0.8399 | 0.2228 | 2.0300e-003 | 0.2248 | 0.0000 | 542.1218 | 542.1218 | 8.4400e-003 | 0.0118 | 545.8611 |
| **Total** | **0.1653** | **0.0851** | **1.5816** | **5.3800e-003** | **0.8377** | **2.2100e-003** | **0.8399** | **0.2228** | **2.0300e-003** | **0.2248** | **0.0000** | **542.1218** | **542.1218** | **8.4400e-003** | **0.0118** | **545.8611** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 5.2911 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0308 | 0.1978 | 0.4683 | 7.8000e-004 | | 2.5900e-003 | 2.5900e-003 | | 2.5900e-003 | 2.5900e-003 | 0.0000 | 66.6398 | 66.6398 | 2.4600e-003 | 0.0000 | 66.7014 |
| **Total** | **5.3219** | **0.1978** | **0.4683** | **7.8000e-004** | | **2.5900e-003** | **2.5900e-003** | | **2.5900e-003** | **2.5900e-003** | **0.0000** | **66.6398** | **66.6398** | **2.4600e-003** | **0.0000** | **66.7014** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2037

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1653 | 0.0851 | 1.5816 | 5.3800e-003 | 0.8377 | 2.2100e-003 | 0.8399 | 0.2228 | 2.0300e-003 | 0.2248 | 0.0000 | 542.1218 | 542.1218 | 8.4400e-003 | 0.0118 | 545.8611 |
| **Total** | **0.1653** | **0.0851** | **1.5816** | **5.3800e-003** | **0.8377** | **2.2100e-003** | **0.8399** | **0.2228** | **2.0300e-003** | **0.2248** | **0.0000** | **542.1218** | **542.1218** | **8.4400e-003** | **0.0118** | **545.8611** |

## 3.6 Arch Coating - 2038

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 5.2911 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0308 | 0.1978 | 0.4683 | 7.8000e-004 | | 2.5900e-003 | 2.5900e-003 | | 2.5900e-003 | 2.5900e-003 | 0.0000 | 66.6399 | 66.6399 | 2.4600e-003 | 0.0000 | 66.7015 |
| **Total** | **5.3219** | **0.1978** | **0.4683** | **7.8000e-004** | | **2.5900e-003** | **2.5900e-003** | | **2.5900e-003** | **2.5900e-003** | **0.0000** | **66.6399** | **66.6399** | **2.4600e-003** | **0.0000** | **66.7015** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2038

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1653 | 0.0851 | 1.5816 | 5.3800e-003 | 0.8377 | 2.2100e-003 | 0.8399 | 0.2228 | 2.0300e-003 | 0.2248 | 0.0000 | 542.1218 | 542.1218 | 8.4400e-003 | 0.0118 | 545.8611 |
| **Total** | **0.1653** | **0.0851** | **1.5816** | **5.3800e-003** | **0.8377** | **2.2100e-003** | **0.8399** | **0.2228** | **2.0300e-003** | **0.2248** | **0.0000** | **542.1218** | **542.1218** | **8.4400e-003** | **0.0118** | **545.8611** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 5.2911 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0308 | 0.1978 | 0.4683 | 7.8000e-004 | | 2.5900e-003 | 2.5900e-003 | | 2.5900e-003 | 2.5900e-003 | 0.0000 | 66.6398 | 66.6398 | 2.4600e-003 | 0.0000 | 66.7014 |
| **Total** | **5.3219** | **0.1978** | **0.4683** | **7.8000e-004** | | **2.5900e-003** | **2.5900e-003** | | **2.5900e-003** | **2.5900e-003** | **0.0000** | **66.6398** | **66.6398** | **2.4600e-003** | **0.0000** | **66.7014** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2038

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1653 | 0.0851 | 1.5816 | 5.3800e-003 | 0.8377 | 2.2100e-003 | 0.8399 | 0.2228 | 2.0300e-003 | 0.2248 | 0.0000 | 542.1218 | 542.1218 | 8.4400e-003 | 0.0118 | 545.8611 |
| **Total** | **0.1653** | **0.0851** | **1.5816** | **5.3800e-003** | **0.8377** | **2.2100e-003** | **0.8399** | **0.2228** | **2.0300e-003** | **0.2248** | **0.0000** | **542.1218** | **542.1218** | **8.4400e-003** | **0.0118** | **545.8611** |

## 3.6 Arch Coating - 2039

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 5.2708 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0307 | 0.1970 | 0.4665 | 7.7000e-004 | | 2.5800e-003 | 2.5800e-003 | | 2.5800e-003 | 2.5800e-003 | 0.0000 | 66.3846 | 66.3846 | 2.4500e-003 | 0.0000 | 66.4459 |
| **Total** | **5.3015** | **0.1970** | **0.4665** | **7.7000e-004** | | **2.5800e-003** | **2.5800e-003** | | **2.5800e-003** | **2.5800e-003** | **0.0000** | **66.3846** | **66.3846** | **2.4500e-003** | **0.0000** | **66.4459** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2039

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1646 | 0.0847 | 1.5756 | 5.3600e-003 | 0.8345 | 2.2000e-003 | 0.8367 | 0.2219 | 2.0300e-003 | 0.2240 | 0.0000 | 540.0447 | 540.0447 | 8.4100e-003 | 0.0118 | 543.7697 |
| **Total** | **0.1646** | **0.0847** | **1.5756** | **5.3600e-003** | **0.8345** | **2.2000e-003** | **0.8367** | **0.2219** | **2.0300e-003** | **0.2240** | **0.0000** | **540.0447** | **540.0447** | **8.4100e-003** | **0.0118** | **543.7697** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 5.2708 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0307 | 0.1970 | 0.4665 | 7.7000e-004 | | 2.5800e-003 | 2.5800e-003 | | 2.5800e-003 | 2.5800e-003 | 0.0000 | 66.3845 | 66.3845 | 2.4500e-003 | 0.0000 | 66.4459 |
| **Total** | **5.3015** | **0.1970** | **0.4665** | **7.7000e-004** | | **2.5800e-003** | **2.5800e-003** | | **2.5800e-003** | **2.5800e-003** | **0.0000** | **66.3845** | **66.3845** | **2.4500e-003** | **0.0000** | **66.4459** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2039

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1646 | 0.0847 | 1.5756 | 5.3600e-003 | 0.8345 | 2.2000e-003 | 0.8367 | 0.2219 | 2.0300e-003 | 0.2240 | 0.0000 | 540.0447 | 540.0447 | 8.4100e-003 | 0.0118 | 543.7697 |
| **Total** | **0.1646** | **0.0847** | **1.5756** | **5.3600e-003** | **0.8345** | **2.2000e-003** | **0.8367** | **0.2219** | **2.0300e-003** | **0.2240** | **0.0000** | **540.0447** | **540.0447** | **8.4100e-003** | **0.0118** | **543.7697** |

## 3.6 Arch Coating - 2040

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 5.2911 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0300 | 0.1898 | 0.4678 | 7.8000e-004 | | 1.9400e-003 | 1.9400e-003 | | 1.9400e-003 | 1.9400e-003 | 0.0000 | 66.6399 | 66.6399 | 2.3500e-003 | 0.0000 | 66.6986 |
| **Total** | **5.3211** | **0.1898** | **0.4678** | **7.8000e-004** | | **1.9400e-003** | **1.9400e-003** | | **1.9400e-003** | **1.9400e-003** | **0.0000** | **66.6399** | **66.6399** | **2.3500e-003** | **0.0000** | **66.6986** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2040

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1334 | 0.0770 | 1.4668 | 5.1400e-003 | 0.8377 | 1.7400e-003 | 0.8394 | 0.2228 | 1.6100e-003 | 0.2244 | 0.0000 | 525.7868 | 525.7868 | 6.7400e-003 | 0.0114 | 529.3416 |
| **Total** | **0.1334** | **0.0770** | **1.4668** | **5.1400e-003** | **0.8377** | **1.7400e-003** | **0.8394** | **0.2228** | **1.6100e-003** | **0.2244** | **0.0000** | **525.7868** | **525.7868** | **6.7400e-003** | **0.0114** | **529.3416** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 5.2911 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0300 | 0.1898 | 0.4678 | 7.8000e-004 | | 1.9400e-003 | 1.9400e-003 | | 1.9400e-003 | 1.9400e-003 | 0.0000 | 66.6398 | 66.6398 | 2.3500e-003 | 0.0000 | 66.6985 |
| **Total** | **5.3211** | **0.1898** | **0.4678** | **7.8000e-004** | | **1.9400e-003** | **1.9400e-003** | | **1.9400e-003** | **1.9400e-003** | **0.0000** | **66.6398** | **66.6398** | **2.3500e-003** | **0.0000** | **66.6985** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2040

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1334 | 0.0770 | 1.4668 | 5.1400e-003 | 0.8377 | 1.7400e-003 | 0.8394 | 0.2228 | 1.6100e-003 | 0.2244 | 0.0000 | 525.7868 | 525.7868 | 6.7400e-003 | 0.0114 | 529.3416 |
| **Total** | **0.1334** | **0.0770** | **1.4668** | **5.1400e-003** | **0.8377** | **1.7400e-003** | **0.8394** | **0.2228** | **1.6100e-003** | **0.2244** | **0.0000** | **525.7868** | **525.7868** | **6.7400e-003** | **0.0114** | **529.3416** |

## 3.6 Arch Coating - 2041

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 5.2911 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0300 | 0.1898 | 0.4678 | 7.8000e-004 | | 1.9400e-003 | 1.9400e-003 | | 1.9400e-003 | 1.9400e-003 | 0.0000 | 66.6399 | 66.6399 | 2.3500e-003 | 0.0000 | 66.6986 |
| **Total** | **5.3211** | **0.1898** | **0.4678** | **7.8000e-004** | | **1.9400e-003** | **1.9400e-003** | | **1.9400e-003** | **1.9400e-003** | **0.0000** | **66.6399** | **66.6399** | **2.3500e-003** | **0.0000** | **66.6986** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2041

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1334 | 0.0770 | 1.4668 | 5.1400e-003 | 0.8377 | 1.7400e-003 | 0.8394 | 0.2228 | 1.6100e-003 | 0.2244 | 0.0000 | 525.7868 | 525.7868 | 6.7400e-003 | 0.0114 | 529.3416 |
| **Total** | **0.1334** | **0.0770** | **1.4668** | **5.1400e-003** | **0.8377** | **1.7400e-003** | **0.8394** | **0.2228** | **1.6100e-003** | **0.2244** | **0.0000** | **525.7868** | **525.7868** | **6.7400e-003** | **0.0114** | **529.3416** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 5.2911 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0300 | 0.1898 | 0.4678 | 7.8000e-004 | | 1.9400e-003 | 1.9400e-003 | | 1.9400e-003 | 1.9400e-003 | 0.0000 | 66.6398 | 66.6398 | 2.3500e-003 | 0.0000 | 66.6985 |
| **Total** | **5.3211** | **0.1898** | **0.4678** | **7.8000e-004** | | **1.9400e-003** | **1.9400e-003** | | **1.9400e-003** | **1.9400e-003** | **0.0000** | **66.6398** | **66.6398** | **2.3500e-003** | **0.0000** | **66.6985** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2041

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1334 | 0.0770 | 1.4668 | 5.1400e-003 | 0.8377 | 1.7400e-003 | 0.8394 | 0.2228 | 1.6100e-003 | 0.2244 | 0.0000 | 525.7868 | 525.7868 | 6.7400e-003 | 0.0114 | 529.3416 |
| **Total** | **0.1334** | **0.0770** | **1.4668** | **5.1400e-003** | **0.8377** | **1.7400e-003** | **0.8394** | **0.2228** | **1.6100e-003** | **0.2244** | **0.0000** | **525.7868** | **525.7868** | **6.7400e-003** | **0.0114** | **529.3416** |

## 3.6 Arch Coating - 2042

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 5.2911 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0300 | 0.1898 | 0.4678 | 7.8000e-004 | | 1.9400e-003 | 1.9400e-003 | | 1.9400e-003 | 1.9400e-003 | 0.0000 | 66.6399 | 66.6399 | 2.3500e-003 | 0.0000 | 66.6986 |
| **Total** | **5.3211** | **0.1898** | **0.4678** | **7.8000e-004** | | **1.9400e-003** | **1.9400e-003** | | **1.9400e-003** | **1.9400e-003** | **0.0000** | **66.6399** | **66.6399** | **2.3500e-003** | **0.0000** | **66.6986** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2042

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1334 | 0.0770 | 1.4668 | 5.1400e-003 | 0.8377 | 1.7400e-003 | 0.8394 | 0.2228 | 1.6100e-003 | 0.2244 | 0.0000 | 525.7868 | 525.7868 | 6.7400e-003 | 0.0114 | 529.3416 |
| **Total** | **0.1334** | **0.0770** | **1.4668** | **5.1400e-003** | **0.8377** | **1.7400e-003** | **0.8394** | **0.2228** | **1.6100e-003** | **0.2244** | **0.0000** | **525.7868** | **525.7868** | **6.7400e-003** | **0.0114** | **529.3416** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 5.2911 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0300 | 0.1898 | 0.4678 | 7.8000e-004 | | 1.9400e-003 | 1.9400e-003 | | 1.9400e-003 | 1.9400e-003 | 0.0000 | 66.6398 | 66.6398 | 2.3500e-003 | 0.0000 | 66.6985 |
| **Total** | **5.3211** | **0.1898** | **0.4678** | **7.8000e-004** | | **1.9400e-003** | **1.9400e-003** | | **1.9400e-003** | **1.9400e-003** | **0.0000** | **66.6398** | **66.6398** | **2.3500e-003** | **0.0000** | **66.6985** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2042

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1334 | 0.0770 | 1.4668 | 5.1400e-003 | 0.8377 | 1.7400e-003 | 0.8394 | 0.2228 | 1.6100e-003 | 0.2244 | 0.0000 | 525.7868 | 525.7868 | 6.7400e-003 | 0.0114 | 529.3416 |
| **Total** | **0.1334** | **0.0770** | **1.4668** | **5.1400e-003** | **0.8377** | **1.7400e-003** | **0.8394** | **0.2228** | **1.6100e-003** | **0.2244** | **0.0000** | **525.7868** | **525.7868** | **6.7400e-003** | **0.0114** | **529.3416** |

## 3.6 Arch Coating - 2043

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 5.2911 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0300 | 0.1898 | 0.4678 | 7.8000e-004 | | 1.9400e-003 | 1.9400e-003 | | 1.9400e-003 | 1.9400e-003 | 0.0000 | 66.6399 | 66.6399 | 2.3500e-003 | 0.0000 | 66.6986 |
| **Total** | **5.3211** | **0.1898** | **0.4678** | **7.8000e-004** | | **1.9400e-003** | **1.9400e-003** | | **1.9400e-003** | **1.9400e-003** | **0.0000** | **66.6399** | **66.6399** | **2.3500e-003** | **0.0000** | **66.6986** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2043

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1334 | 0.0770 | 1.4668 | 5.1400e-003 | 0.8377 | 1.7400e-003 | 0.8394 | 0.2228 | 1.6100e-003 | 0.2244 | 0.0000 | 525.7868 | 525.7868 | 6.7400e-003 | 0.0114 | 529.3416 |
| **Total** | **0.1334** | **0.0770** | **1.4668** | **5.1400e-003** | **0.8377** | **1.7400e-003** | **0.8394** | **0.2228** | **1.6100e-003** | **0.2244** | **0.0000** | **525.7868** | **525.7868** | **6.7400e-003** | **0.0114** | **529.3416** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 5.2911 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0300 | 0.1898 | 0.4678 | 7.8000e-004 | | 1.9400e-003 | 1.9400e-003 | | 1.9400e-003 | 1.9400e-003 | 0.0000 | 66.6398 | 66.6398 | 2.3500e-003 | 0.0000 | 66.6985 |
| **Total** | **5.3211** | **0.1898** | **0.4678** | **7.8000e-004** | | **1.9400e-003** | **1.9400e-003** | | **1.9400e-003** | **1.9400e-003** | **0.0000** | **66.6398** | **66.6398** | **2.3500e-003** | **0.0000** | **66.6985** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2043

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1334 | 0.0770 | 1.4668 | 5.1400e-003 | 0.8377 | 1.7400e-003 | 0.8394 | 0.2228 | 1.6100e-003 | 0.2244 | 0.0000 | 525.7868 | 525.7868 | 6.7400e-003 | 0.0114 | 529.3416 |
| **Total** | **0.1334** | **0.0770** | **1.4668** | **5.1400e-003** | **0.8377** | **1.7400e-003** | **0.8394** | **0.2228** | **1.6100e-003** | **0.2244** | **0.0000** | **525.7868** | **525.7868** | **6.7400e-003** | **0.0114** | **529.3416** |

## 3.6 Arch Coating - 2044

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.8451 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0275 | 0.1738 | 0.4284 | 7.1000e-004 | | 1.7800e-003 | 1.7800e-003 | | 1.7800e-003 | 1.7800e-003 | 0.0000 | 61.0228 | 61.0228 | 2.1500e-003 | 0.0000 | 61.0765 |
| **Total** | **4.8726** | **0.1738** | **0.4284** | **7.1000e-004** | | **1.7800e-003** | **1.7800e-003** | | **1.7800e-003** | **1.7800e-003** | **0.0000** | **61.0228** | **61.0228** | **2.1500e-003** | **0.0000** | **61.0765** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2044

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1222 | 0.0705 | 1.3431 | 4.7000e-003 | 0.7671 | 1.6000e-003 | 0.7687 | 0.2040 | 1.4700e-003 | 0.2055 | 0.0000 | 481.4676 | 481.4676 | 6.1700e-003 | 0.0104 | 484.7228 |
| **Total** | **0.1222** | **0.0705** | **1.3431** | **4.7000e-003** | **0.7671** | **1.6000e-003** | **0.7687** | **0.2040** | **1.4700e-003** | **0.2055** | **0.0000** | **481.4676** | **481.4676** | **6.1700e-003** | **0.0104** | **484.7228** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 4.8451 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0275 | 0.1738 | 0.4284 | 7.1000e-004 | | 1.7800e-003 | 1.7800e-003 | | 1.7800e-003 | 1.7800e-003 | 0.0000 | 61.0227 | 61.0227 | 2.1500e-003 | 0.0000 | 61.0764 |
| **Total** | **4.8726** | **0.1738** | **0.4284** | **7.1000e-004** | | **1.7800e-003** | **1.7800e-003** | | **1.7800e-003** | **1.7800e-003** | **0.0000** | **61.0227** | **61.0227** | **2.1500e-003** | **0.0000** | **61.0764** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

### 3.6 Arch Coating - 2044

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1222 | 0.0705 | 1.3431 | 4.7000e-003 | 0.7671 | 1.6000e-003 | 0.7687 | 0.2040 | 1.4700e-003 | 0.2055 | 0.0000 | 481.4676 | 481.4676 | 6.1700e-003 | 0.0104 | 484.7228 |
| **Total** | **0.1222** | **0.0705** | **1.3431** | **4.7000e-003** | **0.7671** | **1.6000e-003** | **0.7687** | **0.2040** | **1.4700e-003** | **0.2055** | **0.0000** | **481.4676** | **481.4676** | **6.1700e-003** | **0.0104** | **484.7228** |

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 25.7928 | 29.2084 | 255.1674 | 0.5021 | 72.1700 | 0.2478 | 72.4178 | 19.2673 | 0.2317 | 19.4990 | 0.0000 | 51,181.4254 | 51,181.4254 | 3.4580 | 2.5285 | 52,021.3662 |
| Unmitigated | 25.7928 | 29.2084 | 255.1674 | 0.5021 | 72.1700 | 0.2478 | 72.4178 | 19.2673 | 0.2317 | 19.4990 | 0.0000 | 51,181.4254 | 51,181.4254 | 3.4580 | 2.5285 | 52,021.3662 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments Mid Rise | 15,531.20 | 14,018.05 | 11676.95 | 37,887,133 | 37,887,133 |
| Arena | 771.12 | 771.12 | 771.12 | 1,084,591 | 1,084,591 |
| Fast Food Restaurant with Drive Thru | 11,302.80 | 14,786.88 | 11341.92 | 8,155,601 | 8,155,601 |
| General Office Building | 3,126.54 | 709.41 | 224.70 | 4,887,455 | 4,887,455 |
| Government Office Building | 1,671.66 | 0.00 | 0.00 | 1,716,849 | 1,716,849 |
| Health Club | 2,140.45 | 1,356.55 | 1737.45 | 2,722,032 | 2,722,032 |
| High School | 3,045.00 | 870.00 | 375.00 | 6,128,331 | 6,128,331 |
| High Turnover (Sit Down Restaurant) | 11,666.72 | 12,729.60 | 14834.56 | 10,904,068 | 10,904,068 |
| Hotel | 3,427.60 | 3,357.90 | 2439.50 | 5,040,249 | 5,040,249 |
| Hotel | 3,427.60 | 3,357.90 | 2439.50 | 5,040,249 | 5,040,249 |
| Junior College (2yr) | 2,875.00 | 1,050.00 | 100.00 | 4,083,979 | 4,083,979 |
| Junior High School | 4,579.50 | 0.00 | 0.00 | 7,200,145 | 7,200,145 |
| Medical Office Building | 1,447.68 | 356.51 | 59.07 | 1,821,430 | 1,821,430 |
| Regional Shopping Center | 9,248.75 | 11,299.40 | 5169.50 | 12,518,386 | 12,518,386 |
| Single Family Housing | 31,152.00 | 31,482.00 | 28215.00 | 78,983,735 | 78,983,735 |
| Supermarket | 6,940.70 | 11,545.30 | 10820.55 | 7,015,866 | 7,015,866 |
| Total | 112,354.32 | 107,690.62 | 90,204.82 | 195,190,100 | 195,190,100 |

## 4.3 Trip Type Information

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments Mid Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Arena | 10.00 | 5.00 | 6.50 | 0.00 | 81.00 | 19.00 | 66 | 28 | 6 |
| Fast Food Restaurant with Drive | 10.00 | 5.00 | 6.50 | 2.20 | 78.80 | 19.00 | 29 | 21 | 50 |
| General Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 77 | 19 | 4 |
| Government Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 62.00 | 5.00 | 50 | 34 | 16 |
| Health Club | 10.00 | 5.00 | 6.50 | 16.90 | 64.10 | 19.00 | 52 | 39 | 9 |
| High School | 10.00 | 5.00 | 6.50 | 77.80 | 17.20 | 5.00 | 75 | 19 | 6 |
| High Turnover (Sit Down | 10.00 | 5.00 | 6.50 | 8.50 | 72.50 | 19.00 | 37 | 20 | 43 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Junior College (2yr) | 10.00 | 5.00 | 6.50 | 6.40 | 88.60 | 5.00 | 92 | 7 | 1 |
| Junior High School | 10.00 | 5.00 | 6.50 | 72.80 | 22.20 | 5.00 | 63 | 25 | 12 |
| Medical Office Building | 10.00 | 5.00 | 6.50 | 29.60 | 51.40 | 19.00 | 60 | 30 | 10 |
| Regional Shopping Center | 10.00 | 5.00 | 6.50 | 16.30 | 64.70 | 19.00 | 54 | 35 | 11 |
| Single Family Housing | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Supermarket | 10.00 | 5.00 | 6.50 | 6.50 | 74.50 | 19.00 | 34 | 30 | 36 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apartments Mid Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Arena | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Fast Food Restaurant with Drive Thru | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| General Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Government Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Health Club | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High Turnover (Sit Down Restaurant) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Hotel | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Junior College (2yr) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Junior High School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Medical Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Regional Shopping Center | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Single Family Housing | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Supermarket | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 1.0774 | 0.1306 | 65.8525 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 1.0774 | 0.1306 | 65.8525 |
| NaturalGas Mitigated | 1.0724 | 9.4407 | 5.9257 | 0.0585 | | 0.7410 | 0.7410 | | 0.7410 | 0.7410 | 0.0000 | 10,613.4348 | 10,613.4348 | 0.2034 | 0.1946 | 10,676.5052 |
| NaturalGas Unmitigated | 1.0724 | 9.4407 | 5.9257 | 0.0585 | | 0.7410 | 0.7410 | | 0.7410 | 0.7410 | 0.0000 | 10,613.4348 | 10,613.4348 | 0.2034 | 0.1946 | 10,676.5052 |

### 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Apartments Mid Rise | 2.68833e+007 | 0.1450 | 1.2387 | 0.5271 | 7.9100e-003 | | 0.1002 | 0.1002 | | 0.1002 | 0.1002 | 0.0000 | 1,434.5972 | 1,434.5972 | 0.0275 | 0.0263 | 1,443.1223 |
| Arena | 2.56104e+006 | 0.0138 | 0.1255 | 0.1055 | 7.5000e-004 | | 9.5400e-003 | 9.5400e-003 | | 9.5400e-003 | 9.5400e-003 | 0.0000 | 136.6669 | 136.6669 | 2.6200e-003 | 2.5100e-003 | 137.4790 |
| Fast Food Restaurant with Drive Thru | 4.25064e+006 | 0.0229 | 0.2084 | 0.1750 | 1.2500e-003 | | 0.0158 | 0.0158 | | 0.0158 | 0.0158 | 0.0000 | 226.8303 | 226.8303 | 4.3500e-003 | 4.1600e-003 | 228.1783 |
| General Office Building | 4.16658e+006 | 0.0225 | 0.2042 | 0.1716 | 1.2300e-003 | | 0.0155 | 0.0155 | | 0.0155 | 0.0155 | 0.0000 | 222.3446 | 222.3446 | 4.2600e-003 | 4.0800e-003 | 223.6659 |
| Government Office Building | 960520 | 5.1800e-003 | 0.0471 | 0.0396 | 2.8000e-004 | | 3.5800e-003 | 3.5800e-003 | | 3.5800e-003 | 3.5800e-003 | 0.0000 | 51.2570 | 51.2570 | 9.8000e-004 | 9.4000e-004 | 51.5616 |
| Health Club | 2.31205e+006 | 0.0125 | 0.1133 | 0.0952 | 6.8000e-004 | | 8.6100e-003 | 8.6100e-003 | | 8.6100e-003 | 8.6100e-003 | 0.0000 | 123.3798 | 123.3798 | 2.3600e-003 | 2.2600e-003 | 124.1130 |
| High School | 3.00875e+006 | 0.0162 | 0.1475 | 0.1239 | 8.8000e-004 | | 0.0112 | 0.0112 | | 0.0112 | 0.0112 | 0.0000 | 160.5584 | 160.5584 | 3.0800e-003 | 2.9400e-003 | 161.5125 |
| High Turnover (Sit Down Restaurant) | 1.84194e+007 | 0.0993 | 0.9029 | 0.7585 | 5.4200e-003 | | 0.0686 | 0.0686 | | 0.0686 | 0.0686 | 0.0000 | 982.9315 | 982.9315 | 0.0188 | 0.0180 | 988.7725 |
| Hotel | 2.2765e+007 | 0.2455 | 2.2319 | 1.8748 | 0.0134 | | 0.1696 | 0.1696 | | 0.1696 | 0.1696 | 0.0000 | 2,429.6581 | 2,429.6581 | 0.0466 | 0.0445 | 2,444.0964 |
| Junior College (2yr) | 5.40384e+006 | 0.0291 | 0.2649 | 0.2225 | 1.5900e-003 | | 0.0201 | 0.0201 | | 0.0201 | 0.0201 | 0.0000 | 288.3695 | 288.3695 | 5.5300e-003 | 5.2900e-003 | 290.0831 |
| Junior High School | 3.8217e+006 | 0.0206 | 0.1873 | 0.1574 | 1.1200e-003 | | 0.0142 | 0.0142 | | 0.0142 | 0.0142 | 0.0000 | 203.9402 | 203.9402 | 3.9100e-003 | 3.7400e-003 | 205.1521 |
| Medical Office Building | 539968 | 2.9100e-003 | 0.0265 | 0.0222 | 1.6000e-004 | | 2.0100e-003 | 2.0100e-003 | | 2.0100e-003 | 2.0100e-003 | 0.0000 | 28.8148 | 28.8148 | 5.5000e-004 | 5.3000e-004 | 28.9860 |
| Regional Shopping Center | 1.31565e+006 | 7.0900e-003 | 0.0645 | 0.0542 | 3.9000e-004 | | 4.9000e-003 | 4.9000e-003 | | 4.9000e-003 | 4.9000e-003 | 0.0000 | 70.2081 | 70.2081 | 1.3500e-003 | 1.2900e-003 | 70.6253 |
| Single Family Housing | 7.80741e+007 | 0.4210 | 3.5975 | 1.5309 | 0.0230 | | 0.2909 | 0.2909 | | 0.2909 | 0.2909 | 0.0000 | 4,166.3299 | 4,166.3299 | 0.0799 | 0.0764 | 4,191.0883 |
| Supermarket | 1.6406e+006 | 8.8500e-003 | 0.0804 | 0.0676 | 4.8000e-004 | | 6.1100e-003 | 6.1100e-003 | | 6.1100e-003 | 6.1100e-003 | 0.0000 | 87.5487 | 87.5487 | 1.6800e-003 | 1.6100e-003 | 88.0689 |
| **Total** | | **1.0725** | **9.4407** | **5.9257** | **0.0585** | | **0.7409** | **0.7409** | | **0.7409** | **0.7409** | **0.0000** | **10,613.4348** | **10,613.4348** | **0.2034** | **0.1946** | **10,676.5052** |

## 5.2 Energy by Land Use - NaturalGas

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Apartments Mid Rise | 2.68833e+007 | 0.1450 | 1.2387 | 0.5271 | 7.9100e-003 | | 0.1002 | 0.1002 | | 0.1002 | 0.1002 | 0.0000 | 1,434.5972 | 1,434.5972 | 0.0275 | 0.0263 | 1,443.1223 |
| Arena | 2.56104e+006 | 0.0138 | 0.1255 | 0.1055 | 7.5000e-004 | | 9.5400e-003 | 9.5400e-003 | | 9.5400e-003 | 9.5400e-003 | 0.0000 | 136.6669 | 136.6669 | 2.6200e-003 | 2.5100e-003 | 137.4790 |
| Fast Food Restaurant with Drive Thru | 4.25064e+006 | 0.0229 | 0.2084 | 0.1750 | 1.2500e-003 | | 0.0158 | 0.0158 | | 0.0158 | 0.0158 | 0.0000 | 226.8303 | 226.8303 | 4.3500e-003 | 4.1600e-003 | 228.1783 |
| General Office Building | 4.16658e+006 | 0.0225 | 0.2042 | 0.1716 | 1.2300e-003 | | 0.0155 | 0.0155 | | 0.0155 | 0.0155 | 0.0000 | 222.3446 | 222.3446 | 4.2600e-003 | 4.0800e-003 | 223.6659 |
| Government Office Building | 960520 | 5.1800e-003 | 0.0471 | 0.0396 | 2.8000e-004 | | 3.5800e-003 | 3.5800e-003 | | 3.5800e-003 | 3.5800e-003 | 0.0000 | 51.2570 | 51.2570 | 9.8000e-004 | 9.4000e-004 | 51.5616 |
| Health Club | 2.31205e+006 | 0.0125 | 0.1133 | 0.0952 | 6.8000e-004 | | 8.6100e-003 | 8.6100e-003 | | 8.6100e-003 | 8.6100e-003 | 0.0000 | 123.3798 | 123.3798 | 2.3600e-003 | 2.2600e-003 | 124.1130 |
| High School | 3.00875e+006 | 0.0162 | 0.1475 | 0.1239 | 8.8000e-004 | | 0.0112 | 0.0112 | | 0.0112 | 0.0112 | 0.0000 | 160.5584 | 160.5584 | 3.0800e-003 | 2.9400e-003 | 161.5125 |
| High Turnover (Sit Down Restaurant) | 1.84194e+007 | 0.0993 | 0.9029 | 0.7585 | 5.4200e-003 | | 0.0686 | 0.0686 | | 0.0686 | 0.0686 | 0.0000 | 982.9315 | 982.9315 | 0.0188 | 0.0180 | 988.7725 |
| Hotel | 2.2765e+007 | 0.2455 | 2.2319 | 1.8748 | 0.0134 | | 0.1696 | 0.1696 | | 0.1696 | 0.1696 | 0.0000 | 2,429.6581 | 2,429.6581 | 0.0466 | 0.0445 | 2,444.0964 |
| Junior College (2yr) | 5.40384e+006 | 0.0291 | 0.2649 | 0.2225 | 1.5900e-003 | | 0.0201 | 0.0201 | | 0.0201 | 0.0201 | 0.0000 | 288.3695 | 288.3695 | 5.5300e-003 | 5.2900e-003 | 290.0831 |
| Junior High School | 3.8217e+006 | 0.0206 | 0.1873 | 0.1574 | 1.1200e-003 | | 0.0142 | 0.0142 | | 0.0142 | 0.0142 | 0.0000 | 203.9402 | 203.9402 | 3.9100e-003 | 3.7400e-003 | 205.1521 |
| Medical Office Building | 539968 | 2.9100e-003 | 0.0265 | 0.0222 | 1.6000e-004 | | 2.0100e-003 | 2.0100e-003 | | 2.0100e-003 | 2.0100e-003 | 0.0000 | 28.8148 | 28.8148 | 5.5000e-004 | 5.3000e-004 | 28.9860 |
| Regional Shopping Center | 1.31565e+006 | 7.0900e-003 | 0.0645 | 0.0542 | 3.9000e-004 | | 4.9000e-003 | 4.9000e-003 | | 4.9000e-003 | 4.9000e-003 | 0.0000 | 70.2081 | 70.2081 | 1.3500e-003 | 1.2900e-003 | 70.6253 |
| Single Family Housing | 7.80741e+007 | 0.4210 | 3.5975 | 1.5309 | 0.0230 | | 0.2909 | 0.2909 | | 0.2909 | 0.2909 | 0.0000 | 4,166.3299 | 4,166.3299 | 0.0799 | 0.0764 | 4,191.0883 |
| Supermarket | 1.6406e+006 | 8.8500e-003 | 0.0804 | 0.0676 | 4.8000e-004 | | 6.1100e-003 | 6.1100e-003 | | 6.1100e-003 | 6.1100e-003 | 0.0000 | 87.5487 | 87.5487 | 1.6800e-003 | 1.6100e-003 | 88.0689 |
| **Total** | | **1.0725** | **9.4407** | **5.9257** | **0.0585** | | **0.7409** | **0.7409** | | **0.7409** | **0.7409** | **0.0000** | **10,613.4348** | **10,613.4348** | **0.2034** | **0.1946** | **10,676.5052** |

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Apartments Mid Rise | 1.11166e+007 | 0.0000 | 0.1664 | 0.0202 | 10.1705 |
| Arena | 1.06704e+006 | 0.0000 | 0.0160 | 1.9400e-003 | 0.9762 |
| Fast Food Restaurant with Drive Thru | 978480 | 0.0000 | 0.0147 | 1.7800e-003 | 0.8952 |
| General Office Building | 4.4619e+006 | 0.0000 | 0.0668 | 8.1000e-003 | 4.0822 |
| Government Office Building | 1.0286e+006 | 0.0000 | 0.0154 | 1.8700e-003 | 0.9411 |
| Health Club | 963300 | 0.0000 | 0.0144 | 1.7500e-003 | 0.8813 |
| High School | 1.41284e+006 | 0.0000 | 0.0212 | 2.5600e-003 | 1.2926 |
| High Turnover (Sit Down Restaurant) | 4.24008e+006 | 0.0000 | 0.0635 | 7.6900e-003 | 3.8792 |
| Hotel | 5.60791e+006 | 0.0000 | 0.1679 | 0.0204 | 10.2613 |
| Junior College (2yr) | 1.69104e+006 | 0.0000 | 0.0253 | 3.0700e-003 | 1.5471 |
| Junior High School | 1.79458e+006 | 0.0000 | 0.0269 | 3.2600e-003 | 1.6419 |
| Medical Office Building | 578240 | 0.0000 | 8.6600e-003 | 1.0500e-003 | 0.5290 |
| Regional Shopping Center | 2.7489e+006 | 0.0000 | 0.0412 | 4.9900e-003 | 2.5150 |
| Single Family Housing | 2.60944e+007 | 0.0000 | 0.3906 | 0.0473 | 23.8737 |
| Supermarket | 2.58635e+006 | 0.0000 | 0.0387 | 4.6900e-003 | 2.3662 |
| **Total** | | **0.0000** | **1.0774** | **0.1306** | **65.8525** |

## 5.3 Energy by Land Use - Electricity

**Mitigated**

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Apartments Mid Rise | 1.11166e+007 | 0.0000 | 0.1664 | 0.0202 | 10.1705 |
| Arena | 1.06704e+006 | 0.0000 | 0.0160 | 1.9400e-003 | 0.9762 |
| Fast Food Restaurant with Drive Thru | 978480 | 0.0000 | 0.0147 | 1.7800e-003 | 0.8952 |
| General Office Building | 4.4619e+006 | 0.0000 | 0.0668 | 8.1000e-003 | 4.0822 |
| Government Office Building | 1.0286e+006 | 0.0000 | 0.0154 | 1.8700e-003 | 0.9411 |
| Health Club | 963300 | 0.0000 | 0.0144 | 1.7500e-003 | 0.8813 |
| High School | 1.41284e+006 | 0.0000 | 0.0212 | 2.5600e-003 | 1.2926 |
| High Turnover (Sit Down Restaurant) | 4.24008e+006 | 0.0000 | 0.0635 | 7.6900e-003 | 3.8792 |
| Hotel | 5.60791e+006 | 0.0000 | 0.1679 | 0.0204 | 10.2613 |
| Junior College (2yr) | 1.69104e+006 | 0.0000 | 0.0253 | 3.0700e-003 | 1.5471 |
| Junior High School | 1.79458e+006 | 0.0000 | 0.0269 | 3.2600e-003 | 1.6419 |
| Medical Office Building | 578240 | 0.0000 | 8.6600e-003 | 1.0500e-003 | 0.5290 |
| Regional Shopping Center | 2.7489e+006 | 0.0000 | 0.0412 | 4.9900e-003 | 2.5150 |
| Single Family Housing | 2.60944e+007 | 0.0000 | 0.3906 | 0.0473 | 23.8737 |
| Supermarket | 2.58635e+006 | 0.0000 | 0.0387 | 4.6900e-003 | 2.3662 |
| **Total** | | **0.0000** | **1.0774** | **0.1306** | **65.8525** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 54.2555 | 0.7304 | 63.2968 | 3.3600e-003 | | 0.3524 | 0.3524 | | 0.3524 | 0.3524 | 0.0000 | 103.8824 | 103.8824 | 0.0992 | 0.0000 | 106.3625 |
| Unmitigated | 54.2555 | 0.7304 | 63.2968 | 3.3600e-003 | | 0.3524 | 0.3524 | | 0.3524 | 0.3524 | 0.0000 | 103.8824 | 103.8824 | 0.0992 | 0.0000 | 106.3625 |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 6.8298 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 45.5264 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 1.8994 | 0.7304 | 63.2968 | 3.3600e-003 | | 0.3524 | 0.3524 | | 0.3524 | 0.3524 | 0.0000 | 103.8824 | 103.8824 | 0.0992 | 0.0000 | 106.3625 |
| **Total** | **54.2555** | **0.7304** | **63.2968** | **3.3600e-003** | | **0.3524** | **0.3524** | | **0.3524** | **0.3524** | **0.0000** | **103.8824** | **103.8824** | **0.0992** | **0.0000** | **106.3625** |

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 6.8298 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 45.5264 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 1.8994 | 0.7304 | 63.2968 | 3.3600e-003 | | 0.3524 | 0.3524 | | 0.3524 | 0.3524 | 0.0000 | 103.8824 | 103.8824 | 0.0992 | 0.0000 | 106.3625 |
| **Total** | **54.2555** | **0.7304** | **63.2968** | **3.3600e-003** | | **0.3524** | **0.3524** | | **0.3524** | **0.3524** | **0.0000** | **103.8824** | **103.8824** | **0.0992** | **0.0000** | **106.3625** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

Apply Water Conservation Strategy

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 217.8858 | 0.8108 | 0.4812 | 381.5577 |
| Unmitigated | 217.8858 | 0.8146 | 0.4817 | 381.7864 |

## 7.2 Water by Land Use

**Unmitigated**

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Apartments Mid Rise | 186.015 / 117.27 | 65.8123 | 0.2465 | 0.1456 | 115.3486 |
| Arena | 31.0154 / 1.97971 | 10.9733 | 0.0402 | 0.0242 | 19.1766 |
| Fast Food Restaurant with Drive Thru | 7.28481 / 0.464988 | 2.5774 | 9.4400e-003 | 5.6700e-003 | 4.5041 |
| General Office Building | 57.0525 / 34.9677 | 20.1853 | 0.0756 | 0.0446 | 35.3753 |
| Government Office Building | 14.7008 / 9.01018 | 5.2012 | 0.0195 | 0.0115 | 9.1152 |
| Health Club | 3.8443 / 2.35619 | 1.3601 | 5.0900e-003 | 3.0100e-003 | 2.3837 |
| High School | 6.60744 / 16.9906 | 2.3377 | 9.4300e-003 | 5.2500e-003 | 4.1384 |
| High Turnover (Sit Down Restaurant) | 31.5675 / 2.01495 | 11.1686 | 0.0409 | 0.0246 | 19.5179 |
| Hotel | 20.8008 / 2.31119 | 7.3593 | 0.0270 | 0.0162 | 12.8641 |
| Junior College (2yr) | 5.35275 / 8.37225 | 1.8938 | 7.3600e-003 | 4.2200e-003 | 3.3353 |
| Junior High School | 5.21212 / 13.4026 | 1.8441 | 7.4400e-003 | 4.1400e-003 | 3.2645 |
| Medical Office Building | 5.21999 / 0.994284 | 1.8468 | 6.8000e-003 | 4.0700e-003 | 3.2296 |
| Regional Shopping Center | 18.1478 / 11.1228 | 6.4207 | 0.0240 | 0.0142 | 11.2525 |
| Single Family Housing | 215.008 / 135.549 | 76.0703 | 0.2850 | 0.1682 | 133.3276 |
| Supermarket | 8.01243 / 0.247807 | 2.8348 | 0.0104 | 6.2400e-003 | 4.9532 |
| **Total** | | **217.8858** | **0.8146** | **0.4817** | **381.7864** |

## 7.2 Water by Land Use

**Mitigated**

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Apartments Mid Rise | 186.015 / 93.8161 | 65.8123 | 0.2453 | 0.1454 | 115.2735 |
| Arena | 31.0154 / 1.58377 | 10.9733 | 0.0402 | 0.0242 | 19.1753 |
| Fast Food Restaurant with Drive Thru | 7.28481 / 0.37199 | 2.5774 | 9.4300e-003 | 5.6700e-003 | 4.5038 |
| General Office Building | 57.0525 / 27.9741 | 20.1853 | 0.0752 | 0.0446 | 35.3529 |
| Government Office Building | 14.7008 / 7.20814 | 5.2012 | 0.0194 | 0.0115 | 9.1095 |
| Health Club | 3.8443 / 1.88495 | 1.3601 | 5.0700e-003 | 3.0000e-003 | 2.3822 |
| High School | 6.60744 / 13.5924 | 2.3377 | 9.2500e-003 | 5.2300e-003 | 4.1275 |
| High Turnover (Sit Down Restaurant) | 31.5675 / 1.61196 | 11.1686 | 0.0409 | 0.0246 | 19.5166 |
| Hotel | 20.8008 / 1.84896 | 7.3593 | 0.0270 | 0.0162 | 12.8626 |
| Junior College (2yr) | 5.35275 / 6.6978 | 1.8938 | 7.2700e-003 | 4.2100e-003 | 3.3299 |
| Junior High School | 5.21212 / 10.7221 | 1.8441 | 7.3000e-003 | 4.1300e-003 | 3.2559 |
| Medical Office Building | 5.21999 / 0.795427 | 1.8468 | 6.7900e-003 | 4.0700e-003 | 3.2290 |
| Regional Shopping Center | 18.1478 / 8.89826 | 6.4207 | 0.0239 | 0.0142 | 11.2454 |
| Single Family Housing | 215.008 / 108.439 | 76.0703 | 0.2835 | 0.1681 | 133.2408 |
| Supermarket | 8.01243 / 0.198246 | 2.8348 | 0.0104 | 6.2400e-003 | 4.9530 |
| **Total** | | **217.8858** | **0.8109** | **0.4812** | **381.5577** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 8.0 Waste Detail

## 8.1 Mitigation Measures Waste

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 1,904.7860 | 112.5696 | 0.0000 | 4,719.0267 |
| Unmitigated | 1,904.7860 | 112.5696 | 0.0000 | 4,719.0267 |

## 8.2 Waste by Land Use

**Unmitigated**

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Apartments Mid Rise | 1313.3 | 266.5880 | 15.7549 | 0.0000 | 660.4606 |
| Arena | 1.98 | 0.4019 | 0.0238 | 0.0000 | 0.9958 |
| Fast Food Restaurant with Drive Thru | 276.45 | 56.1169 | 3.3164 | 0.0000 | 139.0271 |
| General Office Building | 298.53 | 60.5989 | 3.5813 | 0.0000 | 150.1312 |
| Government Office Building | 68.82 | 13.9698 | 0.8256 | 0.0000 | 34.6097 |
| Health Club | 370.5 | 75.2082 | 4.4447 | 0.0000 | 186.3250 |
| High School | 273.75 | 55.5688 | 3.2840 | 0.0000 | 137.6693 |
| High Turnover (Sit Down Restaurant) | 1237.6 | 251.2216 | 14.8468 | 0.0000 | 622.3909 |
| Hotel | 448.95 | 91.1328 | 5.3858 | 0.0000 | 225.7776 |
| Junior College (2yr) | 456.25 | 92.6146 | 5.4734 | 0.0000 | 229.4488 |
| Junior High School | 392.38 | 79.6496 | 4.7072 | 0.0000 | 197.3285 |
| Medical Office Building | 449.28 | 91.1998 | 5.3898 | 0.0000 | 225.9436 |
| Regional Shopping Center | 257.25 | 52.2194 | 3.0861 | 0.0000 | 129.3714 |
| Single Family Housing | 3171.96 | 643.8792 | 38.0522 | 0.0000 | 1,595.1835 |
| Supermarket | 366.6 | 74.4165 | 4.3979 | 0.0000 | 184.3637 |
| **Total** | | **1,904.7860** | **112.5696** | **0.0000** | **4,719.0267** |

## 8.2 Waste by Land Use

**Mitigated**

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Apartments Mid Rise | 1313.3 | 266.5880 | 15.7549 | 0.0000 | 660.4606 |
| Arena | 1.98 | 0.4019 | 0.0238 | 0.0000 | 0.9958 |
| Fast Food Restaurant with Drive Thru | 276.45 | 56.1169 | 3.3164 | 0.0000 | 139.0271 |
| General Office Building | 298.53 | 60.5989 | 3.5813 | 0.0000 | 150.1312 |
| Government Office Building | 68.82 | 13.9698 | 0.8256 | 0.0000 | 34.6097 |
| Health Club | 370.5 | 75.2082 | 4.4447 | 0.0000 | 186.3250 |
| High School | 273.75 | 55.5688 | 3.2840 | 0.0000 | 137.6693 |
| High Turnover (Sit Down Restaurant) | 1237.6 | 251.2216 | 14.8468 | 0.0000 | 622.3909 |
| Hotel | 448.95 | 91.1328 | 5.3858 | 0.0000 | 225.7776 |
| Junior College (2yr) | 456.25 | 92.6146 | 5.4734 | 0.0000 | 229.4488 |
| Junior High School | 392.38 | 79.6496 | 4.7072 | 0.0000 | 197.3285 |
| Medical Office Building | 449.28 | 91.1998 | 5.3898 | 0.0000 | 225.9436 |
| Regional Shopping Center | 257.25 | 52.2194 | 3.0861 | 0.0000 | 129.3714 |
| Single Family Housing | 3171.96 | 643.8792 | 38.0522 | 0.0000 | 1,595.1835 |
| Supermarket | 366.6 | 74.4165 | 4.3979 | 0.0000 | 184.3637 |
| **Total** | | **1,904.7860** | **112.5696** | **0.0000** | **4,719.0267** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# UWSP - Construction of Non-Phase I

**Sacramento Metropolitan AQMD Air District, Summer**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| General Office Building | 321.00 | 1000sqft | 7.37 | 321,000.00 | 0 |
| Government Office Building | 74.00 | 1000sqft | 1.70 | 74,000.00 | 0 |
| Medical Office Building | 41.60 | 1000sqft | 0.96 | 41,600.00 | 0 |
| High School | 1,500.00 | Student | 4.57 | 198,991.47 | 0 |
| Junior College (2yr) | 2,500.00 | Student | 2.51 | 208,000.00 | 0 |
| Junior High School | 2,150.00 | Student | 5.80 | 252,757.62 | 0 |
| Arena | 72.00 | 1000sqft | 23.14 | 72,000.00 | 0 |
| Fast Food Restaurant with Drive Thru | 24.00 | 1000sqft | 0.55 | 24,000.00 | 0 |
| Health Club | 65.00 | 1000sqft | 1.49 | 65,000.00 | 0 |
| High Turnover (Sit Down Restaurant) | 104.00 | 1000sqft | 2.39 | 104,000.00 | 0 |
| Hotel | 410.00 | Room | 13.67 | 595,320.00 | 0 |
| Hotel | 410.00 | Room | 13.67 | 595,320.00 | 0 |
| Apartments Mid Rise | 2,855.00 | Dwelling Unit | 75.13 | 2,855,000.00 | 7623 |
| Single Family Housing | 3,300.00 | Dwelling Unit | 1,071.43 | 5,940,000.00 | 8811 |
| Regional Shopping Center | 245.00 | 1000sqft | 5.62 | 245,000.00 | 0 |
| Supermarket | 65.00 | 1000sqft | 1.49 | 65,000.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 3.5 | **Precipitation Freq (Days)** | 58 |
| **Climate Zone** | 6 | | | **Operational Year** | 2045 |
| **Utility Company** | Sacramento Municipal Utility District | | | | |
| **CO2 Intensity** | 0 | **CH4 Intensity** | 0.033 | **N2O Intensity** | 0.004 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**(lb/MWhr) (lb/MWhr) (lb/MWhr)**

## 1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity factor adjusted to reflect SMUD's RPS projections.

Land Use - Land uses adjusted to remove Phase I.

Construction Phase - Construction phasing adjusted to reflect 20-year buildout.

Off-road Equipment - Fleet mix adjusted based on size/timing of project.

Off-road Equipment - Fleet mix adjusted based on size/timing of project.

Off-road Equipment - Fleet mix adjusted based on size/timing of grading phase.

Off-road Equipment -

Grading -

Vehicle Trips - Trip rates adjusted per the project-specific traffic report from F&P.

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Area Mitigation -

Water Mitigation - Water conservation strategy applied to reflect project compliance with MWELO.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 11,000.00 | 3,369.00 |
| tblConstructionPhase | NumDays | 155,000.00 | 3,369.00 |
| tblConstructionPhase | NumDays | 15,500.00 | 120.00 |
| tblConstructionPhase | NumDays | 11,000.00 | 120.00 |
| tblConstructionPhase | NumDays | 6,000.00 | 120.00 |
| tblGrading | AcresOfGrading | 3,660.00 | 360.00 |
| tblLandUse | LandUseSquareFeet | 109,130.59 | 208,000.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 29.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 357.98 | 0 |

## 2.0 Emissions Summary

### 2.1 Overall Construction (Maximum Daily Emission)

**Unmitigated Construction**

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2030 | 2.4798 | 13.6835 | 16.6236 | 0.0476 | 19.7939 | 0.4371 | 20.2311 | 10.1388 | 0.4371 | 10.5759 | 0.0000 | 4,519.5356 | 4,519.5356 | 0.2195 | 2.1700e-003 | 4,525.6688 |
| 2031 | 25.4874 | 103.5126 | 125.5010 | 0.5025 | 40.0352 | 3.8781 | 40.6873 | 10.7725 | 3.8779 | 11.4052 | 0.0000 | 56,195.0575 | 56,195.0575 | 2.2554 | 3.4343 | 56,254.5761 |
| 2032 | 54.8954 | 66.5277 | 140.5947 | 0.5320 | 46.6834 | 0.7022 | 47.3856 | 12.5360 | 0.6819 | 13.2179 | 0.0000 | 56,803.1837 | 56,803.1837 | 1.2062 | 3.4805 | 57,870.5302 |
| 2033 | 54.3387 | 65.9372 | 138.1516 | 0.5246 | 46.6831 | 0.6914 | 47.3745 | 12.5358 | 0.6718 | 13.2076 | 0.0000 | 56,167.3047 | 56,167.3047 | 1.1709 | 3.4323 | 57,219.4070 |
| 2034 | 53.8205 | 65.3911 | 135.9856 | 0.5181 | 46.6828 | 0.6811 | 47.3640 | 12.5357 | 0.6623 | 13.1980 | 0.0000 | 55,601.2011 | 55,601.2011 | 1.1385 | 3.3893 | 56,639.6627 |
| 2035 | 53.1357 | 63.1796 | 134.0565 | 0.5123 | 46.6826 | 0.5357 | 47.2183 | 12.5357 | 0.5175 | 13.0531 | 0.0000 | 55,108.7209 | 55,108.7209 | 1.0923 | 3.3519 | 56,134.8946 |
| 2036 | 53.1357 | 63.1796 | 134.0565 | 0.5123 | 46.6826 | 0.5357 | 47.2183 | 12.5357 | 0.5175 | 13.0531 | 0.0000 | 55,108.7209 | 55,108.7209 | 1.0923 | 3.3519 | 56,134.8946 |
| 2037 | 53.1357 | 63.1796 | 134.0565 | 0.5123 | 46.6826 | 0.5357 | 47.2183 | 12.5357 | 0.5175 | 13.0531 | 0.0000 | 55,108.7209 | 55,108.7209 | 1.0923 | 3.3519 | 56,134.8946 |
| 2038 | 53.1357 | 63.1796 | 134.0565 | 0.5123 | 46.6826 | 0.5357 | 47.2183 | 12.5357 | 0.5175 | 13.0531 | 0.0000 | 55,108.7209 | 55,108.7209 | 1.0923 | 3.3519 | 56,134.8946 |
| 2039 | 53.1357 | 63.1796 | 134.0565 | 0.5123 | 46.6826 | 0.5357 | 47.2183 | 12.5357 | 0.5175 | 13.0531 | 0.0000 | 55,108.7209 | 55,108.7209 | 1.0923 | 3.3519 | 56,134.8946 |
| 2040 | 51.2107 | 60.9782 | 127.9446 | 0.4929 | 46.6814 | 0.4693 | 47.1507 | 12.5352 | 0.4531 | 12.9883 | 0.0000 | 53,414.2310 | 53,414.2310 | 0.9888 | 3.2149 | 54,396.9817 |
| 2041 | 51.2107 | 60.9782 | 127.9446 | 0.4929 | 46.6814 | 0.4693 | 47.1507 | 12.5352 | 0.4531 | 12.9883 | 0.0000 | 53,414.2310 | 53,414.2310 | 0.9888 | 3.2149 | 54,396.9817 |
| 2042 | 51.2107 | 60.9782 | 127.9446 | 0.4929 | 46.6814 | 0.4693 | 47.1507 | 12.5352 | 0.4531 | 12.9883 | 0.0000 | 53,414.2310 | 53,414.2310 | 0.9888 | 3.2149 | 54,396.9817 |
| 2043 | 51.2107 | 60.9782 | 127.9446 | 0.4929 | 46.6814 | 0.4693 | 47.1507 | 12.5352 | 0.4531 | 12.9883 | 0.0000 | 53,414.2310 | 53,414.2310 | 0.9888 | 3.2149 | 54,396.9817 |
| 2044 | 51.2107 | 60.9782 | 127.9446 | 0.4929 | 46.6814 | 0.4693 | 47.1507 | 12.5352 | 0.4531 | 12.9883 | 0.0000 | 53,414.2310 | 53,414.2310 | 0.9888 | 3.2149 | 54,396.9817 |
| **Maximum** | **54.8954** | **103.5126** | **140.5947** | **0.5320** | **46.6834** | **3.8781** | **47.3856** | **12.5360** | **3.8779** | **13.2179** | **0.0000** | **56,803.1837** | **56,803.1837** | **2.2554** | **3.4805** | **57,870.5302** |

## 2.1 Overall Construction (Maximum Daily Emission)

**Mitigated Construction**

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2030 | 2.4798 | 13.6835 | 16.6236 | 0.0476 | 19.7939 | 0.4371 | 20.2311 | 10.1388 | 0.4371 | 10.5759 | 0.0000 | 4,519.5356 | 4,519.5356 | 0.2195 | 2.1700e-003 | 4,525.6688 |
| 2031 | 25.4874 | 103.5126 | 125.5010 | 0.5025 | 40.0352 | 3.8781 | 40.6873 | 10.7725 | 3.8779 | 11.4052 | 0.0000 | 56,195.0575 | 56,195.0575 | 2.2554 | 3.4343 | 56,254.5761 |
| 2032 | 54.8954 | 66.5277 | 140.5947 | 0.5320 | 46.6834 | 0.7022 | 47.3856 | 12.5360 | 0.6819 | 13.2179 | 0.0000 | 56,803.1837 | 56,803.1837 | 1.2062 | 3.4805 | 57,870.5302 |
| 2033 | 54.3387 | 65.9372 | 138.1516 | 0.5246 | 46.6831 | 0.6914 | 47.3745 | 12.5358 | 0.6718 | 13.2076 | 0.0000 | 56,167.3047 | 56,167.3047 | 1.1709 | 3.4323 | 57,219.4069 |
| 2034 | 53.8205 | 65.3911 | 135.9856 | 0.5181 | 46.6828 | 0.6811 | 47.3640 | 12.5357 | 0.6623 | 13.1980 | 0.0000 | 55,601.2011 | 55,601.2011 | 1.1385 | 3.3893 | 56,639.6627 |
| 2035 | 53.1357 | 63.1796 | 134.0565 | 0.5123 | 46.6826 | 0.5357 | 47.2183 | 12.5357 | 0.5175 | 13.0531 | 0.0000 | 55,108.7209 | 55,108.7209 | 1.0923 | 3.3519 | 56,134.8946 |
| 2036 | 53.1357 | 63.1796 | 134.0565 | 0.5123 | 46.6826 | 0.5357 | 47.2183 | 12.5357 | 0.5175 | 13.0531 | 0.0000 | 55,108.7209 | 55,108.7209 | 1.0923 | 3.3519 | 56,134.8946 |
| 2037 | 53.1357 | 63.1796 | 134.0565 | 0.5123 | 46.6826 | 0.5357 | 47.2183 | 12.5357 | 0.5175 | 13.0531 | 0.0000 | 55,108.7209 | 55,108.7209 | 1.0923 | 3.3519 | 56,134.8946 |
| 2038 | 53.1357 | 63.1796 | 134.0565 | 0.5123 | 46.6826 | 0.5357 | 47.2183 | 12.5357 | 0.5175 | 13.0531 | 0.0000 | 55,108.7209 | 55,108.7209 | 1.0923 | 3.3519 | 56,134.8946 |
| 2039 | 53.1357 | 63.1796 | 134.0565 | 0.5123 | 46.6826 | 0.5357 | 47.2183 | 12.5357 | 0.5175 | 13.0531 | 0.0000 | 55,108.7209 | 55,108.7209 | 1.0923 | 3.3519 | 56,134.8946 |
| 2040 | 51.2107 | 60.9782 | 127.9446 | 0.4929 | 46.6814 | 0.4693 | 47.1507 | 12.5352 | 0.4531 | 12.9883 | 0.0000 | 53,414.2310 | 53,414.2310 | 0.9888 | 3.2149 | 54,396.9817 |
| 2041 | 51.2107 | 60.9782 | 127.9446 | 0.4929 | 46.6814 | 0.4693 | 47.1507 | 12.5352 | 0.4531 | 12.9883 | 0.0000 | 53,414.2310 | 53,414.2310 | 0.9888 | 3.2149 | 54,396.9817 |
| 2042 | 51.2107 | 60.9782 | 127.9446 | 0.4929 | 46.6814 | 0.4693 | 47.1507 | 12.5352 | 0.4531 | 12.9883 | 0.0000 | 53,414.2310 | 53,414.2310 | 0.9888 | 3.2149 | 54,396.9817 |
| 2043 | 51.2107 | 60.9782 | 127.9446 | 0.4929 | 46.6814 | 0.4693 | 47.1507 | 12.5352 | 0.4531 | 12.9883 | 0.0000 | 53,414.2310 | 53,414.2310 | 0.9888 | 3.2149 | 54,396.9817 |
| 2044 | 51.2107 | 60.9782 | 127.9446 | 0.4929 | 46.6814 | 0.4693 | 47.1507 | 12.5352 | 0.4531 | 12.9883 | 0.0000 | 53,414.2310 | 53,414.2310 | 0.9888 | 3.2149 | 54,396.9817 |
| **Maximum** | **54.8954** | **103.5126** | **140.5947** | **0.5320** | **46.6834** | **3.8781** | **47.3856** | **12.5360** | **3.8779** | **13.2179** | **0.0000** | **56,803.1837** | **56,803.1837** | **2.2554** | **3.4805** | **57,870.5302** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 302.0782 | 5.8428 | 506.3743 | 0.0269 | | 2.8189 | 2.8189 | | 2.8189 | 2.8189 | 0.0000 | 916.0862 | 916.0862 | 0.8748 | 0.0000 | 937.9563 |
| Energy | 5.8764 | 51.7300 | 32.4698 | 0.3205 | | 4.0600 | 4.0600 | | 4.0600 | 4.0600 | | 64,105.8042 | 64,105.8042 | 1.2287 | 1.1753 | 64,486.7529 |
| Mobile | 207.7643 | 167.9146 | 1,664.6848 | 3.3308 | 460.5517 | 1.5353 | 462.0870 | 122.6142 | 1.4355 | 124.0497 | | 374,541.7501 | 374,541.7501 | 22.7581 | 16.6679 | 380,077.7275 |
| **Total** | **515.7189** | **225.4874** | **2,203.5289** | **3.6783** | **460.5517** | **8.4142** | **468.9659** | **122.6142** | **8.3144** | **130.9286** | **0.0000** | **439,563.6405** | **439,563.6405** | **24.8616** | **17.8431** | **445,502.4367** |

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 302.0782 | 5.8428 | 506.3743 | 0.0269 | | 2.8189 | 2.8189 | | 2.8189 | 2.8189 | 0.0000 | 916.0862 | 916.0862 | 0.8748 | 0.0000 | 937.9563 |
| Energy | 5.8764 | 51.7300 | 32.4698 | 0.3205 | | 4.0600 | 4.0600 | | 4.0600 | 4.0600 | | 64,105.8042 | 64,105.8042 | 1.2287 | 1.1753 | 64,486.7529 |
| Mobile | 207.7643 | 167.9146 | 1,664.6848 | 3.3308 | 460.5517 | 1.5353 | 462.0870 | 122.6142 | 1.4355 | 124.0497 | | 374,541.7501 | 374,541.7501 | 22.7581 | 16.6679 | 380,077.7275 |
| **Total** | **515.7189** | **225.4874** | **2,203.5289** | **3.6783** | **460.5517** | **8.4142** | **468.9659** | **122.6142** | **8.3144** | **130.9286** | **0.0000** | **439,563.6405** | **439,563.6405** | **24.8616** | **17.8431** | **445,502.4367** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 8/1/2030 | 1/15/2031 | 5 | 120 | |
| 2 | Grading | Grading | 1/16/2031 | 7/2/2031 | 5 | 120 | |
| 3 | Paving | Paving | 7/3/2031 | 12/17/2031 | 5 | 120 | |
| 4 | Building Construction | Building Construction | 12/18/2031 | 11/15/2044 | 5 | 3369 | |
| 5 | Arch Coating | Architectural Coating | 1/2/2032 | 11/30/2044 | 5 | 3369 | |

**Acres of Grading (Site Preparation Phase): 180**

**Acres of Grading (Grading Phase): 360**

**Acres of Paving: 0**

**Residential Indoor: 17,809,875; Residential Outdoor: 5,936,625; Non-Residential Indoor: 4,292,984; Non-Residential Outdoor: 1,430,995; Striped Parking Area: 0 (Architectural Coating – sqft)**

### OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Grading | Excavators | 2 | 8.00 | 158 | 0.38 |
| Grading | Graders | 2 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Grading | Scrapers | 29 | 8.00 | 367 | 0.48 |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | |
|---|---|---|---|---|---|
| Grading | Tractors/Loaders/Backhoes | 2 | 8.00 | 97 | 0.37 |
| Paving | Pavers | 2 | 8.00 | 130 | 0.42 |
| Paving | Paving Equipment | 2 | 8.00 | 132 | 0.36 |
| Paving | Rollers | 2 | 8.00 | 80 | 0.38 |
| Building Construction | Cranes | 2 | 7.00 | 231 | 0.29 |
| Building Construction | Forklifts | 6 | 8.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 2 | 8.00 | 84 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | 6 | 7.00 | 97 | 0.37 |
| Building Construction | Welders | 2 | 8.00 | 46 | 0.45 |
| Arch Coating | Air Compressors | 2 | 6.00 | 78 | 0.48 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 7 | 18.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 36 | 90.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 6 | 15.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 18 | 4,371.00 | 1,127.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Arch Coating | 2 | 874.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2030

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.4399 | 13.6680 | 16.2918 | 0.0466 | | 0.4367 | 0.4367 | | 0.4367 | 0.4367 | | 4,409.7537 | 4,409.7537 | 0.2176 | | 4,415.1936 |
| **Total** | **2.4399** | **13.6680** | **16.2918** | **0.0466** | **19.6570** | **0.4367** | **20.0937** | **10.1025** | **0.4367** | **10.5391** | | **4,409.7537** | **4,409.7537** | **0.2176** | | **4,415.1936** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0399 | 0.0155 | 0.3318 | 1.0200e-003 | 0.1369 | 4.8000e-004 | 0.1374 | 0.0363 | 4.4000e-004 | 0.0368 | | 109.7819 | 109.7819 | 1.8800e-003 | 2.1700e-003 | 110.4752 |
| **Total** | **0.0399** | **0.0155** | **0.3318** | **1.0200e-003** | **0.1369** | **4.8000e-004** | **0.1374** | **0.0363** | **4.4000e-004** | **0.0368** | | **109.7819** | **109.7819** | **1.8800e-003** | **2.1700e-003** | **110.4752** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2030

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.4399 | 13.6680 | 16.2918 | 0.0466 | | 0.4367 | 0.4367 | | 0.4367 | 0.4367 | 0.0000 | 4,409.7537 | 4,409.7537 | 0.2176 | | 4,415.1936 |
| **Total** | **2.4399** | **13.6680** | **16.2918** | **0.0466** | **19.6570** | **0.4367** | **20.0937** | **10.1025** | **0.4367** | **10.5391** | **0.0000** | **4,409.7537** | **4,409.7537** | **0.2176** | | **4,415.1936** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0399 | 0.0155 | 0.3318 | 1.0200e-003 | 0.1369 | 4.8000e-004 | 0.1374 | 0.0363 | 4.4000e-004 | 0.0368 | | 109.7819 | 109.7819 | 1.8800e-003 | 2.1700e-003 | 110.4752 |
| **Total** | **0.0399** | **0.0155** | **0.3318** | **1.0200e-003** | **0.1369** | **4.8000e-004** | **0.1374** | **0.0363** | **4.4000e-004** | **0.0368** | | **109.7819** | **109.7819** | **1.8800e-003** | **2.1700e-003** | **110.4752** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2031

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.4399 | 13.6680 | 16.2918 | 0.0466 | | 0.4367 | 0.4367 | | 0.4367 | 0.4367 | | 4,409.7537 | 4,409.7537 | 0.2176 | | 4,415.1936 |
| **Total** | **2.4399** | **13.6680** | **16.2918** | **0.0466** | **19.6570** | **0.4367** | **20.0937** | **10.1025** | **0.4367** | **10.5391** | | **4,409.7537** | **4,409.7537** | **0.2176** | | **4,415.1936** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0376 | 0.0146 | 0.3205 | 9.9000e-004 | 0.1369 | 4.5000e-004 | 0.1374 | 0.0363 | 4.1000e-004 | 0.0367 | | 108.1020 | 108.1020 | 1.7500e-003 | 2.1000e-003 | 108.7727 |
| **Total** | **0.0376** | **0.0146** | **0.3205** | **9.9000e-004** | **0.1369** | **4.5000e-004** | **0.1374** | **0.0363** | **4.1000e-004** | **0.0367** | | **108.1020** | **108.1020** | **1.7500e-003** | **2.1000e-003** | **108.7727** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2031

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.4399 | 13.6680 | 16.2918 | 0.0466 | | 0.4367 | 0.4367 | | 0.4367 | 0.4367 | 0.0000 | 4,409.7537 | 4,409.7537 | 0.2176 | | 4,415.1936 |
| **Total** | **2.4399** | **13.6680** | **16.2918** | **0.0466** | **19.6570** | **0.4367** | **20.0937** | **10.1025** | **0.4367** | **10.5391** | **0.0000** | **4,409.7537** | **4,409.7537** | **0.2176** | | **4,415.1936** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0376 | 0.0146 | 0.3205 | 9.9000e-004 | 0.1369 | 4.5000e-004 | 0.1374 | 0.0363 | 4.1000e-004 | 0.0367 | | 108.1020 | 108.1020 | 1.7500e-003 | 2.1000e-003 | 108.7727 |
| **Total** | **0.0376** | **0.0146** | **0.3205** | **9.9000e-004** | **0.1369** | **4.5000e-004** | **0.1374** | **0.0363** | **4.1000e-004** | **0.0367** | | **108.1020** | **108.1020** | **1.7500e-003** | **2.1000e-003** | **108.7727** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Grading - 2031

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 9.2036 | 0.0000 | 9.2036 | 3.6538 | 0.0000 | 3.6538 | | | 0.0000 | | | 0.0000 |
| Off-Road | 25.2995 | 103.4398 | 123.8986 | 0.4975 | | 3.8759 | 3.8759 | | 3.8759 | 3.8759 | | 55,654.5474 | 55,654.5474 | 2.2466 | | 55,710.7126 |
| **Total** | **25.2995** | **103.4398** | **123.8986** | **0.4975** | **9.2036** | **3.8759** | **13.0795** | **3.6538** | **3.8759** | **7.5296** | | **55,654.5474** | **55,654.5474** | **2.2466** | | **55,710.7126** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1879 | 0.0729 | 1.6024 | 4.9700e-003 | 0.6846 | 2.2300e-003 | 0.6869 | 0.1816 | 2.0600e-003 | 0.1837 | | 540.5101 | 540.5101 | 8.7600e-003 | 0.0105 | 543.8635 |
| **Total** | **0.1879** | **0.0729** | **1.6024** | **4.9700e-003** | **0.6846** | **2.2300e-003** | **0.6869** | **0.1816** | **2.0600e-003** | **0.1837** | | **540.5101** | **540.5101** | **8.7600e-003** | **0.0105** | **543.8635** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Grading - 2031

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 9.2036 | 0.0000 | 9.2036 | 3.6538 | 0.0000 | 3.6538 | | | 0.0000 | | | 0.0000 |
| Off-Road | 25.2995 | 103.4398 | 123.8986 | 0.4975 | | 3.8759 | 3.8759 | | 3.8759 | 3.8759 | 0.0000 | 55,654.5474 | 55,654.5474 | 2.2466 | | 55,710.7126 |
| **Total** | **25.2995** | **103.4398** | **123.8986** | **0.4975** | **9.2036** | **3.8759** | **13.0795** | **3.6538** | **3.8759** | **7.5296** | **0.0000** | **55,654.5474** | **55,654.5474** | **2.2466** | | **55,710.7126** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1879 | 0.0729 | 1.6024 | 4.9700e-003 | 0.6846 | 2.2300e-003 | 0.6869 | 0.1816 | 2.0600e-003 | 0.1837 | | 540.5101 | 540.5101 | 8.7600e-003 | 0.0105 | 543.8635 |
| **Total** | **0.1879** | **0.0729** | **1.6024** | **4.9700e-003** | **0.6846** | **2.2300e-003** | **0.6869** | **0.1816** | **2.0600e-003** | **0.1837** | | **540.5101** | **540.5101** | **8.7600e-003** | **0.0105** | **543.8635** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2031

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.3845 | 7.1202 | 15.8495 | 0.0281 | | 0.3306 | 0.3306 | | 0.3306 | 0.3306 | | 2,656.5168 | 2,656.5168 | 0.1245 | | 2,659.6302 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **1.3845** | **7.1202** | **15.8495** | **0.0281** | | **0.3306** | **0.3306** | | **0.3306** | **0.3306** | | **2,656.5168** | **2,656.5168** | **0.1245** | | **2,659.6302** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0313 | 0.0121 | 0.2671 | 8.3000e-004 | 0.1141 | 3.7000e-004 | 0.1145 | 0.0303 | 3.4000e-004 | 0.0306 | | 90.0850 | 90.0850 | 1.4600e-003 | 1.7500e-003 | 90.6439 |
| **Total** | **0.0313** | **0.0121** | **0.2671** | **8.3000e-004** | **0.1141** | **3.7000e-004** | **0.1145** | **0.0303** | **3.4000e-004** | **0.0306** | | **90.0850** | **90.0850** | **1.4600e-003** | **1.7500e-003** | **90.6439** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2031

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.3845 | 7.1202 | 15.8495 | 0.0281 | | 0.3306 | 0.3306 | | 0.3306 | 0.3306 | 0.0000 | 2,656.5168 | 2,656.5168 | 0.1245 | | 2,659.6302 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **1.3845** | **7.1202** | **15.8495** | **0.0281** | | **0.3306** | **0.3306** | | **0.3306** | **0.3306** | **0.0000** | **2,656.5168** | **2,656.5168** | **0.1245** | | **2,659.6302** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0313 | 0.0121 | 0.2671 | 8.3000e-004 | 0.1141 | 3.7000e-004 | 0.1145 | 0.0303 | 3.4000e-004 | 0.0306 | | 90.0850 | 90.0850 | 1.4600e-003 | 1.7500e-003 | 90.6439 |
| **Total** | **0.0313** | **0.0121** | **0.2671** | **8.3000e-004** | **0.1141** | **3.7000e-004** | **0.1145** | **0.0303** | **3.4000e-004** | **0.0306** | | **90.0850** | **90.0850** | **1.4600e-003** | **1.7500e-003** | **90.6439** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2031

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.6183 | 15.8692 | 32.3140 | 0.0619 | | 0.2963 | 0.2963 | | 0.2963 | 0.2963 | | 5,795.0935 | 5,795.0935 | 0.2325 | | 5,800.9057 |
| **Total** | **2.6183** | **15.8692** | **32.3140** | **0.0619** | | **0.2963** | **0.2963** | | **0.2963** | **0.2963** | | **5,795.0935** | **5,795.0935** | **0.2325** | | **5,800.9057** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.1674 | 45.4110 | 14.1846 | 0.1830 | 6.7851 | 0.2473 | 7.0324 | 1.9526 | 0.2365 | 2.1891 | | 19,669.0194 | 19,669.0194 | 0.4814 | 2.9234 | 20,552.2290 |
| Worker | 9.1249 | 3.5381 | 77.8242 | 0.2412 | 33.2502 | 0.1085 | 33.3587 | 8.8199 | 0.0999 | 8.9198 | | 26,250.7740 | 26,250.7740 | 0.4254 | 0.5108 | 26,413.6383 |
| **Total** | **10.2924** | **48.9491** | **92.0088** | **0.4243** | **40.0352** | **0.3558** | **40.3910** | **10.7725** | **0.3364** | **11.1089** | | **45,919.7934** | **45,919.7934** | **0.9067** | **3.4343** | **46,965.8673** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2031

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.6183 | 15.8692 | 32.3140 | 0.0619 | | 0.2963 | 0.2963 | | 0.2963 | 0.2963 | 0.0000 | 5,795.0935 | 5,795.0935 | 0.2325 | | 5,800.9057 |
| **Total** | **2.6183** | **15.8692** | **32.3140** | **0.0619** | | **0.2963** | **0.2963** | | **0.2963** | **0.2963** | **0.0000** | **5,795.0935** | **5,795.0935** | **0.2325** | | **5,800.9057** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.1674 | 45.4110 | 14.1846 | 0.1830 | 6.7851 | 0.2473 | 7.0324 | 1.9526 | 0.2365 | 2.1891 | | 19,669.0194 | 19,669.0194 | 0.4814 | 2.9234 | 20,552.2290 |
| Worker | 9.1249 | 3.5381 | 77.8242 | 0.2412 | 33.2502 | 0.1085 | 33.3587 | 8.8199 | 0.0999 | 8.9198 | | 26,250.7740 | 26,250.7740 | 0.4254 | 0.5108 | 26,413.6383 |
| **Total** | **10.2924** | **48.9491** | **92.0088** | **0.4243** | **40.0352** | **0.3558** | **40.3910** | **10.7725** | **0.3364** | **11.1089** | | **45,919.7934** | **45,919.7934** | **0.9067** | **3.4343** | **46,965.8673** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2032

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.6183 | 15.8692 | 32.3140 | 0.0619 | | 0.2963 | 0.2963 | | 0.2963 | 0.2963 | | 5,795.0935 | 5,795.0935 | 0.2325 | | 5,800.9057 |
| **Total** | **2.6183** | **15.8692** | **32.3140** | **0.0619** | | **0.2963** | **0.2963** | | **0.2963** | **0.2963** | | **5,795.0935** | **5,795.0935** | **0.2325** | | **5,800.9057** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.1447 | 44.9193 | 14.1231 | 0.1803 | 6.7848 | 0.2433 | 7.0280 | 1.9525 | 0.2327 | 2.1852 | | 19,374.1206 | 19,374.1206 | 0.4745 | 2.8830 | 20,245.1086 |
| Worker | 8.6054 | 3.3556 | 75.4713 | 0.2366 | 33.2502 | 0.1017 | 33.3519 | 8.8199 | 0.0936 | 8.9135 | | 25,893.5486 | 25,893.5486 | 0.3971 | 0.4980 | 26,051.8685 |
| **Total** | **9.7501** | **48.2749** | **89.5944** | **0.4168** | **40.0349** | **0.3450** | **40.3799** | **10.7724** | **0.3263** | **11.0987** | | **45,267.6692** | **45,267.6692** | **0.8715** | **3.3809** | **46,296.9772** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2032

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.6183 | 15.8692 | 32.3140 | 0.0619 | | 0.2963 | 0.2963 | | 0.2963 | 0.2963 | 0.0000 | 5,795.0935 | 5,795.0935 | 0.2325 | | 5,800.9057 |
| **Total** | **2.6183** | **15.8692** | **32.3140** | **0.0619** | | **0.2963** | **0.2963** | | **0.2963** | **0.2963** | **0.0000** | **5,795.0935** | **5,795.0935** | **0.2325** | | **5,800.9057** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.1447 | 44.9193 | 14.1231 | 0.1803 | 6.7848 | 0.2433 | 7.0280 | 1.9525 | 0.2327 | 2.1852 | | 19,374.1206 | 19,374.1206 | 0.4745 | 2.8830 | 20,245.1086 |
| Worker | 8.6054 | 3.3556 | 75.4713 | 0.2366 | 33.2502 | 0.1017 | 33.3519 | 8.8199 | 0.0936 | 8.9135 | | 25,893.5486 | 25,893.5486 | 0.3971 | 0.4980 | 26,051.8685 |
| **Total** | **9.7501** | **48.2749** | **89.5944** | **0.4168** | **40.0349** | **0.3450** | **40.3799** | **10.7724** | **0.3263** | **11.0987** | | **45,267.6692** | **45,267.6692** | **0.8715** | **3.3809** | **46,296.9772** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2033

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.6183 | 15.8692 | 32.3140 | 0.0619 | | 0.2963 | 0.2963 | | 0.2963 | 0.2963 | | 5,795.0935 | 5,795.0935 | 0.2325 | | 5,800.9057 |
| **Total** | **2.6183** | **15.8692** | **32.3140** | **0.0619** | | **0.2963** | **0.2963** | | **0.2963** | **0.2963** | | **5,795.0935** | **5,795.0935** | **0.2325** | | **5,800.9057** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.1256 | 44.5043 | 14.0826 | 0.1778 | 6.7845 | 0.2399 | 7.0243 | 1.9523 | 0.2295 | 2.1818 | | 19,113.2893 | 19,113.2893 | 0.4686 | 2.8473 | 19,973.4845 |
| Worker | 8.1573 | 3.2093 | 73.4691 | 0.2324 | 33.2502 | 0.0955 | 33.3457 | 8.8199 | 0.0879 | 8.9078 | | 25,580.9969 | 25,580.9969 | 0.3725 | 0.4876 | 25,735.6072 |
| **Total** | **9.2830** | **47.7137** | **87.5517** | **0.4103** | **40.0346** | **0.3354** | **40.3700** | **10.7723** | **0.3173** | **11.0896** | | **44,694.2862** | **44,694.2862** | **0.8411** | **3.3348** | **45,709.0917** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2033

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.6183 | 15.8692 | 32.3140 | 0.0619 | | 0.2963 | 0.2963 | | 0.2963 | 0.2963 | 0.0000 | 5,795.0935 | 5,795.0935 | 0.2325 | | 5,800.9057 |
| **Total** | **2.6183** | **15.8692** | **32.3140** | **0.0619** | | **0.2963** | **0.2963** | | **0.2963** | **0.2963** | **0.0000** | **5,795.0935** | **5,795.0935** | **0.2325** | | **5,800.9057** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.1256 | 44.5043 | 14.0826 | 0.1778 | 6.7845 | 0.2399 | 7.0243 | 1.9523 | 0.2295 | 2.1818 | | 19,113.2893 | 19,113.2893 | 0.4686 | 2.8473 | 19,973.4845 |
| Worker | 8.1573 | 3.2093 | 73.4691 | 0.2324 | 33.2502 | 0.0955 | 33.3457 | 8.8199 | 0.0879 | 8.9078 | | 25,580.9969 | 25,580.9969 | 0.3725 | 0.4876 | 25,735.6072 |
| **Total** | **9.2830** | **47.7137** | **87.5517** | **0.4103** | **40.0346** | **0.3354** | **40.3700** | **10.7723** | **0.3173** | **11.0896** | | **44,694.2862** | **44,694.2862** | **0.8411** | **3.3348** | **45,709.0917** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2034

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.6183 | 15.8692 | 32.3140 | 0.0619 | | 0.2963 | 0.2963 | | 0.2963 | 0.2963 | | 5,795.0935 | 5,795.0935 | 0.2325 | | 5,800.9057 |
| **Total** | **2.6183** | **15.8692** | **32.3140** | **0.0619** | | **0.2963** | **0.2963** | | **0.2963** | **0.2963** | | **5,795.0935** | **5,795.0935** | **0.2325** | | **5,800.9057** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.1082 | 44.1041 | 14.0508 | 0.1756 | 6.7842 | 0.2365 | 7.0206 | 1.9522 | 0.2262 | 2.1784 | | 18,874.6199 | 18,874.6199 | 0.4627 | 2.8145 | 19,724.8958 |
| Worker | 7.7400 | 3.0878 | 71.6905 | 0.2288 | 33.2502 | 0.0898 | 33.3400 | 8.8199 | 0.0827 | 8.9026 | | 25,308.1247 | 25,308.1247 | 0.3504 | 0.4790 | 25,459.6337 |
| **Total** | **8.8483** | **47.1919** | **85.7413** | **0.4045** | **40.0343** | **0.3263** | **40.3606** | **10.7722** | **0.3089** | **11.0810** | | **44,182.7446** | **44,182.7446** | **0.8131** | **3.2935** | **45,184.5295** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2034

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.6183 | 15.8692 | 32.3140 | 0.0619 | | 0.2963 | 0.2963 | | 0.2963 | 0.2963 | 0.0000 | 5,795.0935 | 5,795.0935 | 0.2325 | | 5,800.9057 |
| **Total** | **2.6183** | **15.8692** | **32.3140** | **0.0619** | | **0.2963** | **0.2963** | | **0.2963** | **0.2963** | **0.0000** | **5,795.0935** | **5,795.0935** | **0.2325** | | **5,800.9057** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.1082 | 44.1041 | 14.0508 | 0.1756 | 6.7842 | 0.2365 | 7.0206 | 1.9522 | 0.2262 | 2.1784 | | 18,874.6199 | 18,874.6199 | 0.4627 | 2.8145 | 19,724.8958 |
| Worker | 7.7400 | 3.0878 | 71.6905 | 0.2288 | 33.2502 | 0.0898 | 33.3400 | 8.8199 | 0.0827 | 8.9026 | | 25,308.1247 | 25,308.1247 | 0.3504 | 0.4790 | 25,459.6337 |
| **Total** | **8.8483** | **47.1919** | **85.7413** | **0.4045** | **40.0343** | **0.3263** | **40.3606** | **10.7722** | **0.3089** | **11.0810** | | **44,182.7446** | **44,182.7446** | **0.8131** | **3.2935** | **45,184.5295** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2035

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.4336 | 14.3226 | 32.2356 | 0.0619 | | 0.1808 | 0.1808 | | 0.1808 | 0.1808 | | 5,795.0935 | 5,795.0935 | 0.2158 | | 5,800.4895 |
| **Total** | **2.4336** | **14.3226** | **32.2356** | **0.0619** | | **0.1808** | **0.1808** | | **0.1808** | **0.1808** | | **5,795.0935** | **5,795.0935** | **0.2158** | | **5,800.4895** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0925 | 43.7516 | 14.0254 | 0.1737 | 6.7839 | 0.2335 | 7.0174 | 1.9522 | 0.2233 | 2.1755 | | 18,662.3598 | 18,662.3598 | 0.4584 | 2.7852 | 19,503.8143 |
| Worker | 7.3577 | 2.9917 | 70.1752 | 0.2257 | 33.2502 | 0.0847 | 33.3349 | 8.8199 | 0.0780 | 8.8979 | | 25,074.5990 | 25,074.5990 | 0.3311 | 0.4723 | 25,223.6073 |
| **Total** | **8.4502** | **46.7433** | **84.2006** | **0.3994** | **40.0341** | **0.3182** | **40.3522** | **10.7721** | **0.3013** | **11.0733** | | **43,736.9588** | **43,736.9588** | **0.7895** | **3.2575** | **44,727.4216** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2035

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.4336 | 14.3226 | 32.2356 | 0.0619 | | 0.1808 | 0.1808 | | 0.1808 | 0.1808 | 0.0000 | 5,795.0935 | 5,795.0935 | 0.2158 | | 5,800.4895 |
| **Total** | **2.4336** | **14.3226** | **32.2356** | **0.0619** | | **0.1808** | **0.1808** | | **0.1808** | **0.1808** | **0.0000** | **5,795.0935** | **5,795.0935** | **0.2158** | | **5,800.4895** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0925 | 43.7516 | 14.0254 | 0.1737 | 6.7839 | 0.2335 | 7.0174 | 1.9522 | 0.2233 | 2.1755 | | 18,662.3598 | 18,662.3598 | 0.4584 | 2.7852 | 19,503.8143 |
| Worker | 7.3577 | 2.9917 | 70.1752 | 0.2257 | 33.2502 | 0.0847 | 33.3349 | 8.8199 | 0.0780 | 8.8979 | | 25,074.5990 | 25,074.5990 | 0.3311 | 0.4723 | 25,223.6073 |
| **Total** | **8.4502** | **46.7433** | **84.2006** | **0.3994** | **40.0341** | **0.3182** | **40.3522** | **10.7721** | **0.3013** | **11.0733** | | **43,736.9588** | **43,736.9588** | **0.7895** | **3.2575** | **44,727.4216** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2036

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.4336 | 14.3226 | 32.2356 | 0.0619 | | 0.1808 | 0.1808 | | 0.1808 | 0.1808 | | 5,795.0935 | 5,795.0935 | 0.2158 | | 5,800.4895 |
| **Total** | **2.4336** | **14.3226** | **32.2356** | **0.0619** | | **0.1808** | **0.1808** | | **0.1808** | **0.1808** | | **5,795.0935** | **5,795.0935** | **0.2158** | | **5,800.4895** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0925 | 43.7516 | 14.0254 | 0.1737 | 6.7839 | 0.2335 | 7.0174 | 1.9522 | 0.2233 | 2.1755 | | 18,662.3598 | 18,662.3598 | 0.4584 | 2.7852 | 19,503.8143 |
| Worker | 7.3577 | 2.9917 | 70.1752 | 0.2257 | 33.2502 | 0.0847 | 33.3349 | 8.8199 | 0.0780 | 8.8979 | | 25,074.5990 | 25,074.5990 | 0.3311 | 0.4723 | 25,223.6073 |
| **Total** | **8.4502** | **46.7433** | **84.2006** | **0.3994** | **40.0341** | **0.3182** | **40.3522** | **10.7721** | **0.3013** | **11.0733** | | **43,736.9588** | **43,736.9588** | **0.7895** | **3.2575** | **44,727.4216** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2036

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.4336 | 14.3226 | 32.2356 | 0.0619 | | 0.1808 | 0.1808 | | 0.1808 | 0.1808 | 0.0000 | 5,795.0935 | 5,795.0935 | 0.2158 | | 5,800.4895 |
| **Total** | **2.4336** | **14.3226** | **32.2356** | **0.0619** | | **0.1808** | **0.1808** | | **0.1808** | **0.1808** | **0.0000** | **5,795.0935** | **5,795.0935** | **0.2158** | | **5,800.4895** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0925 | 43.7516 | 14.0254 | 0.1737 | 6.7839 | 0.2335 | 7.0174 | 1.9522 | 0.2233 | 2.1755 | | 18,662.3598 | 18,662.3598 | 0.4584 | 2.7852 | 19,503.8143 |
| Worker | 7.3577 | 2.9917 | 70.1752 | 0.2257 | 33.2502 | 0.0847 | 33.3349 | 8.8199 | 0.0780 | 8.8979 | | 25,074.5990 | 25,074.5990 | 0.3311 | 0.4723 | 25,223.6073 |
| **Total** | **8.4502** | **46.7433** | **84.2006** | **0.3994** | **40.0341** | **0.3182** | **40.3522** | **10.7721** | **0.3013** | **11.0733** | | **43,736.9588** | **43,736.9588** | **0.7895** | **3.2575** | **44,727.4216** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2037

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.4336 | 14.3226 | 32.2356 | 0.0619 | | 0.1808 | 0.1808 | | 0.1808 | 0.1808 | | 5,795.0935 | 5,795.0935 | 0.2158 | | 5,800.4895 |
| **Total** | **2.4336** | **14.3226** | **32.2356** | **0.0619** | | **0.1808** | **0.1808** | | **0.1808** | **0.1808** | | **5,795.0935** | **5,795.0935** | **0.2158** | | **5,800.4895** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0925 | 43.7516 | 14.0254 | 0.1737 | 6.7839 | 0.2335 | 7.0174 | 1.9522 | 0.2233 | 2.1755 | | 18,662.3598 | 18,662.3598 | 0.4584 | 2.7852 | 19,503.8143 |
| Worker | 7.3577 | 2.9917 | 70.1752 | 0.2257 | 33.2502 | 0.0847 | 33.3349 | 8.8199 | 0.0780 | 8.8979 | | 25,074.5990 | 25,074.5990 | 0.3311 | 0.4723 | 25,223.6073 |
| **Total** | **8.4502** | **46.7433** | **84.2006** | **0.3994** | **40.0341** | **0.3182** | **40.3522** | **10.7721** | **0.3013** | **11.0733** | | **43,736.9588** | **43,736.9588** | **0.7895** | **3.2575** | **44,727.4216** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2037

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.4336 | 14.3226 | 32.2356 | 0.0619 | | 0.1808 | 0.1808 | | 0.1808 | 0.1808 | 0.0000 | 5,795.0935 | 5,795.0935 | 0.2158 | | 5,800.4895 |
| **Total** | **2.4336** | **14.3226** | **32.2356** | **0.0619** | | **0.1808** | **0.1808** | | **0.1808** | **0.1808** | **0.0000** | **5,795.0935** | **5,795.0935** | **0.2158** | | **5,800.4895** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0925 | 43.7516 | 14.0254 | 0.1737 | 6.7839 | 0.2335 | 7.0174 | 1.9522 | 0.2233 | 2.1755 | | 18,662.3598 | 18,662.3598 | 0.4584 | 2.7852 | 19,503.8143 |
| Worker | 7.3577 | 2.9917 | 70.1752 | 0.2257 | 33.2502 | 0.0847 | 33.3349 | 8.8199 | 0.0780 | 8.8979 | | 25,074.5990 | 25,074.5990 | 0.3311 | 0.4723 | 25,223.6073 |
| **Total** | **8.4502** | **46.7433** | **84.2006** | **0.3994** | **40.0341** | **0.3182** | **40.3522** | **10.7721** | **0.3013** | **11.0733** | | **43,736.9588** | **43,736.9588** | **0.7895** | **3.2575** | **44,727.4216** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2038

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.4336 | 14.3226 | 32.2356 | 0.0619 | | 0.1808 | 0.1808 | | 0.1808 | 0.1808 | | 5,795.0935 | 5,795.0935 | 0.2158 | | 5,800.4895 |
| **Total** | **2.4336** | **14.3226** | **32.2356** | **0.0619** | | **0.1808** | **0.1808** | | **0.1808** | **0.1808** | | **5,795.0935** | **5,795.0935** | **0.2158** | | **5,800.4895** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0925 | 43.7516 | 14.0254 | 0.1737 | 6.7839 | 0.2335 | 7.0174 | 1.9522 | 0.2233 | 2.1755 | | 18,662.3598 | 18,662.3598 | 0.4584 | 2.7852 | 19,503.8143 |
| Worker | 7.3577 | 2.9917 | 70.1752 | 0.2257 | 33.2502 | 0.0847 | 33.3349 | 8.8199 | 0.0780 | 8.8979 | | 25,074.5990 | 25,074.5990 | 0.3311 | 0.4723 | 25,223.6073 |
| **Total** | **8.4502** | **46.7433** | **84.2006** | **0.3994** | **40.0341** | **0.3182** | **40.3522** | **10.7721** | **0.3013** | **11.0733** | | **43,736.9588** | **43,736.9588** | **0.7895** | **3.2575** | **44,727.4216** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2038

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.4336 | 14.3226 | 32.2356 | 0.0619 | | 0.1808 | 0.1808 | | 0.1808 | 0.1808 | 0.0000 | 5,795.0935 | 5,795.0935 | 0.2158 | | 5,800.4895 |
| **Total** | **2.4336** | **14.3226** | **32.2356** | **0.0619** | | **0.1808** | **0.1808** | | **0.1808** | **0.1808** | **0.0000** | **5,795.0935** | **5,795.0935** | **0.2158** | | **5,800.4895** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0925 | 43.7516 | 14.0254 | 0.1737 | 6.7839 | 0.2335 | 7.0174 | 1.9522 | 0.2233 | 2.1755 | | 18,662.3598 | 18,662.3598 | 0.4584 | 2.7852 | 19,503.8143 |
| Worker | 7.3577 | 2.9917 | 70.1752 | 0.2257 | 33.2502 | 0.0847 | 33.3349 | 8.8199 | 0.0780 | 8.8979 | | 25,074.5990 | 25,074.5990 | 0.3311 | 0.4723 | 25,223.6073 |
| **Total** | **8.4502** | **46.7433** | **84.2006** | **0.3994** | **40.0341** | **0.3182** | **40.3522** | **10.7721** | **0.3013** | **11.0733** | | **43,736.9588** | **43,736.9588** | **0.7895** | **3.2575** | **44,727.4216** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2039

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.4336 | 14.3226 | 32.2356 | 0.0619 | | 0.1808 | 0.1808 | | 0.1808 | 0.1808 | | 5,795.0935 | 5,795.0935 | 0.2158 | | 5,800.4895 |
| **Total** | **2.4336** | **14.3226** | **32.2356** | **0.0619** | | **0.1808** | **0.1808** | | **0.1808** | **0.1808** | | **5,795.0935** | **5,795.0935** | **0.2158** | | **5,800.4895** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0925 | 43.7516 | 14.0254 | 0.1737 | 6.7839 | 0.2335 | 7.0174 | 1.9522 | 0.2233 | 2.1755 | | 18,662.3598 | 18,662.3598 | 0.4584 | 2.7852 | 19,503.8143 |
| Worker | 7.3577 | 2.9917 | 70.1752 | 0.2257 | 33.2502 | 0.0847 | 33.3349 | 8.8199 | 0.0780 | 8.8979 | | 25,074.5990 | 25,074.5990 | 0.3311 | 0.4723 | 25,223.6073 |
| **Total** | **8.4502** | **46.7433** | **84.2006** | **0.3994** | **40.0341** | **0.3182** | **40.3522** | **10.7721** | **0.3013** | **11.0733** | | **43,736.9588** | **43,736.9588** | **0.7895** | **3.2575** | **44,727.4216** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2039

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.4336 | 14.3226 | 32.2356 | 0.0619 | | 0.1808 | 0.1808 | | 0.1808 | 0.1808 | 0.0000 | 5,795.0935 | 5,795.0935 | 0.2158 | | 5,800.4895 |
| **Total** | **2.4336** | **14.3226** | **32.2356** | **0.0619** | | **0.1808** | **0.1808** | | **0.1808** | **0.1808** | **0.0000** | **5,795.0935** | **5,795.0935** | **0.2158** | | **5,800.4895** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0925 | 43.7516 | 14.0254 | 0.1737 | 6.7839 | 0.2335 | 7.0174 | 1.9522 | 0.2233 | 2.1755 | | 18,662.3598 | 18,662.3598 | 0.4584 | 2.7852 | 19,503.8143 |
| Worker | 7.3577 | 2.9917 | 70.1752 | 0.2257 | 33.2502 | 0.0847 | 33.3349 | 8.8199 | 0.0780 | 8.8979 | | 25,074.5990 | 25,074.5990 | 0.3311 | 0.4723 | 25,223.6073 |
| **Total** | **8.4502** | **46.7433** | **84.2006** | **0.3994** | **40.0341** | **0.3182** | **40.3522** | **10.7721** | **0.3013** | **11.0733** | | **43,736.9588** | **43,736.9588** | **0.7895** | **3.2575** | **44,727.4216** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2040

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.3940 | 13.7806 | 32.2369 | 0.0619 | | 0.1475 | 0.1475 | | 0.1475 | 0.1475 | | 5,795.0942 | 5,795.0942 | 0.2083 | | 5,800.3007 |
| **Total** | **2.3940** | **13.7806** | **32.2369** | **0.0619** | | **0.1475** | **0.1475** | | **0.1475** | **0.1475** | | **5,795.0942** | **5,795.0942** | **0.2083** | | **5,800.3007** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0465 | 42.4933 | 13.9738 | 0.1663 | 6.7827 | 0.2268 | 7.0095 | 1.9517 | 0.2169 | 2.1686 | | 17,871.2905 | 17,871.2905 | 0.4439 | 2.6709 | 18,678.3266 |
| Worker | 5.8298 | 2.7087 | 65.1269 | 0.2156 | 33.2502 | 0.0669 | 33.3170 | 8.8199 | 0.0615 | 8.8814 | | 24,321.7191 | 24,321.7191 | 0.2640 | 0.4533 | 24,463.4020 |
| **Total** | **6.8764** | **45.2020** | **79.1007** | **0.3819** | **40.0329** | **0.2936** | **40.3265** | **10.7716** | **0.2784** | **11.0501** | | **42,193.0097** | **42,193.0097** | **0.7079** | **3.1242** | **43,141.7286** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2040

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.3940 | 13.7806 | 32.2369 | 0.0619 | | 0.1475 | 0.1475 | | 0.1475 | 0.1475 | 0.0000 | 5,795.0942 | 5,795.0942 | 0.2083 | | 5,800.3007 |
| **Total** | **2.3940** | **13.7806** | **32.2369** | **0.0619** | | **0.1475** | **0.1475** | | **0.1475** | **0.1475** | **0.0000** | **5,795.0942** | **5,795.0942** | **0.2083** | | **5,800.3007** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0465 | 42.4933 | 13.9738 | 0.1663 | 6.7827 | 0.2268 | 7.0095 | 1.9517 | 0.2169 | 2.1686 | | 17,871.2905 | 17,871.2905 | 0.4439 | 2.6709 | 18,678.3266 |
| Worker | 5.8298 | 2.7087 | 65.1269 | 0.2156 | 33.2502 | 0.0669 | 33.3170 | 8.8199 | 0.0615 | 8.8814 | | 24,321.7191 | 24,321.7191 | 0.2640 | 0.4533 | 24,463.4020 |
| **Total** | **6.8764** | **45.2020** | **79.1007** | **0.3819** | **40.0329** | **0.2936** | **40.3265** | **10.7716** | **0.2784** | **11.0501** | | **42,193.0097** | **42,193.0097** | **0.7079** | **3.1242** | **43,141.7286** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2041

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.3940 | 13.7806 | 32.2369 | 0.0619 | | 0.1475 | 0.1475 | | 0.1475 | 0.1475 | | 5,795.0942 | 5,795.0942 | 0.2083 | | 5,800.3007 |
| **Total** | **2.3940** | **13.7806** | **32.2369** | **0.0619** | | **0.1475** | **0.1475** | | **0.1475** | **0.1475** | | **5,795.0942** | **5,795.0942** | **0.2083** | | **5,800.3007** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0465 | 42.4933 | 13.9738 | 0.1663 | 6.7827 | 0.2268 | 7.0095 | 1.9517 | 0.2169 | 2.1686 | | 17,871.2905 | 17,871.2905 | 0.4439 | 2.6709 | 18,678.3266 |
| Worker | 5.8298 | 2.7087 | 65.1269 | 0.2156 | 33.2502 | 0.0669 | 33.3170 | 8.8199 | 0.0615 | 8.8814 | | 24,321.7191 | 24,321.7191 | 0.2640 | 0.4533 | 24,463.4020 |
| **Total** | **6.8764** | **45.2020** | **79.1007** | **0.3819** | **40.0329** | **0.2936** | **40.3265** | **10.7716** | **0.2784** | **11.0501** | | **42,193.0097** | **42,193.0097** | **0.7079** | **3.1242** | **43,141.7286** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2041

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.3940 | 13.7806 | 32.2369 | 0.0619 | | 0.1475 | 0.1475 | | 0.1475 | 0.1475 | 0.0000 | 5,795.0942 | 5,795.0942 | 0.2083 | | 5,800.3007 |
| **Total** | **2.3940** | **13.7806** | **32.2369** | **0.0619** | | **0.1475** | **0.1475** | | **0.1475** | **0.1475** | **0.0000** | **5,795.0942** | **5,795.0942** | **0.2083** | | **5,800.3007** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0465 | 42.4933 | 13.9738 | 0.1663 | 6.7827 | 0.2268 | 7.0095 | 1.9517 | 0.2169 | 2.1686 | | 17,871.2905 | 17,871.2905 | 0.4439 | 2.6709 | 18,678.3266 |
| Worker | 5.8298 | 2.7087 | 65.1269 | 0.2156 | 33.2502 | 0.0669 | 33.3170 | 8.8199 | 0.0615 | 8.8814 | | 24,321.7191 | 24,321.7191 | 0.2640 | 0.4533 | 24,463.4020 |
| **Total** | **6.8764** | **45.2020** | **79.1007** | **0.3819** | **40.0329** | **0.2936** | **40.3265** | **10.7716** | **0.2784** | **11.0501** | | **42,193.0097** | **42,193.0097** | **0.7079** | **3.1242** | **43,141.7286** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2042

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.3940 | 13.7806 | 32.2369 | 0.0619 | | 0.1475 | 0.1475 | | 0.1475 | 0.1475 | | 5,795.0942 | 5,795.0942 | 0.2083 | | 5,800.3007 |
| **Total** | **2.3940** | **13.7806** | **32.2369** | **0.0619** | | **0.1475** | **0.1475** | | **0.1475** | **0.1475** | | **5,795.0942** | **5,795.0942** | **0.2083** | | **5,800.3007** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0465 | 42.4933 | 13.9738 | 0.1663 | 6.7827 | 0.2268 | 7.0095 | 1.9517 | 0.2169 | 2.1686 | | 17,871.2905 | 17,871.2905 | 0.4439 | 2.6709 | 18,678.3266 |
| Worker | 5.8298 | 2.7087 | 65.1269 | 0.2156 | 33.2502 | 0.0669 | 33.3170 | 8.8199 | 0.0615 | 8.8814 | | 24,321.7191 | 24,321.7191 | 0.2640 | 0.4533 | 24,463.4020 |
| **Total** | **6.8764** | **45.2020** | **79.1007** | **0.3819** | **40.0329** | **0.2936** | **40.3265** | **10.7716** | **0.2784** | **11.0501** | | **42,193.0097** | **42,193.0097** | **0.7079** | **3.1242** | **43,141.7286** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2042

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.3940 | 13.7806 | 32.2369 | 0.0619 | | 0.1475 | 0.1475 | | 0.1475 | 0.1475 | 0.0000 | 5,795.0942 | 5,795.0942 | 0.2083 | | 5,800.3007 |
| **Total** | **2.3940** | **13.7806** | **32.2369** | **0.0619** | | **0.1475** | **0.1475** | | **0.1475** | **0.1475** | **0.0000** | **5,795.0942** | **5,795.0942** | **0.2083** | | **5,800.3007** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0465 | 42.4933 | 13.9738 | 0.1663 | 6.7827 | 0.2268 | 7.0095 | 1.9517 | 0.2169 | 2.1686 | | 17,871.2905 | 17,871.2905 | 0.4439 | 2.6709 | 18,678.3266 |
| Worker | 5.8298 | 2.7087 | 65.1269 | 0.2156 | 33.2502 | 0.0669 | 33.3170 | 8.8199 | 0.0615 | 8.8814 | | 24,321.7191 | 24,321.7191 | 0.2640 | 0.4533 | 24,463.4020 |
| **Total** | **6.8764** | **45.2020** | **79.1007** | **0.3819** | **40.0329** | **0.2936** | **40.3265** | **10.7716** | **0.2784** | **11.0501** | | **42,193.0097** | **42,193.0097** | **0.7079** | **3.1242** | **43,141.7286** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2043

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.3940 | 13.7806 | 32.2369 | 0.0619 | | 0.1475 | 0.1475 | | 0.1475 | 0.1475 | | 5,795.0942 | 5,795.0942 | 0.2083 | | 5,800.3007 |
| **Total** | **2.3940** | **13.7806** | **32.2369** | **0.0619** | | **0.1475** | **0.1475** | | **0.1475** | **0.1475** | | **5,795.0942** | **5,795.0942** | **0.2083** | | **5,800.3007** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0465 | 42.4933 | 13.9738 | 0.1663 | 6.7827 | 0.2268 | 7.0095 | 1.9517 | 0.2169 | 2.1686 | | 17,871.2905 | 17,871.2905 | 0.4439 | 2.6709 | 18,678.3266 |
| Worker | 5.8298 | 2.7087 | 65.1269 | 0.2156 | 33.2502 | 0.0669 | 33.3170 | 8.8199 | 0.0615 | 8.8814 | | 24,321.7191 | 24,321.7191 | 0.2640 | 0.4533 | 24,463.4020 |
| **Total** | **6.8764** | **45.2020** | **79.1007** | **0.3819** | **40.0329** | **0.2936** | **40.3265** | **10.7716** | **0.2784** | **11.0501** | | **42,193.0097** | **42,193.0097** | **0.7079** | **3.1242** | **43,141.7286** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2043

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.3940 | 13.7806 | 32.2369 | 0.0619 | | 0.1475 | 0.1475 | | 0.1475 | 0.1475 | 0.0000 | 5,795.0942 | 5,795.0942 | 0.2083 | | 5,800.3007 |
| **Total** | **2.3940** | **13.7806** | **32.2369** | **0.0619** | | **0.1475** | **0.1475** | | **0.1475** | **0.1475** | **0.0000** | **5,795.0942** | **5,795.0942** | **0.2083** | | **5,800.3007** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0465 | 42.4933 | 13.9738 | 0.1663 | 6.7827 | 0.2268 | 7.0095 | 1.9517 | 0.2169 | 2.1686 | | 17,871.2905 | 17,871.2905 | 0.4439 | 2.6709 | 18,678.3266 |
| Worker | 5.8298 | 2.7087 | 65.1269 | 0.2156 | 33.2502 | 0.0669 | 33.3170 | 8.8199 | 0.0615 | 8.8814 | | 24,321.7191 | 24,321.7191 | 0.2640 | 0.4533 | 24,463.4020 |
| **Total** | **6.8764** | **45.2020** | **79.1007** | **0.3819** | **40.0329** | **0.2936** | **40.3265** | **10.7716** | **0.2784** | **11.0501** | | **42,193.0097** | **42,193.0097** | **0.7079** | **3.1242** | **43,141.7286** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2044

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.3940 | 13.7806 | 32.2369 | 0.0619 | | 0.1475 | 0.1475 | | 0.1475 | 0.1475 | | 5,795.0942 | 5,795.0942 | 0.2083 | | 5,800.3007 |
| **Total** | **2.3940** | **13.7806** | **32.2369** | **0.0619** | | **0.1475** | **0.1475** | | **0.1475** | **0.1475** | | **5,795.0942** | **5,795.0942** | **0.2083** | | **5,800.3007** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0465 | 42.4933 | 13.9738 | 0.1663 | 6.7827 | 0.2268 | 7.0095 | 1.9517 | 0.2169 | 2.1686 | | 17,871.2905 | 17,871.2905 | 0.4439 | 2.6709 | 18,678.3266 |
| Worker | 5.8298 | 2.7087 | 65.1269 | 0.2156 | 33.2502 | 0.0669 | 33.3170 | 8.8199 | 0.0615 | 8.8814 | | 24,321.7191 | 24,321.7191 | 0.2640 | 0.4533 | 24,463.4020 |
| **Total** | **6.8764** | **45.2020** | **79.1007** | **0.3819** | **40.0329** | **0.2936** | **40.3265** | **10.7716** | **0.2784** | **11.0501** | | **42,193.0097** | **42,193.0097** | **0.7079** | **3.1242** | **43,141.7286** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2044

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.3940 | 13.7806 | 32.2369 | 0.0619 | | 0.1475 | 0.1475 | | 0.1475 | 0.1475 | 0.0000 | 5,795.0942 | 5,795.0942 | 0.2083 | | 5,800.3007 |
| **Total** | **2.3940** | **13.7806** | **32.2369** | **0.0619** | | **0.1475** | **0.1475** | | **0.1475** | **0.1475** | **0.0000** | **5,795.0942** | **5,795.0942** | **0.2083** | | **5,800.3007** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0465 | 42.4933 | 13.9738 | 0.1663 | 6.7827 | 0.2268 | 7.0095 | 1.9517 | 0.2169 | 2.1686 | | 17,871.2905 | 17,871.2905 | 0.4439 | 2.6709 | 18,678.3266 |
| Worker | 5.8298 | 2.7087 | 65.1269 | 0.2156 | 33.2502 | 0.0669 | 33.3170 | 8.8199 | 0.0615 | 8.8814 | | 24,321.7191 | 24,321.7191 | 0.2640 | 0.4533 | 24,463.4020 |
| **Total** | **6.8764** | **45.2020** | **79.1007** | **0.3819** | **40.0329** | **0.2936** | **40.3265** | **10.7716** | **0.2784** | **11.0501** | | **42,193.0097** | **42,193.0097** | **0.7079** | **3.1242** | **43,141.7286** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2032

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2615 | 1.7126 | 3.5955 | 5.9400e-003 | | 0.0406 | 0.0406 | | 0.0406 | 0.0406 | | 562.8961 | 562.8961 | 0.0228 | | 563.4656 |
| **Total** | **40.8064** | **1.7126** | **3.5955** | **5.9400e-003** | | **0.0406** | **0.0406** | | **0.0406** | **0.0406** | | **562.8961** | **562.8961** | **0.0228** | | **563.4656** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.7207 | 0.6710 | 15.0908 | 0.0473 | 6.6485 | 0.0203 | 6.6689 | 1.7636 | 0.0187 | 1.7823 | | 5,177.5249 | 5,177.5249 | 0.0794 | 0.0996 | 5,209.1817 |
| **Total** | **1.7207** | **0.6710** | **15.0908** | **0.0473** | **6.6485** | **0.0203** | **6.6689** | **1.7636** | **0.0187** | **1.7823** | | **5,177.5249** | **5,177.5249** | **0.0794** | **0.0996** | **5,209.1817** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2032

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2615 | 1.7126 | 3.5955 | 5.9400e-003 | | 0.0406 | 0.0406 | | 0.0406 | 0.0406 | 0.0000 | 562.8961 | 562.8961 | 0.0228 | | 563.4656 |
| **Total** | **40.8064** | **1.7126** | **3.5955** | **5.9400e-003** | | **0.0406** | **0.0406** | | **0.0406** | **0.0406** | **0.0000** | **562.8961** | **562.8961** | **0.0228** | | **563.4656** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.7207 | 0.6710 | 15.0908 | 0.0473 | 6.6485 | 0.0203 | 6.6689 | 1.7636 | 0.0187 | 1.7823 | | 5,177.5249 | 5,177.5249 | 0.0794 | 0.0996 | 5,209.1817 |
| **Total** | **1.7207** | **0.6710** | **15.0908** | **0.0473** | **6.6485** | **0.0203** | **6.6689** | **1.7636** | **0.0187** | **1.7823** | | **5,177.5249** | **5,177.5249** | **0.0794** | **0.0996** | **5,209.1817** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2033

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2615 | 1.7126 | 3.5955 | 5.9400e-003 | | 0.0406 | 0.0406 | | 0.0406 | 0.0406 | | 562.8961 | 562.8961 | 0.0228 | | 563.4656 |
| **Total** | **40.8064** | **1.7126** | **3.5955** | **5.9400e-003** | | **0.0406** | **0.0406** | | **0.0406** | **0.0406** | | **562.8961** | **562.8961** | **0.0228** | | **563.4656** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.6311 | 0.6417 | 14.6905 | 0.0465 | 6.6485 | 0.0191 | 6.6676 | 1.7636 | 0.0176 | 1.7812 | | 5,115.0289 | 5,115.0289 | 0.0745 | 0.0975 | 5,145.9439 |
| **Total** | **1.6311** | **0.6417** | **14.6905** | **0.0465** | **6.6485** | **0.0191** | **6.6676** | **1.7636** | **0.0176** | **1.7812** | | **5,115.0289** | **5,115.0289** | **0.0745** | **0.0975** | **5,145.9439** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2033

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2615 | 1.7126 | 3.5955 | 5.9400e-003 | | 0.0406 | 0.0406 | | 0.0406 | 0.0406 | 0.0000 | 562.8961 | 562.8961 | 0.0228 | | 563.4656 |
| **Total** | **40.8064** | **1.7126** | **3.5955** | **5.9400e-003** | | **0.0406** | **0.0406** | | **0.0406** | **0.0406** | **0.0000** | **562.8961** | **562.8961** | **0.0228** | | **563.4656** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.6311 | 0.6417 | 14.6905 | 0.0465 | 6.6485 | 0.0191 | 6.6676 | 1.7636 | 0.0176 | 1.7812 | | 5,115.0289 | 5,115.0289 | 0.0745 | 0.0975 | 5,145.9439 |
| **Total** | **1.6311** | **0.6417** | **14.6905** | **0.0465** | **6.6485** | **0.0191** | **6.6676** | **1.7636** | **0.0176** | **1.7812** | | **5,115.0289** | **5,115.0289** | **0.0745** | **0.0975** | **5,145.9439** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2034

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2615 | 1.7126 | 3.5955 | 5.9400e-003 | | 0.0406 | 0.0406 | | 0.0406 | 0.0406 | | 562.8961 | 562.8961 | 0.0228 | | 563.4656 |
| **Total** | **40.8064** | **1.7126** | **3.5955** | **5.9400e-003** | | **0.0406** | **0.0406** | | **0.0406** | **0.0406** | | **562.8961** | **562.8961** | **0.0228** | | **563.4656** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.5477 | 0.6174 | 14.3348 | 0.0458 | 6.6485 | 0.0180 | 6.6665 | 1.7636 | 0.0165 | 1.7801 | | 5,060.4669 | 5,060.4669 | 0.0701 | 0.0958 | 5,090.7618 |
| **Total** | **1.5477** | **0.6174** | **14.3348** | **0.0458** | **6.6485** | **0.0180** | **6.6665** | **1.7636** | **0.0165** | **1.7801** | | **5,060.4669** | **5,060.4669** | **0.0701** | **0.0958** | **5,090.7618** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2034

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2615 | 1.7126 | 3.5955 | 5.9400e-003 | | 0.0406 | 0.0406 | | 0.0406 | 0.0406 | 0.0000 | 562.8961 | 562.8961 | 0.0228 | | 563.4656 |
| **Total** | **40.8064** | **1.7126** | **3.5955** | **5.9400e-003** | | **0.0406** | **0.0406** | | **0.0406** | **0.0406** | **0.0000** | **562.8961** | **562.8961** | **0.0228** | | **563.4656** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.5477 | 0.6174 | 14.3348 | 0.0458 | 6.6485 | 0.0180 | 6.6665 | 1.7636 | 0.0165 | 1.7801 | | 5,060.4669 | 5,060.4669 | 0.0701 | 0.0958 | 5,090.7618 |
| **Total** | **1.5477** | **0.6174** | **14.3348** | **0.0458** | **6.6485** | **0.0180** | **6.6665** | **1.7636** | **0.0165** | **1.7801** | | **5,060.4669** | **5,060.4669** | **0.0701** | **0.0958** | **5,090.7618** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2035

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2357 | 1.5155 | 3.5886 | 5.9400e-003 | | 0.0198 | 0.0198 | | 0.0198 | 0.0198 | | 562.8961 | 562.8961 | 0.0208 | | 563.4161 |
| **Total** | **40.7806** | **1.5155** | **3.5886** | **5.9400e-003** | | **0.0198** | **0.0198** | | **0.0198** | **0.0198** | | **562.8961** | **562.8961** | **0.0208** | | **563.4161** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.4712 | 0.5982 | 14.0318 | 0.0451 | 6.6485 | 0.0169 | 6.6655 | 1.7636 | 0.0156 | 1.7792 | | 5,013.7725 | 5,013.7725 | 0.0662 | 0.0944 | 5,043.5673 |
| **Total** | **1.4712** | **0.5982** | **14.0318** | **0.0451** | **6.6485** | **0.0169** | **6.6655** | **1.7636** | **0.0156** | **1.7792** | | **5,013.7725** | **5,013.7725** | **0.0662** | **0.0944** | **5,043.5673** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2035

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2357 | 1.5155 | 3.5886 | 5.9400e-003 | | 0.0198 | 0.0198 | | 0.0198 | 0.0198 | 0.0000 | 562.8961 | 562.8961 | 0.0208 | | 563.4161 |
| **Total** | **40.7806** | **1.5155** | **3.5886** | **5.9400e-003** | | **0.0198** | **0.0198** | | **0.0198** | **0.0198** | **0.0000** | **562.8961** | **562.8961** | **0.0208** | | **563.4161** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.4712 | 0.5982 | 14.0318 | 0.0451 | 6.6485 | 0.0169 | 6.6655 | 1.7636 | 0.0156 | 1.7792 | | 5,013.7725 | 5,013.7725 | 0.0662 | 0.0944 | 5,043.5673 |
| **Total** | **1.4712** | **0.5982** | **14.0318** | **0.0451** | **6.6485** | **0.0169** | **6.6655** | **1.7636** | **0.0156** | **1.7792** | | **5,013.7725** | **5,013.7725** | **0.0662** | **0.0944** | **5,043.5673** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2036

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2357 | 1.5155 | 3.5886 | 5.9400e-003 | | 0.0198 | 0.0198 | | 0.0198 | 0.0198 | | 562.8961 | 562.8961 | 0.0208 | | 563.4161 |
| **Total** | **40.7806** | **1.5155** | **3.5886** | **5.9400e-003** | | **0.0198** | **0.0198** | | **0.0198** | **0.0198** | | **562.8961** | **562.8961** | **0.0208** | | **563.4161** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.4712 | 0.5982 | 14.0318 | 0.0451 | 6.6485 | 0.0169 | 6.6655 | 1.7636 | 0.0156 | 1.7792 | | 5,013.7725 | 5,013.7725 | 0.0662 | 0.0944 | 5,043.5673 |
| **Total** | **1.4712** | **0.5982** | **14.0318** | **0.0451** | **6.6485** | **0.0169** | **6.6655** | **1.7636** | **0.0156** | **1.7792** | | **5,013.7725** | **5,013.7725** | **0.0662** | **0.0944** | **5,043.5673** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2036

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2357 | 1.5155 | 3.5886 | 5.9400e-003 | | 0.0198 | 0.0198 | | 0.0198 | 0.0198 | 0.0000 | 562.8961 | 562.8961 | 0.0208 | | 563.4161 |
| **Total** | **40.7806** | **1.5155** | **3.5886** | **5.9400e-003** | | **0.0198** | **0.0198** | | **0.0198** | **0.0198** | **0.0000** | **562.8961** | **562.8961** | **0.0208** | | **563.4161** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.4712 | 0.5982 | 14.0318 | 0.0451 | 6.6485 | 0.0169 | 6.6655 | 1.7636 | 0.0156 | 1.7792 | | 5,013.7725 | 5,013.7725 | 0.0662 | 0.0944 | 5,043.5673 |
| **Total** | **1.4712** | **0.5982** | **14.0318** | **0.0451** | **6.6485** | **0.0169** | **6.6655** | **1.7636** | **0.0156** | **1.7792** | | **5,013.7725** | **5,013.7725** | **0.0662** | **0.0944** | **5,043.5673** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2037

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2357 | 1.5155 | 3.5886 | 5.9400e-003 | | 0.0198 | 0.0198 | | 0.0198 | 0.0198 | | 562.8961 | 562.8961 | 0.0208 | | 563.4161 |
| **Total** | **40.7806** | **1.5155** | **3.5886** | **5.9400e-003** | | **0.0198** | **0.0198** | | **0.0198** | **0.0198** | | **562.8961** | **562.8961** | **0.0208** | | **563.4161** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.4712 | 0.5982 | 14.0318 | 0.0451 | 6.6485 | 0.0169 | 6.6655 | 1.7636 | 0.0156 | 1.7792 | | 5,013.7725 | 5,013.7725 | 0.0662 | 0.0944 | 5,043.5673 |
| **Total** | **1.4712** | **0.5982** | **14.0318** | **0.0451** | **6.6485** | **0.0169** | **6.6655** | **1.7636** | **0.0156** | **1.7792** | | **5,013.7725** | **5,013.7725** | **0.0662** | **0.0944** | **5,043.5673** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2037

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2357 | 1.5155 | 3.5886 | 5.9400e-003 | | 0.0198 | 0.0198 | | 0.0198 | 0.0198 | 0.0000 | 562.8961 | 562.8961 | 0.0208 | | 563.4161 |
| **Total** | **40.7806** | **1.5155** | **3.5886** | **5.9400e-003** | | **0.0198** | **0.0198** | | **0.0198** | **0.0198** | **0.0000** | **562.8961** | **562.8961** | **0.0208** | | **563.4161** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.4712 | 0.5982 | 14.0318 | 0.0451 | 6.6485 | 0.0169 | 6.6655 | 1.7636 | 0.0156 | 1.7792 | | 5,013.7725 | 5,013.7725 | 0.0662 | 0.0944 | 5,043.5673 |
| **Total** | **1.4712** | **0.5982** | **14.0318** | **0.0451** | **6.6485** | **0.0169** | **6.6655** | **1.7636** | **0.0156** | **1.7792** | | **5,013.7725** | **5,013.7725** | **0.0662** | **0.0944** | **5,043.5673** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2038

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2357 | 1.5155 | 3.5886 | 5.9400e-003 | | 0.0198 | 0.0198 | | 0.0198 | 0.0198 | | 562.8961 | 562.8961 | 0.0208 | | 563.4161 |
| **Total** | **40.7806** | **1.5155** | **3.5886** | **5.9400e-003** | | **0.0198** | **0.0198** | | **0.0198** | **0.0198** | | **562.8961** | **562.8961** | **0.0208** | | **563.4161** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.4712 | 0.5982 | 14.0318 | 0.0451 | 6.6485 | 0.0169 | 6.6655 | 1.7636 | 0.0156 | 1.7792 | | 5,013.7725 | 5,013.7725 | 0.0662 | 0.0944 | 5,043.5673 |
| **Total** | **1.4712** | **0.5982** | **14.0318** | **0.0451** | **6.6485** | **0.0169** | **6.6655** | **1.7636** | **0.0156** | **1.7792** | | **5,013.7725** | **5,013.7725** | **0.0662** | **0.0944** | **5,043.5673** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2038

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2357 | 1.5155 | 3.5886 | 5.9400e-003 | | 0.0198 | 0.0198 | | 0.0198 | 0.0198 | 0.0000 | 562.8961 | 562.8961 | 0.0208 | | 563.4161 |
| **Total** | **40.7806** | **1.5155** | **3.5886** | **5.9400e-003** | | **0.0198** | **0.0198** | | **0.0198** | **0.0198** | **0.0000** | **562.8961** | **562.8961** | **0.0208** | | **563.4161** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.4712 | 0.5982 | 14.0318 | 0.0451 | 6.6485 | 0.0169 | 6.6655 | 1.7636 | 0.0156 | 1.7792 | | 5,013.7725 | 5,013.7725 | 0.0662 | 0.0944 | 5,043.5673 |
| **Total** | **1.4712** | **0.5982** | **14.0318** | **0.0451** | **6.6485** | **0.0169** | **6.6655** | **1.7636** | **0.0156** | **1.7792** | | **5,013.7725** | **5,013.7725** | **0.0662** | **0.0944** | **5,043.5673** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2039

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2357 | 1.5155 | 3.5886 | 5.9400e-003 | | 0.0198 | 0.0198 | | 0.0198 | 0.0198 | | 562.8961 | 562.8961 | 0.0208 | | 563.4161 |
| **Total** | **40.7806** | **1.5155** | **3.5886** | **5.9400e-003** | | **0.0198** | **0.0198** | | **0.0198** | **0.0198** | | **562.8961** | **562.8961** | **0.0208** | | **563.4161** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.4712 | 0.5982 | 14.0318 | 0.0451 | 6.6485 | 0.0169 | 6.6655 | 1.7636 | 0.0156 | 1.7792 | | 5,013.7725 | 5,013.7725 | 0.0662 | 0.0944 | 5,043.5673 |
| **Total** | **1.4712** | **0.5982** | **14.0318** | **0.0451** | **6.6485** | **0.0169** | **6.6655** | **1.7636** | **0.0156** | **1.7792** | | **5,013.7725** | **5,013.7725** | **0.0662** | **0.0944** | **5,043.5673** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2039

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2357 | 1.5155 | 3.5886 | 5.9400e-003 | | 0.0198 | 0.0198 | | 0.0198 | 0.0198 | 0.0000 | 562.8961 | 562.8961 | 0.0208 | | 563.4161 |
| **Total** | **40.7806** | **1.5155** | **3.5886** | **5.9400e-003** | | **0.0198** | **0.0198** | | **0.0198** | **0.0198** | **0.0000** | **562.8961** | **562.8961** | **0.0208** | | **563.4161** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.4712 | 0.5982 | 14.0318 | 0.0451 | 6.6485 | 0.0169 | 6.6655 | 1.7636 | 0.0156 | 1.7792 | | 5,013.7725 | 5,013.7725 | 0.0662 | 0.0944 | 5,043.5673 |
| **Total** | **1.4712** | **0.5982** | **14.0318** | **0.0451** | **6.6485** | **0.0169** | **6.6655** | **1.7636** | **0.0156** | **1.7792** | | **5,013.7725** | **5,013.7725** | **0.0662** | **0.0944** | **5,043.5673** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2040

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2298 | 1.4540 | 3.5846 | 5.9400e-003 | | 0.0149 | 0.0149 | | 0.0149 | 0.0149 | | 562.8961 | 562.8961 | 0.0198 | | 563.3913 |
| **Total** | **40.7747** | **1.4540** | **3.5846** | **5.9400e-003** | | **0.0149** | **0.0149** | | **0.0149** | **0.0149** | | **562.8961** | **562.8961** | **0.0198** | | **563.3913** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.1657 | 0.5416 | 13.0224 | 0.0431 | 6.6485 | 0.0134 | 6.6619 | 1.7636 | 0.0123 | 1.7759 | | 4,863.2310 | 4,863.2310 | 0.0528 | 0.0906 | 4,891.5611 |
| **Total** | **1.1657** | **0.5416** | **13.0224** | **0.0431** | **6.6485** | **0.0134** | **6.6619** | **1.7636** | **0.0123** | **1.7759** | | **4,863.2310** | **4,863.2310** | **0.0528** | **0.0906** | **4,891.5611** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2040

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2298 | 1.4540 | 3.5846 | 5.9400e-003 | | 0.0149 | 0.0149 | | 0.0149 | 0.0149 | 0.0000 | 562.8961 | 562.8961 | 0.0198 | | 563.3913 |
| **Total** | **40.7747** | **1.4540** | **3.5846** | **5.9400e-003** | | **0.0149** | **0.0149** | | **0.0149** | **0.0149** | **0.0000** | **562.8961** | **562.8961** | **0.0198** | | **563.3913** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.1657 | 0.5416 | 13.0224 | 0.0431 | 6.6485 | 0.0134 | 6.6619 | 1.7636 | 0.0123 | 1.7759 | | 4,863.2310 | 4,863.2310 | 0.0528 | 0.0906 | 4,891.5611 |
| **Total** | **1.1657** | **0.5416** | **13.0224** | **0.0431** | **6.6485** | **0.0134** | **6.6619** | **1.7636** | **0.0123** | **1.7759** | | **4,863.2310** | **4,863.2310** | **0.0528** | **0.0906** | **4,891.5611** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2041

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2298 | 1.4540 | 3.5846 | 5.9400e-003 | | 0.0149 | 0.0149 | | 0.0149 | 0.0149 | | 562.8961 | 562.8961 | 0.0198 | | 563.3913 |
| **Total** | **40.7747** | **1.4540** | **3.5846** | **5.9400e-003** | | **0.0149** | **0.0149** | | **0.0149** | **0.0149** | | **562.8961** | **562.8961** | **0.0198** | | **563.3913** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.1657 | 0.5416 | 13.0224 | 0.0431 | 6.6485 | 0.0134 | 6.6619 | 1.7636 | 0.0123 | 1.7759 | | 4,863.2310 | 4,863.2310 | 0.0528 | 0.0906 | 4,891.5611 |
| **Total** | **1.1657** | **0.5416** | **13.0224** | **0.0431** | **6.6485** | **0.0134** | **6.6619** | **1.7636** | **0.0123** | **1.7759** | | **4,863.2310** | **4,863.2310** | **0.0528** | **0.0906** | **4,891.5611** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2041

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2298 | 1.4540 | 3.5846 | 5.9400e-003 | | 0.0149 | 0.0149 | | 0.0149 | 0.0149 | 0.0000 | 562.8961 | 562.8961 | 0.0198 | | 563.3913 |
| **Total** | **40.7747** | **1.4540** | **3.5846** | **5.9400e-003** | | **0.0149** | **0.0149** | | **0.0149** | **0.0149** | **0.0000** | **562.8961** | **562.8961** | **0.0198** | | **563.3913** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.1657 | 0.5416 | 13.0224 | 0.0431 | 6.6485 | 0.0134 | 6.6619 | 1.7636 | 0.0123 | 1.7759 | | 4,863.2310 | 4,863.2310 | 0.0528 | 0.0906 | 4,891.5611 |
| **Total** | **1.1657** | **0.5416** | **13.0224** | **0.0431** | **6.6485** | **0.0134** | **6.6619** | **1.7636** | **0.0123** | **1.7759** | | **4,863.2310** | **4,863.2310** | **0.0528** | **0.0906** | **4,891.5611** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2042

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2298 | 1.4540 | 3.5846 | 5.9400e-003 | | 0.0149 | 0.0149 | | 0.0149 | 0.0149 | | 562.8961 | 562.8961 | 0.0198 | | 563.3913 |
| **Total** | **40.7747** | **1.4540** | **3.5846** | **5.9400e-003** | | **0.0149** | **0.0149** | | **0.0149** | **0.0149** | | **562.8961** | **562.8961** | **0.0198** | | **563.3913** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.1657 | 0.5416 | 13.0224 | 0.0431 | 6.6485 | 0.0134 | 6.6619 | 1.7636 | 0.0123 | 1.7759 | | 4,863.2310 | 4,863.2310 | 0.0528 | 0.0906 | 4,891.5611 |
| **Total** | **1.1657** | **0.5416** | **13.0224** | **0.0431** | **6.6485** | **0.0134** | **6.6619** | **1.7636** | **0.0123** | **1.7759** | | **4,863.2310** | **4,863.2310** | **0.0528** | **0.0906** | **4,891.5611** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2042

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2298 | 1.4540 | 3.5846 | 5.9400e-003 | | 0.0149 | 0.0149 | | 0.0149 | 0.0149 | 0.0000 | 562.8961 | 562.8961 | 0.0198 | | 563.3913 |
| **Total** | **40.7747** | **1.4540** | **3.5846** | **5.9400e-003** | | **0.0149** | **0.0149** | | **0.0149** | **0.0149** | **0.0000** | **562.8961** | **562.8961** | **0.0198** | | **563.3913** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.1657 | 0.5416 | 13.0224 | 0.0431 | 6.6485 | 0.0134 | 6.6619 | 1.7636 | 0.0123 | 1.7759 | | 4,863.2310 | 4,863.2310 | 0.0528 | 0.0906 | 4,891.5611 |
| **Total** | **1.1657** | **0.5416** | **13.0224** | **0.0431** | **6.6485** | **0.0134** | **6.6619** | **1.7636** | **0.0123** | **1.7759** | | **4,863.2310** | **4,863.2310** | **0.0528** | **0.0906** | **4,891.5611** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2043

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2298 | 1.4540 | 3.5846 | 5.9400e-003 | | 0.0149 | 0.0149 | | 0.0149 | 0.0149 | | 562.8961 | 562.8961 | 0.0198 | | 563.3913 |
| **Total** | **40.7747** | **1.4540** | **3.5846** | **5.9400e-003** | | **0.0149** | **0.0149** | | **0.0149** | **0.0149** | | **562.8961** | **562.8961** | **0.0198** | | **563.3913** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.1657 | 0.5416 | 13.0224 | 0.0431 | 6.6485 | 0.0134 | 6.6619 | 1.7636 | 0.0123 | 1.7759 | | 4,863.2310 | 4,863.2310 | 0.0528 | 0.0906 | 4,891.5611 |
| **Total** | **1.1657** | **0.5416** | **13.0224** | **0.0431** | **6.6485** | **0.0134** | **6.6619** | **1.7636** | **0.0123** | **1.7759** | | **4,863.2310** | **4,863.2310** | **0.0528** | **0.0906** | **4,891.5611** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2043

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2298 | 1.4540 | 3.5846 | 5.9400e-003 | | 0.0149 | 0.0149 | | 0.0149 | 0.0149 | 0.0000 | 562.8961 | 562.8961 | 0.0198 | | 563.3913 |
| **Total** | **40.7747** | **1.4540** | **3.5846** | **5.9400e-003** | | **0.0149** | **0.0149** | | **0.0149** | **0.0149** | **0.0000** | **562.8961** | **562.8961** | **0.0198** | | **563.3913** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.1657 | 0.5416 | 13.0224 | 0.0431 | 6.6485 | 0.0134 | 6.6619 | 1.7636 | 0.0123 | 1.7759 | | 4,863.2310 | 4,863.2310 | 0.0528 | 0.0906 | 4,891.5611 |
| **Total** | **1.1657** | **0.5416** | **13.0224** | **0.0431** | **6.6485** | **0.0134** | **6.6619** | **1.7636** | **0.0123** | **1.7759** | | **4,863.2310** | **4,863.2310** | **0.0528** | **0.0906** | **4,891.5611** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2044

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2298 | 1.4540 | 3.5846 | 5.9400e-003 | | 0.0149 | 0.0149 | | 0.0149 | 0.0149 | | 562.8961 | 562.8961 | 0.0198 | | 563.3913 |
| **Total** | **40.7747** | **1.4540** | **3.5846** | **5.9400e-003** | | **0.0149** | **0.0149** | | **0.0149** | **0.0149** | | **562.8961** | **562.8961** | **0.0198** | | **563.3913** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.1657 | 0.5416 | 13.0224 | 0.0431 | 6.6485 | 0.0134 | 6.6619 | 1.7636 | 0.0123 | 1.7759 | | 4,863.2310 | 4,863.2310 | 0.0528 | 0.0906 | 4,891.5611 |
| **Total** | **1.1657** | **0.5416** | **13.0224** | **0.0431** | **6.6485** | **0.0134** | **6.6619** | **1.7636** | **0.0123** | **1.7759** | | **4,863.2310** | **4,863.2310** | **0.0528** | **0.0906** | **4,891.5611** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2044

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2298 | 1.4540 | 3.5846 | 5.9400e-003 | | 0.0149 | 0.0149 | | 0.0149 | 0.0149 | 0.0000 | 562.8961 | 562.8961 | 0.0198 | | 563.3913 |
| **Total** | **40.7747** | **1.4540** | **3.5846** | **5.9400e-003** | | **0.0149** | **0.0149** | | **0.0149** | **0.0149** | **0.0000** | **562.8961** | **562.8961** | **0.0198** | | **563.3913** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.1657 | 0.5416 | 13.0224 | 0.0431 | 6.6485 | 0.0134 | 6.6619 | 1.7636 | 0.0123 | 1.7759 | | 4,863.2310 | 4,863.2310 | 0.0528 | 0.0906 | 4,891.5611 |
| **Total** | **1.1657** | **0.5416** | **13.0224** | **0.0431** | **6.6485** | **0.0134** | **6.6619** | **1.7636** | **0.0123** | **1.7759** | | **4,863.2310** | **4,863.2310** | **0.0528** | **0.0906** | **4,891.5611** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 207.7643 | 167.9146 | 1,664.6848 | 3.3308 | 460.5517 | 1.5353 | 462.0870 | 122.6142 | 1.4355 | 124.0497 | | 374,541.7501 | 374,541.7501 | 22.7581 | 16.6679 | 380,077.7275 |
| Unmitigated | 207.7643 | 167.9146 | 1,664.6848 | 3.3308 | 460.5517 | 1.5353 | 462.0870 | 122.6142 | 1.4355 | 124.0497 | | 374,541.7501 | 374,541.7501 | 22.7581 | 16.6679 | 380,077.7275 |

### 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments Mid Rise | 15,531.20 | 14,018.05 | 11676.95 | 37,887,133 | 37,887,133 |
| Arena | 771.12 | 771.12 | 771.12 | 1,084,591 | 1,084,591 |
| Fast Food Restaurant with Drive Thru | 11,302.80 | 14,786.88 | 11341.92 | 8,155,601 | 8,155,601 |
| General Office Building | 3,126.54 | 709.41 | 224.70 | 4,887,455 | 4,887,455 |
| Government Office Building | 1,671.66 | 0.00 | 0.00 | 1,716,849 | 1,716,849 |
| Health Club | 2,140.45 | 1,356.55 | 1737.45 | 2,722,032 | 2,722,032 |
| High School | 3,045.00 | 870.00 | 375.00 | 6,128,331 | 6,128,331 |
| High Turnover (Sit Down Restaurant) | 11,666.72 | 12,729.60 | 14834.56 | 10,904,068 | 10,904,068 |
| Hotel | 3,427.60 | 3,357.90 | 2439.50 | 5,040,249 | 5,040,249 |
| Hotel | 3,427.60 | 3,357.90 | 2439.50 | 5,040,249 | 5,040,249 |
| Junior College (2yr) | 2,875.00 | 1,050.00 | 100.00 | 4,083,979 | 4,083,979 |
| Junior High School | 4,579.50 | 0.00 | 0.00 | 7,200,145 | 7,200,145 |
| Medical Office Building | 1,447.68 | 356.51 | 59.07 | 1,821,430 | 1,821,430 |
| Regional Shopping Center | 9,248.75 | 11,299.40 | 5169.50 | 12,518,386 | 12,518,386 |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Single Family Housing | 31,152.00 | 31,482.00 | 28215.00 | 78,983,735 | 78,983,735 |
| Supermarket | 6,940.70 | 11,545.30 | 10820.55 | 7,015,866 | 7,015,866 |
| Total | 112,354.32 | 107,690.62 | 90,204.82 | 195,190,100 | 195,190,100 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments Mid Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Arena | 10.00 | 5.00 | 6.50 | 0.00 | 81.00 | 19.00 | 66 | 28 | 6 |
| Fast Food Restaurant with Drive | 10.00 | 5.00 | 6.50 | 2.20 | 78.80 | 19.00 | 29 | 21 | 50 |
| General Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 77 | 19 | 4 |
| Government Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 62.00 | 5.00 | 50 | 34 | 16 |
| Health Club | 10.00 | 5.00 | 6.50 | 16.90 | 64.10 | 19.00 | 52 | 39 | 9 |
| High School | 10.00 | 5.00 | 6.50 | 77.80 | 17.20 | 5.00 | 75 | 19 | 6 |
| High Turnover (Sit Down | 10.00 | 5.00 | 6.50 | 8.50 | 72.50 | 19.00 | 37 | 20 | 43 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Junior College (2yr) | 10.00 | 5.00 | 6.50 | 6.40 | 88.60 | 5.00 | 92 | 7 | 1 |
| Junior High School | 10.00 | 5.00 | 6.50 | 72.80 | 22.20 | 5.00 | 63 | 25 | 12 |
| Medical Office Building | 10.00 | 5.00 | 6.50 | 29.60 | 51.40 | 19.00 | 60 | 30 | 10 |
| Regional Shopping Center | 10.00 | 5.00 | 6.50 | 16.30 | 64.70 | 19.00 | 54 | 35 | 11 |
| Single Family Housing | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Supermarket | 10.00 | 5.00 | 6.50 | 6.50 | 74.50 | 19.00 | 34 | 30 | 36 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apartments Mid Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Arena | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Fast Food Restaurant with Drive Thru | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| General Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Government Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Health Club | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High Turnover (Sit Down Restaurant) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Hotel | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Junior College (2yr) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Junior High School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Medical Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Regional Shopping Center | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Single Family Housing | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Supermarket | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 5.8764 | 51.7300 | 32.4698 | 0.3205 | | 4.0600 | 4.0600 | | 4.0600 | 4.0600 | | 64,105.8042 | 64,105.8042 | 1.2287 | 1.1753 | 64,486.7529 |
| NaturalGas Unmitigated | 5.8764 | 51.7300 | 32.4698 | 0.3205 | | 4.0600 | 4.0600 | | 4.0600 | 4.0600 | | 64,105.8042 | 64,105.8042 | 1.2287 | 1.1753 | 64,486.7529 |

### 5.2 Energy by Land Use - NaturalGas

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments Mid Rise | 73653 | 0.7943 | 6.7876 | 2.8884 | 0.0433 | | 0.5488 | 0.5488 | | 0.5488 | 0.5488 | | 8,665.0561 | 8,665.0561 | 0.1661 | 0.1589 | 8,716.5482 |
| Arena | 7016.55 | 0.0757 | 0.6879 | 0.5778 | 4.1300e-003 | | 0.0523 | 0.0523 | | 0.0523 | 0.0523 | | 825.4762 | 825.4762 | 0.0158 | 0.0151 | 830.3816 |
| Fast Food Restaurant with Drive Thru | 11645.6 | 0.1256 | 1.1417 | 0.9591 | 6.8500e-003 | | 0.0868 | 0.0868 | | 0.0868 | 0.0868 | | 1,370.0693 | 1,370.0693 | 0.0263 | 0.0251 | 1,378.2109 |
| General Office Building | 11415.3 | 0.1231 | 1.1192 | 0.9401 | 6.7100e-003 | | 0.0851 | 0.0851 | | 0.0851 | 0.0851 | | 1,342.9750 | 1,342.9750 | 0.0257 | 0.0246 | 1,350.9557 |
| Government Office Building | 2631.56 | 0.0284 | 0.2580 | 0.2167 | 1.5500e-003 | | 0.0196 | 0.0196 | | 0.0196 | 0.0196 | | 309.5955 | 309.5955 | 5.9300e-003 | 5.6800e-003 | 311.4353 |
| Health Club | 6334.38 | 0.0683 | 0.6210 | 0.5217 | 3.7300e-003 | | 0.0472 | 0.0472 | | 0.0472 | 0.0472 | | 745.2216 | 745.2216 | 0.0143 | 0.0137 | 749.6501 |
| High School | 8243.15 | 0.0889 | 0.8082 | 0.6789 | 4.8500e-003 | | 0.0614 | 0.0614 | | 0.0614 | 0.0614 | | 969.7828 | 969.7828 | 0.0186 | 0.0178 | 975.5457 |
| High Turnover (Sit Down Restaurant) | 50464.2 | 0.5442 | 4.9475 | 4.1559 | 0.0297 | | 0.3760 | 0.3760 | | 0.3760 | 0.3760 | | 5,936.9670 | 5,936.9670 | 0.1138 | 0.1088 | 5,972.2474 |
| Hotel | 62370 | 1.3452 | 12.2294 | 10.2727 | 0.0734 | | 0.9294 | 0.9294 | | 0.9294 | 0.9294 | | 14,675.2856 | 14,675.2856 | 0.2813 | 0.2691 | 14,762.4935 |
| Junior College (2yr) | 14805 | 0.1597 | 1.4515 | 1.2192 | 8.7100e-003 | | 0.1103 | 0.1103 | | 0.1103 | 0.1103 | | 1,741.7695 | 1,741.7695 | 0.0334 | 0.0319 | 1,752.1200 |
| Junior High School | 10470.4 | 0.1129 | 1.0265 | 0.8623 | 6.1600e-003 | | 0.0780 | 0.0780 | | 0.0780 | 0.0780 | | 1,231.8115 | 1,231.8115 | 0.0236 | 0.0226 | 1,239.1316 |
| Medical Office Building | 1479.36 | 0.0160 | 0.1450 | 0.1218 | 8.7000e-004 | | 0.0110 | 0.0110 | | 0.0110 | 0.0110 | | 174.0429 | 174.0429 | 3.3400e-003 | 3.1900e-003 | 175.0771 |
| Regional Shopping Center | 3604.52 | 0.0389 | 0.3534 | 0.2968 | 2.1200e-003 | | 0.0269 | 0.0269 | | 0.0269 | 0.0269 | | 424.0612 | 424.0612 | 8.1300e-003 | 7.7700e-003 | 426.5812 |
| Single Family Housing | 213902 | 2.3068 | 19.7125 | 8.3883 | 0.1258 | | 1.5938 | 1.5938 | | 1.5938 | 1.5938 | | 25,164.8906 | 25,164.8906 | 0.4823 | 0.4614 | 25,314.4329 |
| Supermarket | 4494.79 | 0.0485 | 0.4407 | 0.3702 | 2.6400e-003 | | 0.0335 | 0.0335 | | 0.0335 | 0.0335 | | 528.7994 | 528.7994 | 0.0101 | 9.6900e-003 | 531.9418 |
| **Total** | | **5.8764** | **51.7300** | **32.4698** | **0.3205** | | **4.0600** | **4.0600** | | **4.0600** | **4.0600** | | **64,105.8042** | **64,105.8042** | **1.2287** | **1.1753** | **64,486.7529** |

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments Mid Rise | 73.653 | 0.7943 | 6.7876 | 2.8884 | 0.0433 | | 0.5488 | 0.5488 | | 0.5488 | 0.5488 | | 8,665.0561 | 8,665.0561 | 0.1661 | 0.1589 | 8,716.5482 |
| Arena | 7.01655 | 0.0757 | 0.6879 | 0.5778 | 4.1300e-003 | | 0.0523 | 0.0523 | | 0.0523 | 0.0523 | | 825.4762 | 825.4762 | 0.0158 | 0.0151 | 830.3816 |
| Fast Food Restaurant with Drive Thru | 11.6456 | 0.1256 | 1.1417 | 0.9591 | 6.8500e-003 | | 0.0868 | 0.0868 | | 0.0868 | 0.0868 | | 1,370.0693 | 1,370.0693 | 0.0263 | 0.0251 | 1,378.2109 |
| General Office Building | 11.4153 | 0.1231 | 1.1192 | 0.9401 | 6.7100e-003 | | 0.0851 | 0.0851 | | 0.0851 | 0.0851 | | 1,342.9750 | 1,342.9750 | 0.0257 | 0.0246 | 1,350.9557 |
| Government Office Building | 2.63156 | 0.0284 | 0.2580 | 0.2167 | 1.5500e-003 | | 0.0196 | 0.0196 | | 0.0196 | 0.0196 | | 309.5955 | 309.5955 | 5.9300e-003 | 5.6800e-003 | 311.4353 |
| Health Club | 6.33438 | 0.0683 | 0.6210 | 0.5217 | 3.7300e-003 | | 0.0472 | 0.0472 | | 0.0472 | 0.0472 | | 745.2216 | 745.2216 | 0.0143 | 0.0137 | 749.6501 |
| High School | 8.24315 | 0.0889 | 0.8082 | 0.6789 | 4.8500e-003 | | 0.0614 | 0.0614 | | 0.0614 | 0.0614 | | 969.7828 | 969.7828 | 0.0186 | 0.0178 | 975.5457 |
| High Turnover (Sit Down Restaurant) | 50.4642 | 0.5442 | 4.9475 | 4.1559 | 0.0297 | | 0.3760 | 0.3760 | | 0.3760 | 0.3760 | | 5,936.9670 | 5,936.9670 | 0.1138 | 0.1088 | 5,972.2474 |
| Hotel | 62.37 | 1.3452 | 12.2294 | 10.2727 | 0.0734 | | 0.9294 | 0.9294 | | 0.9294 | 0.9294 | | 14,675.2856 | 14,675.2856 | 0.2813 | 0.2691 | 14,762.4935 |
| Junior College (2yr) | 14.805 | 0.1597 | 1.4515 | 1.2192 | 8.7100e-003 | | 0.1103 | 0.1103 | | 0.1103 | 0.1103 | | 1,741.7695 | 1,741.7695 | 0.0334 | 0.0319 | 1,752.1200 |
| Junior High School | 10.4704 | 0.1129 | 1.0265 | 0.8623 | 6.1600e-003 | | 0.0780 | 0.0780 | | 0.0780 | 0.0780 | | 1,231.8115 | 1,231.8115 | 0.0236 | 0.0226 | 1,239.1316 |
| Medical Office Building | 1.47936 | 0.0160 | 0.1450 | 0.1218 | 8.7000e-004 | | 0.0110 | 0.0110 | | 0.0110 | 0.0110 | | 174.0429 | 174.0429 | 3.3400e-003 | 3.1900e-003 | 175.0771 |
| Regional Shopping Center | 3.60452 | 0.0389 | 0.3534 | 0.2968 | 2.1200e-003 | | 0.0269 | 0.0269 | | 0.0269 | 0.0269 | | 424.0612 | 424.0612 | 8.1300e-003 | 7.7700e-003 | 426.5812 |
| Single Family Housing | 213.902 | 2.3068 | 19.7125 | 8.3883 | 0.1258 | | 1.5938 | 1.5938 | | 1.5938 | 1.5938 | | 25,164.8906 | 25,164.8906 | 0.4823 | 0.4614 | 25,314.4329 |
| Supermarket | 4.49479 | 0.0485 | 0.4407 | 0.3702 | 2.6400e-003 | | 0.0335 | 0.0335 | | 0.0335 | 0.0335 | | 528.7994 | 528.7994 | 0.0101 | 9.6900e-003 | 531.9418 |
| **Total** | | **5.8764** | **51.7300** | **32.4698** | **0.3205** | | **4.0600** | **4.0600** | | **4.0600** | **4.0600** | | **64,105.8042** | **64,105.8042** | **1.2287** | **1.1753** | **64,486.7529** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 302.0782 | 5.8428 | 506.3743 | 0.0269 | | 2.8189 | 2.8189 | | 2.8189 | 2.8189 | 0.0000 | 916.0862 | 916.0862 | 0.8748 | 0.0000 | 937.9563 |
| Unmitigated | 302.0782 | 5.8428 | 506.3743 | 0.0269 | | 2.8189 | 2.8189 | | 2.8189 | 2.8189 | 0.0000 | 916.0862 | 916.0862 | 0.8748 | 0.0000 | 937.9563 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 37.4235 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 249.4596 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 15.1951 | 5.8428 | 506.3743 | 0.0269 | | 2.8189 | 2.8189 | | 2.8189 | 2.8189 | | 916.0862 | 916.0862 | 0.8748 | | 937.9563 |
| **Total** | **302.0782** | **5.8428** | **506.3743** | **0.0269** | | **2.8189** | **2.8189** | | **2.8189** | **2.8189** | **0.0000** | **916.0862** | **916.0862** | **0.8748** | **0.0000** | **937.9563** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 37.4235 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 249.4596 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 15.1951 | 5.8428 | 506.3743 | 0.0269 | | 2.8189 | 2.8189 | | 2.8189 | 2.8189 | | 916.0862 | 916.0862 | 0.8748 | | 937.9563 |
| **Total** | **302.0782** | **5.8428** | **506.3743** | **0.0269** | | **2.8189** | **2.8189** | | **2.8189** | **2.8189** | **0.0000** | **916.0862** | **916.0862** | **0.8748** | **0.0000** | **937.9563** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

Apply Water Conservation Strategy

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# UWSP - Construction of Non-Phase I

**Sacramento Metropolitan AQMD Air District, Winter**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| General Office Building | 321.00 | 1000sqft | 7.37 | 321,000.00 | 0 |
| Government Office Building | 74.00 | 1000sqft | 1.70 | 74,000.00 | 0 |
| Medical Office Building | 41.60 | 1000sqft | 0.96 | 41,600.00 | 0 |
| High School | 1,500.00 | Student | 4.57 | 198,991.47 | 0 |
| Junior College (2yr) | 2,500.00 | Student | 2.51 | 208,000.00 | 0 |
| Junior High School | 2,150.00 | Student | 5.80 | 252,757.62 | 0 |
| Arena | 72.00 | 1000sqft | 23.14 | 72,000.00 | 0 |
| Fast Food Restaurant with Drive Thru | 24.00 | 1000sqft | 0.55 | 24,000.00 | 0 |
| Health Club | 65.00 | 1000sqft | 1.49 | 65,000.00 | 0 |
| High Turnover (Sit Down Restaurant) | 104.00 | 1000sqft | 2.39 | 104,000.00 | 0 |
| Hotel | 410.00 | Room | 13.67 | 595,320.00 | 0 |
| Hotel | 410.00 | Room | 13.67 | 595,320.00 | 0 |
| Apartments Mid Rise | 2,855.00 | Dwelling Unit | 75.13 | 2,855,000.00 | 7623 |
| Single Family Housing | 3,300.00 | Dwelling Unit | 1,071.43 | 5,940,000.00 | 8811 |
| Regional Shopping Center | 245.00 | 1000sqft | 5.62 | 245,000.00 | 0 |
| Supermarket | 65.00 | 1000sqft | 1.49 | 65,000.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 3.5 | **Precipitation Freq (Days)** | 58 |
| **Climate Zone** | 6 | | | **Operational Year** | 2045 |
| **Utility Company** | Sacramento Municipal Utility District | | | | |
| **CO2 Intensity** | 0 | **CH4 Intensity** | 0.033 | **N2O Intensity** | 0.004 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**(lb/MWhr) (lb/MWhr) (lb/MWhr)**

## 1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity factor adjusted to reflect SMUD's RPS projections.

Land Use - Land uses adjusted to remove Phase I.

Construction Phase - Construction phasing adjusted to reflect 20-year buildout.

Off-road Equipment - Fleet mix adjusted based on size/timing of project.

Off-road Equipment - Fleet mix adjusted based on size/timing of project.

Off-road Equipment - Fleet mix adjusted based on size/timing of grading phase.

Off-road Equipment -

Grading -

Vehicle Trips - Trip rates adjusted per the project-specific traffic report from F&P.

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Area Mitigation -

Water Mitigation - Water conservation strategy applied to reflect project compliance with MWELO.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 11,000.00 | 3,369.00 |
| tblConstructionPhase | NumDays | 155,000.00 | 3,369.00 |
| tblConstructionPhase | NumDays | 15,500.00 | 120.00 |
| tblConstructionPhase | NumDays | 11,000.00 | 120.00 |
| tblConstructionPhase | NumDays | 6,000.00 | 120.00 |
| tblGrading | AcresOfGrading | 3,660.00 | 360.00 |
| tblLandUse | LandUseSquareFeet | 109,130.59 | 208,000.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 29.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 6.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 357.98 | 0 |

## 2.0 Emissions Summary

### 2.1 Overall Construction (Maximum Daily Emission)

**Unmitigated Construction**

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2030 | 2.4756 | 13.6869 | 16.5859 | 0.0475 | 19.7939 | 0.4371 | 20.2311 | 10.1388 | 0.4371 | 10.5759 | 0.0000 | 4,507.5250 | 4,507.5250 | 0.2198 | 2.4800e-003 | 4,513.7595 |
| 2031 | 25.4679 | 103.5288 | 125.3197 | 0.5019 | 40.0352 | 3.8781 | 40.6887 | 10.7725 | 3.8779 | 11.4065 | 0.0000 | 56,135.9178 | 56,135.9178 | 2.2570 | 3.5146 | 56,195.9255 |
| 2032 | 53.7833 | 70.8976 | 130.9742 | 0.5012 | 46.6834 | 0.7035 | 47.3869 | 12.5360 | 0.6832 | 13.2191 | 0.0000 | 53,432.9782 | 53,432.9782 | 1.2926 | 3.5731 | 54,530.0779 |
| 2033 | 53.2997 | 70.2464 | 128.8127 | 0.4944 | 46.6831 | 0.6926 | 47.3757 | 12.5358 | 0.6730 | 13.2088 | 0.0000 | 52,837.9016 | 52,837.9016 | 1.2525 | 3.5231 | 53,919.0850 |
| 2034 | 52.8628 | 69.6470 | 126.8916 | 0.4883 | 46.6828 | 0.6823 | 47.3651 | 12.5357 | 0.6633 | 13.1991 | 0.0000 | 52,307.3180 | 52,307.3180 | 1.2158 | 3.4785 | 53,374.3021 |
| 2035 | 52.2547 | 67.3919 | 125.1600 | 0.4830 | 46.6826 | 0.5368 | 47.2194 | 12.5357 | 0.5185 | 13.0541 | 0.0000 | 51,845.1266 | 51,845.1266 | 1.1657 | 3.4399 | 52,899.3738 |
| 2036 | 52.2547 | 67.3919 | 125.1600 | 0.4830 | 46.6826 | 0.5368 | 47.2194 | 12.5357 | 0.5185 | 13.0541 | 0.0000 | 51,845.1266 | 51,845.1266 | 1.1657 | 3.4399 | 52,899.3738 |
| 2037 | 52.2547 | 67.3919 | 125.1600 | 0.4830 | 46.6826 | 0.5368 | 47.2194 | 12.5357 | 0.5185 | 13.0541 | 0.0000 | 51,845.1266 | 51,845.1266 | 1.1657 | 3.4399 | 52,899.3738 |
| 2038 | 52.2547 | 67.3919 | 125.1600 | 0.4830 | 46.6826 | 0.5368 | 47.2194 | 12.5357 | 0.5185 | 13.0541 | 0.0000 | 51,845.1266 | 51,845.1266 | 1.1657 | 3.4399 | 52,899.3738 |
| 2039 | 52.2547 | 67.3919 | 125.1600 | 0.4830 | 46.6826 | 0.5368 | 47.2194 | 12.5357 | 0.5185 | 13.0541 | 0.0000 | 51,845.1266 | 51,845.1266 | 1.1657 | 3.4399 | 52,899.3738 |
| 2040 | 50.6823 | 65.0521 | 119.6432 | 0.4648 | 46.6814 | 0.4701 | 47.1516 | 12.5352 | 0.4539 | 12.9891 | 0.0000 | 50,247.7228 | 50,247.7228 | 1.0475 | 3.2997 | 51,257.2310 |
| 2041 | 50.6823 | 65.0521 | 119.6432 | 0.4648 | 46.6814 | 0.4701 | 47.1516 | 12.5352 | 0.4539 | 12.9891 | 0.0000 | 50,247.7228 | 50,247.7228 | 1.0475 | 3.2997 | 51,257.2310 |
| 2042 | 50.6823 | 65.0521 | 119.6432 | 0.4648 | 46.6814 | 0.4701 | 47.1516 | 12.5352 | 0.4539 | 12.9891 | 0.0000 | 50,247.7228 | 50,247.7228 | 1.0475 | 3.2997 | 51,257.2310 |
| 2043 | 50.6823 | 65.0521 | 119.6432 | 0.4648 | 46.6814 | 0.4701 | 47.1516 | 12.5352 | 0.4539 | 12.9891 | 0.0000 | 50,247.7228 | 50,247.7228 | 1.0475 | 3.2997 | 51,257.2310 |
| 2044 | 50.6823 | 65.0521 | 119.6432 | 0.4648 | 46.6814 | 0.4701 | 47.1516 | 12.5352 | 0.4539 | 12.9891 | 0.0000 | 50,247.7228 | 50,247.7228 | 1.0475 | 3.2997 | 51,257.2310 |
| **Maximum** | **53.7833** | **103.5288** | **130.9742** | **0.5019** | **46.6834** | **3.8781** | **47.3869** | **12.5360** | **3.8779** | **13.2191** | **0.0000** | **56,135.9178** | **56,135.9178** | **2.2570** | **3.5731** | **56,195.9255** |

## 2.1 Overall Construction (Maximum Daily Emission)

**Mitigated Construction**

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2030 | 2.4756 | 13.6869 | 16.5859 | 0.0475 | 19.7939 | 0.4371 | 20.2311 | 10.1388 | 0.4371 | 10.5759 | 0.0000 | 4,507.5250 | 4,507.5250 | 0.2198 | 2.4800e-003 | 4,513.7595 |
| 2031 | 25.4679 | 103.5288 | 125.3197 | 0.5019 | 40.0352 | 3.8781 | 40.6887 | 10.7725 | 3.8779 | 11.4065 | 0.0000 | 56,135.9178 | 56,135.9178 | 2.2570 | 3.5146 | 56,195.9255 |
| 2032 | 53.7833 | 70.8976 | 130.9742 | 0.5012 | 46.6834 | 0.7035 | 47.3869 | 12.5360 | 0.6832 | 13.2191 | 0.0000 | 53,432.9781 | 53,432.9781 | 1.2926 | 3.5731 | 54,530.0779 |
| 2033 | 53.2997 | 70.2464 | 128.8127 | 0.4944 | 46.6831 | 0.6926 | 47.3757 | 12.5358 | 0.6730 | 13.2088 | 0.0000 | 52,837.9016 | 52,837.9016 | 1.2525 | 3.5231 | 53,919.0849 |
| 2034 | 52.8628 | 69.6470 | 126.8916 | 0.4883 | 46.6828 | 0.6823 | 47.3651 | 12.5357 | 0.6633 | 13.1991 | 0.0000 | 52,307.3180 | 52,307.3180 | 1.2158 | 3.4785 | 53,374.3021 |
| 2035 | 52.2547 | 67.3919 | 125.1600 | 0.4830 | 46.6826 | 0.5368 | 47.2194 | 12.5357 | 0.5185 | 13.0541 | 0.0000 | 51,845.1266 | 51,845.1266 | 1.1657 | 3.4399 | 52,899.3738 |
| 2036 | 52.2547 | 67.3919 | 125.1600 | 0.4830 | 46.6826 | 0.5368 | 47.2194 | 12.5357 | 0.5185 | 13.0541 | 0.0000 | 51,845.1266 | 51,845.1266 | 1.1657 | 3.4399 | 52,899.3738 |
| 2037 | 52.2547 | 67.3919 | 125.1600 | 0.4830 | 46.6826 | 0.5368 | 47.2194 | 12.5357 | 0.5185 | 13.0541 | 0.0000 | 51,845.1266 | 51,845.1266 | 1.1657 | 3.4399 | 52,899.3738 |
| 2038 | 52.2547 | 67.3919 | 125.1600 | 0.4830 | 46.6826 | 0.5368 | 47.2194 | 12.5357 | 0.5185 | 13.0541 | 0.0000 | 51,845.1266 | 51,845.1266 | 1.1657 | 3.4399 | 52,899.3738 |
| 2039 | 52.2547 | 67.3919 | 125.1600 | 0.4830 | 46.6826 | 0.5368 | 47.2194 | 12.5357 | 0.5185 | 13.0541 | 0.0000 | 51,845.1266 | 51,845.1266 | 1.1657 | 3.4399 | 52,899.3738 |
| 2040 | 50.6823 | 65.0521 | 119.6432 | 0.4648 | 46.6814 | 0.4701 | 47.1516 | 12.5352 | 0.4539 | 12.9891 | 0.0000 | 50,247.7228 | 50,247.7228 | 1.0475 | 3.2997 | 51,257.2310 |
| 2041 | 50.6823 | 65.0521 | 119.6432 | 0.4648 | 46.6814 | 0.4701 | 47.1516 | 12.5352 | 0.4539 | 12.9891 | 0.0000 | 50,247.7228 | 50,247.7228 | 1.0475 | 3.2997 | 51,257.2310 |
| 2042 | 50.6823 | 65.0521 | 119.6432 | 0.4648 | 46.6814 | 0.4701 | 47.1516 | 12.5352 | 0.4539 | 12.9891 | 0.0000 | 50,247.7228 | 50,247.7228 | 1.0475 | 3.2997 | 51,257.2310 |
| 2043 | 50.6823 | 65.0521 | 119.6432 | 0.4648 | 46.6814 | 0.4701 | 47.1516 | 12.5352 | 0.4539 | 12.9891 | 0.0000 | 50,247.7228 | 50,247.7228 | 1.0475 | 3.2997 | 51,257.2310 |
| 2044 | 50.6823 | 65.0521 | 119.6432 | 0.4648 | 46.6814 | 0.4701 | 47.1516 | 12.5352 | 0.4539 | 12.9891 | 0.0000 | 50,247.7228 | 50,247.7228 | 1.0475 | 3.2997 | 51,257.2310 |
| **Maximum** | **53.7833** | **103.5288** | **130.9742** | **0.5019** | **46.6834** | **3.8781** | **47.3869** | **12.5360** | **3.8779** | **13.2191** | **0.0000** | **56,135.9178** | **56,135.9178** | **2.2570** | **3.5731** | **56,195.9255** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 302.0782 | 5.8428 | 506.3743 | 0.0269 | | 2.8189 | 2.8189 | | 2.8189 | 2.8189 | 0.0000 | 916.0862 | 916.0862 | 0.8748 | 0.0000 | 937.9563 |
| Energy | 5.8764 | 51.7300 | 32.4698 | 0.3205 | | 4.0600 | 4.0600 | | 4.0600 | 4.0600 | | 64,105.8042 | 64,105.8042 | 1.2287 | 1.1753 | 64,486.7529 |
| Mobile | 151.8293 | 194.7474 | 1,721.7971 | 3.0440 | 460.5517 | 1.5369 | 462.0886 | 122.6142 | 1.4371 | 124.0513 | | 341,973.5506 | 341,973.5506 | 25.1980 | 18.2264 | 348,034.9667 |
| **Total** | **459.7839** | **252.3202** | **2,260.6411** | **3.3914** | **460.5517** | **8.4158** | **468.9675** | **122.6142** | **8.3160** | **130.9302** | **0.0000** | **406,995.4410** | **406,995.4410** | **27.3014** | **19.4017** | **413,459.6759** |

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 302.0782 | 5.8428 | 506.3743 | 0.0269 | | 2.8189 | 2.8189 | | 2.8189 | 2.8189 | 0.0000 | 916.0862 | 916.0862 | 0.8748 | 0.0000 | 937.9563 |
| Energy | 5.8764 | 51.7300 | 32.4698 | 0.3205 | | 4.0600 | 4.0600 | | 4.0600 | 4.0600 | | 64,105.8042 | 64,105.8042 | 1.2287 | 1.1753 | 64,486.7529 |
| Mobile | 151.8293 | 194.7474 | 1,721.7971 | 3.0440 | 460.5517 | 1.5369 | 462.0886 | 122.6142 | 1.4371 | 124.0513 | | 341,973.5506 | 341,973.5506 | 25.1980 | 18.2264 | 348,034.9667 |
| **Total** | **459.7839** | **252.3202** | **2,260.6411** | **3.3914** | **460.5517** | **8.4158** | **468.9675** | **122.6142** | **8.3160** | **130.9302** | **0.0000** | **406,995.4410** | **406,995.4410** | **27.3014** | **19.4017** | **413,459.6759** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 8/1/2030 | 1/15/2031 | 5 | 120 | |
| 2 | Grading | Grading | 1/16/2031 | 7/2/2031 | 5 | 120 | |
| 3 | Paving | Paving | 7/3/2031 | 12/17/2031 | 5 | 120 | |
| 4 | Building Construction | Building Construction | 12/18/2031 | 11/15/2044 | 5 | 3369 | |
| 5 | Arch Coating | Architectural Coating | 1/2/2032 | 11/30/2044 | 5 | 3369 | |

**Acres of Grading (Site Preparation Phase): 180**

**Acres of Grading (Grading Phase): 360**

**Acres of Paving: 0**

**Residential Indoor: 17,809,875; Residential Outdoor: 5,936,625; Non-Residential Indoor: 4,292,984; Non-Residential Outdoor: 1,430,995; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Grading | Excavators | 2 | 8.00 | 158 | 0.38 |
| Grading | Graders | 2 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Grading | Scrapers | 29 | 8.00 | 367 | 0.48 |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | |
|---|---|---|---|---|---|
| Grading | Tractors/Loaders/Backhoes | 2 | 8.00 | 97 | 0.37 |
| Paving | Pavers | 2 | 8.00 | 130 | 0.42 |
| Paving | Paving Equipment | 2 | 8.00 | 132 | 0.36 |
| Paving | Rollers | 2 | 8.00 | 80 | 0.38 |
| Building Construction | Cranes | 2 | 7.00 | 231 | 0.29 |
| Building Construction | Forklifts | 6 | 8.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 2 | 8.00 | 84 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | 6 | 7.00 | 97 | 0.37 |
| Building Construction | Welders | 2 | 8.00 | 46 | 0.45 |
| Arch Coating | Air Compressors | 2 | 6.00 | 78 | 0.48 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 7 | 18.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 36 | 90.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 6 | 15.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 18 | 4,371.00 | 1,127.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Arch Coating | 2 | 874.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2030

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.4399 | 13.6680 | 16.2918 | 0.0466 | | 0.4367 | 0.4367 | | 0.4367 | 0.4367 | | 4,409.7537 | 4,409.7537 | 0.2176 | | 4,415.1936 |
| **Total** | **2.4399** | **13.6680** | **16.2918** | **0.0466** | **19.6570** | **0.4367** | **20.0937** | **10.1025** | **0.4367** | **10.5391** | | **4,409.7537** | **4,409.7537** | **0.2176** | | **4,415.1936** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0357 | 0.0189 | 0.2940 | 9.0000e-004 | 0.1369 | 4.8000e-004 | 0.1374 | 0.0363 | 4.4000e-004 | 0.0368 | | 97.7713 | 97.7713 | 2.2300e-003 | 2.4800e-003 | 98.5659 |
| **Total** | **0.0357** | **0.0189** | **0.2940** | **9.0000e-004** | **0.1369** | **4.8000e-004** | **0.1374** | **0.0363** | **4.4000e-004** | **0.0368** | | **97.7713** | **97.7713** | **2.2300e-003** | **2.4800e-003** | **98.5659** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2030

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.4399 | 13.6680 | 16.2918 | 0.0466 | | 0.4367 | 0.4367 | | 0.4367 | 0.4367 | 0.0000 | 4,409.7537 | 4,409.7537 | 0.2176 | | 4,415.1936 |
| **Total** | **2.4399** | **13.6680** | **16.2918** | **0.0466** | **19.6570** | **0.4367** | **20.0937** | **10.1025** | **0.4367** | **10.5391** | **0.0000** | **4,409.7537** | **4,409.7537** | **0.2176** | | **4,415.1936** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0357 | 0.0189 | 0.2940 | 9.0000e-004 | 0.1369 | 4.8000e-004 | 0.1374 | 0.0363 | 4.4000e-004 | 0.0368 | | 97.7713 | 97.7713 | 2.2300e-003 | 2.4800e-003 | 98.5659 |
| **Total** | **0.0357** | **0.0189** | **0.2940** | **9.0000e-004** | **0.1369** | **4.8000e-004** | **0.1374** | **0.0363** | **4.4000e-004** | **0.0368** | | **97.7713** | **97.7713** | **2.2300e-003** | **2.4800e-003** | **98.5659** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2031

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.4399 | 13.6680 | 16.2918 | 0.0466 | | 0.4367 | 0.4367 | | 0.4367 | 0.4367 | | 4,409.7537 | 4,409.7537 | 0.2176 | | 4,415.1936 |
| **Total** | **2.4399** | **13.6680** | **16.2918** | **0.0466** | **19.6570** | **0.4367** | **20.0937** | **10.1025** | **0.4367** | **10.5391** | | **4,409.7537** | **4,409.7537** | **0.2176** | | **4,415.1936** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0337 | 0.0178 | 0.2842 | 8.8000e-004 | 0.1369 | 4.5000e-004 | 0.1374 | 0.0363 | 4.1000e-004 | 0.0367 | | 96.2741 | 96.2741 | 2.0800e-003 | 2.4000e-003 | 97.0426 |
| **Total** | **0.0337** | **0.0178** | **0.2842** | **8.8000e-004** | **0.1369** | **4.5000e-004** | **0.1374** | **0.0363** | **4.1000e-004** | **0.0367** | | **96.2741** | **96.2741** | **2.0800e-003** | **2.4000e-003** | **97.0426** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2031

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.4399 | 13.6680 | 16.2918 | 0.0466 | | 0.4367 | 0.4367 | | 0.4367 | 0.4367 | 0.0000 | 4,409.7537 | 4,409.7537 | 0.2176 | | 4,415.1936 |
| **Total** | **2.4399** | **13.6680** | **16.2918** | **0.0466** | **19.6570** | **0.4367** | **20.0937** | **10.1025** | **0.4367** | **10.5391** | **0.0000** | **4,409.7537** | **4,409.7537** | **0.2176** | | **4,415.1936** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0337 | 0.0178 | 0.2842 | 8.8000e-004 | 0.1369 | 4.5000e-004 | 0.1374 | 0.0363 | 4.1000e-004 | 0.0367 | | 96.2741 | 96.2741 | 2.0800e-003 | 2.4000e-003 | 97.0426 |
| **Total** | **0.0337** | **0.0178** | **0.2842** | **8.8000e-004** | **0.1369** | **4.5000e-004** | **0.1374** | **0.0363** | **4.1000e-004** | **0.0367** | | **96.2741** | **96.2741** | **2.0800e-003** | **2.4000e-003** | **97.0426** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Grading - 2031

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 9.2036 | 0.0000 | 9.2036 | 3.6538 | 0.0000 | 3.6538 | | | 0.0000 | | | 0.0000 |
| Off-Road | 25.2995 | 103.4398 | 123.8986 | 0.4975 | | 3.8759 | 3.8759 | | 3.8759 | 3.8759 | | 55,654.5474 | 55,654.5474 | 2.2466 | | 55,710.7126 |
| **Total** | **25.2995** | **103.4398** | **123.8986** | **0.4975** | **9.2036** | **3.8759** | **13.0795** | **3.6538** | **3.8759** | **7.5296** | | **55,654.5474** | **55,654.5474** | **2.2466** | | **55,710.7126** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1683 | 0.0890 | 1.4212 | 4.4200e-003 | 0.6846 | 2.2300e-003 | 0.6869 | 0.1816 | 2.0600e-003 | 0.1837 | | 481.3704 | 481.3704 | 0.0104 | 0.0120 | 485.2129 |
| **Total** | **0.1683** | **0.0890** | **1.4212** | **4.4200e-003** | **0.6846** | **2.2300e-003** | **0.6869** | **0.1816** | **2.0600e-003** | **0.1837** | | **481.3704** | **481.3704** | **0.0104** | **0.0120** | **485.2129** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Grading - 2031

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 9.2036 | 0.0000 | 9.2036 | 3.6538 | 0.0000 | 3.6538 | | | 0.0000 | | | 0.0000 |
| Off-Road | 25.2995 | 103.4398 | 123.8986 | 0.4975 | | 3.8759 | 3.8759 | | 3.8759 | 3.8759 | 0.0000 | 55,654.5474 | 55,654.5474 | 2.2466 | | 55,710.7126 |
| **Total** | **25.2995** | **103.4398** | **123.8986** | **0.4975** | **9.2036** | **3.8759** | **13.0795** | **3.6538** | **3.8759** | **7.5296** | **0.0000** | **55,654.5474** | **55,654.5474** | **2.2466** | | **55,710.7126** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.1683 | 0.0890 | 1.4212 | 4.4200e-003 | 0.6846 | 2.2300e-003 | 0.6869 | 0.1816 | 2.0600e-003 | 0.1837 | | 481.3704 | 481.3704 | 0.0104 | 0.0120 | 485.2129 |
| **Total** | **0.1683** | **0.0890** | **1.4212** | **4.4200e-003** | **0.6846** | **2.2300e-003** | **0.6869** | **0.1816** | **2.0600e-003** | **0.1837** | | **481.3704** | **481.3704** | **0.0104** | **0.0120** | **485.2129** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2031

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.3845 | 7.1202 | 15.8495 | 0.0281 | | 0.3306 | 0.3306 | | 0.3306 | 0.3306 | | 2,656.5168 | 2,656.5168 | 0.1245 | | 2,659.6302 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **1.3845** | **7.1202** | **15.8495** | **0.0281** | | **0.3306** | **0.3306** | | **0.3306** | **0.3306** | | **2,656.5168** | **2,656.5168** | **0.1245** | | **2,659.6302** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0281 | 0.0148 | 0.2369 | 7.4000e-004 | 0.1141 | 3.7000e-004 | 0.1145 | 0.0303 | 3.4000e-004 | 0.0306 | | 80.2284 | 80.2284 | 1.7300e-003 | 2.0000e-003 | 80.8688 |
| **Total** | **0.0281** | **0.0148** | **0.2369** | **7.4000e-004** | **0.1141** | **3.7000e-004** | **0.1145** | **0.0303** | **3.4000e-004** | **0.0306** | | **80.2284** | **80.2284** | **1.7300e-003** | **2.0000e-003** | **80.8688** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2031

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.3845 | 7.1202 | 15.8495 | 0.0281 | | 0.3306 | 0.3306 | | 0.3306 | 0.3306 | 0.0000 | 2,656.5168 | 2,656.5168 | 0.1245 | | 2,659.6302 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **1.3845** | **7.1202** | **15.8495** | **0.0281** | | **0.3306** | **0.3306** | | **0.3306** | **0.3306** | **0.0000** | **2,656.5168** | **2,656.5168** | **0.1245** | | **2,659.6302** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0281 | 0.0148 | 0.2369 | 7.4000e-004 | 0.1141 | 3.7000e-004 | 0.1145 | 0.0303 | 3.4000e-004 | 0.0306 | | 80.2284 | 80.2284 | 1.7300e-003 | 2.0000e-003 | 80.8688 |
| **Total** | **0.0281** | **0.0148** | **0.2369** | **7.4000e-004** | **0.1141** | **3.7000e-004** | **0.1145** | **0.0303** | **3.4000e-004** | **0.0306** | | **80.2284** | **80.2284** | **1.7300e-003** | **2.0000e-003** | **80.8688** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2031

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.6183 | 15.8692 | 32.3140 | 0.0619 | | 0.2963 | 0.2963 | | 0.2963 | 0.2963 | | 5,795.0935 | 5,795.0935 | 0.2325 | | 5,800.9057 |
| **Total** | **2.6183** | **15.8692** | **32.3140** | **0.0619** | | **0.2963** | **0.2963** | | **0.2963** | **0.2963** | | **5,795.0935** | **5,795.0935** | **0.2325** | | **5,800.9057** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.1098 | 48.9147 | 14.7798 | 0.1833 | 6.7851 | 0.2487 | 7.0338 | 1.9526 | 0.2379 | 2.1905 | | 19,698.3413 | 19,698.3413 | 0.4784 | 2.9306 | 20,583.6273 |
| Worker | 8.1751 | 4.3231 | 69.0203 | 0.2149 | 33.2502 | 0.1085 | 33.3587 | 8.8199 | 0.0999 | 8.9198 | | 23,378.5541 | 23,378.5541 | 0.5042 | 0.5839 | 23,565.1741 |
| **Total** | **9.2849** | **53.2377** | **83.8001** | **0.3981** | **40.0352** | **0.3572** | **40.3924** | **10.7725** | **0.3378** | **11.1102** | | **43,076.8954** | **43,076.8954** | **0.9826** | **3.5146** | **44,148.8014** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2031

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.6183 | 15.8692 | 32.3140 | 0.0619 | | 0.2963 | 0.2963 | | 0.2963 | 0.2963 | 0.0000 | 5,795.0935 | 5,795.0935 | 0.2325 | | 5,800.9057 |
| **Total** | **2.6183** | **15.8692** | **32.3140** | **0.0619** | | **0.2963** | **0.2963** | | **0.2963** | **0.2963** | **0.0000** | **5,795.0935** | **5,795.0935** | **0.2325** | | **5,800.9057** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.1098 | 48.9147 | 14.7798 | 0.1833 | 6.7851 | 0.2487 | 7.0338 | 1.9526 | 0.2379 | 2.1905 | | 19,698.3413 | 19,698.3413 | 0.4784 | 2.9306 | 20,583.6273 |
| Worker | 8.1751 | 4.3231 | 69.0203 | 0.2149 | 33.2502 | 0.1085 | 33.3587 | 8.8199 | 0.0999 | 8.9198 | | 23,378.5541 | 23,378.5541 | 0.5042 | 0.5839 | 23,565.1741 |
| **Total** | **9.2849** | **53.2377** | **83.8001** | **0.3981** | **40.0352** | **0.3572** | **40.3924** | **10.7725** | **0.3378** | **11.1102** | | **43,076.8954** | **43,076.8954** | **0.9826** | **3.5146** | **44,148.8014** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2032

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.6183 | 15.8692 | 32.3140 | 0.0619 | | 0.2963 | 0.2963 | | 0.2963 | 0.2963 | | 5,795.0935 | 5,795.0935 | 0.2325 | | 5,800.9057 |
| **Total** | **2.6183** | **15.8692** | **32.3140** | **0.0619** | | **0.2963** | **0.2963** | | **0.2963** | **0.2963** | | **5,795.0935** | **5,795.0935** | **0.2325** | | **5,800.9057** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0859 | 48.3982 | 14.7062 | 0.1806 | 6.7848 | 0.2446 | 7.0293 | 1.9525 | 0.2340 | 2.1864 | | 19,404.3856 | 19,404.3856 | 0.4715 | 2.8902 | 20,277.4572 |
| Worker | 7.7276 | 4.0982 | 66.9681 | 0.2107 | 33.2502 | 0.1017 | 33.3519 | 8.8199 | 0.0936 | 8.9135 | | 23,059.7151 | 23,059.7151 | 0.4715 | 0.5691 | 23,241.0940 |
| **Total** | **8.8135** | **52.4964** | **81.6742** | **0.3912** | **40.0349** | **0.3463** | **40.3812** | **10.7724** | **0.3275** | **11.0999** | | **42,464.1007** | **42,464.1007** | **0.9430** | **3.4593** | **43,518.5512** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2032

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.6183 | 15.8692 | 32.3140 | 0.0619 | | 0.2963 | 0.2963 | | 0.2963 | 0.2963 | 0.0000 | 5,795.0935 | 5,795.0935 | 0.2325 | | 5,800.9057 |
| **Total** | **2.6183** | **15.8692** | **32.3140** | **0.0619** | | **0.2963** | **0.2963** | | **0.2963** | **0.2963** | **0.0000** | **5,795.0935** | **5,795.0935** | **0.2325** | | **5,800.9057** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0859 | 48.3982 | 14.7062 | 0.1806 | 6.7848 | 0.2446 | 7.0293 | 1.9525 | 0.2340 | 2.1864 | | 19,404.3856 | 19,404.3856 | 0.4715 | 2.8902 | 20,277.4572 |
| Worker | 7.7276 | 4.0982 | 66.9681 | 0.2107 | 33.2502 | 0.1017 | 33.3519 | 8.8199 | 0.0936 | 8.9135 | | 23,059.7151 | 23,059.7151 | 0.4715 | 0.5691 | 23,241.0940 |
| **Total** | **8.8135** | **52.4964** | **81.6742** | **0.3912** | **40.0349** | **0.3463** | **40.3812** | **10.7724** | **0.3275** | **11.0999** | | **42,464.1007** | **42,464.1007** | **0.9430** | **3.4593** | **43,518.5512** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2033

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.6183 | 15.8692 | 32.3140 | 0.0619 | | 0.2963 | 0.2963 | | 0.2963 | 0.2963 | | 5,795.0935 | 5,795.0935 | 0.2325 | | 5,800.9057 |
| **Total** | **2.6183** | **15.8692** | **32.3140** | **0.0619** | | **0.2963** | **0.2963** | | **0.2963** | **0.2963** | | **5,795.0935** | **5,795.0935** | **0.2325** | | **5,800.9057** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0658 | 47.9631 | 14.6554 | 0.1781 | 6.7845 | 0.2411 | 7.0255 | 1.9523 | 0.2306 | 2.1830 | | 19,144.3996 | 19,144.3996 | 0.4656 | 2.8545 | 20,006.6877 |
| Worker | 7.3414 | 3.9180 | 65.2090 | 0.2070 | 33.2502 | 0.0955 | 33.3457 | 8.8199 | 0.0879 | 8.9078 | | 22,780.4622 | 22,780.4622 | 0.4431 | 0.5571 | 22,957.5637 |
| **Total** | **8.4072** | **51.8811** | **79.8644** | **0.3851** | **40.0346** | **0.3366** | **40.3712** | **10.7723** | **0.3185** | **11.0908** | | **41,924.8619** | **41,924.8619** | **0.9087** | **3.4117** | **42,964.2513** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2033

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.6183 | 15.8692 | 32.3140 | 0.0619 | | 0.2963 | 0.2963 | | 0.2963 | 0.2963 | 0.0000 | 5,795.0935 | 5,795.0935 | 0.2325 | | 5,800.9057 |
| **Total** | **2.6183** | **15.8692** | **32.3140** | **0.0619** | | **0.2963** | **0.2963** | | **0.2963** | **0.2963** | **0.0000** | **5,795.0935** | **5,795.0935** | **0.2325** | | **5,800.9057** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0658 | 47.9631 | 14.6554 | 0.1781 | 6.7845 | 0.2411 | 7.0255 | 1.9523 | 0.2306 | 2.1830 | | 19,144.3996 | 19,144.3996 | 0.4656 | 2.8545 | 20,006.6877 |
| Worker | 7.3414 | 3.9180 | 65.2090 | 0.2070 | 33.2502 | 0.0955 | 33.3457 | 8.8199 | 0.0879 | 8.9078 | | 22,780.4622 | 22,780.4622 | 0.4431 | 0.5571 | 22,957.5637 |
| **Total** | **8.4072** | **51.8811** | **79.8644** | **0.3851** | **40.0346** | **0.3366** | **40.3712** | **10.7723** | **0.3185** | **11.0908** | | **41,924.8619** | **41,924.8619** | **0.9087** | **3.4117** | **42,964.2513** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2034

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.6183 | 15.8692 | 32.3140 | 0.0619 | | 0.2963 | 0.2963 | | 0.2963 | 0.2963 | | 5,795.0935 | 5,795.0935 | 0.2325 | | 5,800.9057 |
| **Total** | **2.6183** | **15.8692** | **32.3140** | **0.0619** | | **0.2963** | **0.2963** | | **0.2963** | **0.2963** | | **5,795.0935** | **5,795.0935** | **0.2325** | | **5,800.9057** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0473 | 47.5432 | 14.6141 | 0.1759 | 6.7842 | 0.2376 | 7.0218 | 1.9522 | 0.2273 | 2.1795 | | 18,906.5365 | 18,906.5365 | 0.4597 | 2.8218 | 19,758.9175 |
| Worker | 6.9927 | 3.7685 | 63.6425 | 0.2038 | 33.2502 | 0.0898 | 33.3400 | 8.8199 | 0.0827 | 8.9026 | | 22,536.5192 | 22,536.5192 | 0.4174 | 0.5473 | 22,710.0437 |
| **Total** | **8.0399** | **51.3117** | **78.2566** | **0.3797** | **40.0343** | **0.3274** | **40.3617** | **10.7722** | **0.3099** | **11.0821** | | **41,443.0558** | **41,443.0558** | **0.8771** | **3.3691** | **42,468.9611** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2034

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.6183 | 15.8692 | 32.3140 | 0.0619 | | 0.2963 | 0.2963 | | 0.2963 | 0.2963 | 0.0000 | 5,795.0935 | 5,795.0935 | 0.2325 | | 5,800.9057 |
| **Total** | **2.6183** | **15.8692** | **32.3140** | **0.0619** | | **0.2963** | **0.2963** | | **0.2963** | **0.2963** | **0.0000** | **5,795.0935** | **5,795.0935** | **0.2325** | | **5,800.9057** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0473 | 47.5432 | 14.6141 | 0.1759 | 6.7842 | 0.2376 | 7.0218 | 1.9522 | 0.2273 | 2.1795 | | 18,906.5365 | 18,906.5365 | 0.4597 | 2.8218 | 19,758.9175 |
| Worker | 6.9927 | 3.7685 | 63.6425 | 0.2038 | 33.2502 | 0.0898 | 33.3400 | 8.8199 | 0.0827 | 8.9026 | | 22,536.5192 | 22,536.5192 | 0.4174 | 0.5473 | 22,710.0437 |
| **Total** | **8.0399** | **51.3117** | **78.2566** | **0.3797** | **40.0343** | **0.3274** | **40.3617** | **10.7722** | **0.3099** | **11.0821** | | **41,443.0558** | **41,443.0558** | **0.8771** | **3.3691** | **42,468.9611** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2035

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.4336 | 14.3226 | 32.2356 | 0.0619 | | 0.1808 | 0.1808 | | 0.1808 | 0.1808 | | 5,795.0935 | 5,795.0935 | 0.2158 | | 5,800.4895 |
| **Total** | **2.4336** | **14.3226** | **32.2356** | **0.0619** | | **0.1808** | **0.1808** | | **0.1808** | **0.1808** | | **5,795.0935** | **5,795.0935** | **0.2158** | | **5,800.4895** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0304 | 47.1736 | 14.5802 | 0.1740 | 6.7839 | 0.2345 | 7.0184 | 1.9522 | 0.2243 | 2.1765 | | 18,694.9816 | 18,694.9816 | 0.4553 | 2.7926 | 19,538.5535 |
| Worker | 6.6753 | 3.6504 | 62.2987 | 0.2010 | 33.2502 | 0.0847 | 33.3349 | 8.8199 | 0.0780 | 8.8979 | | 22,327.6475 | 22,327.6475 | 0.3948 | 0.5395 | 22,498.2867 |
| **Total** | **7.7058** | **50.8239** | **76.8790** | **0.3749** | **40.0341** | **0.3192** | **40.3533** | **10.7721** | **0.3023** | **11.0743** | | **41,022.6291** | **41,022.6291** | **0.8501** | **3.3321** | **42,036.8403** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2035

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.4336 | 14.3226 | 32.2356 | 0.0619 | | 0.1808 | 0.1808 | | 0.1808 | 0.1808 | 0.0000 | 5,795.0935 | 5,795.0935 | 0.2158 | | 5,800.4895 |
| **Total** | **2.4336** | **14.3226** | **32.2356** | **0.0619** | | **0.1808** | **0.1808** | | **0.1808** | **0.1808** | **0.0000** | **5,795.0935** | **5,795.0935** | **0.2158** | | **5,800.4895** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0304 | 47.1736 | 14.5802 | 0.1740 | 6.7839 | 0.2345 | 7.0184 | 1.9522 | 0.2243 | 2.1765 | | 18,694.9816 | 18,694.9816 | 0.4553 | 2.7926 | 19,538.5535 |
| Worker | 6.6753 | 3.6504 | 62.2987 | 0.2010 | 33.2502 | 0.0847 | 33.3349 | 8.8199 | 0.0780 | 8.8979 | | 22,327.6475 | 22,327.6475 | 0.3948 | 0.5395 | 22,498.2867 |
| **Total** | **7.7058** | **50.8239** | **76.8790** | **0.3749** | **40.0341** | **0.3192** | **40.3533** | **10.7721** | **0.3023** | **11.0743** | | **41,022.6291** | **41,022.6291** | **0.8501** | **3.3321** | **42,036.8403** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2036

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.4336 | 14.3226 | 32.2356 | 0.0619 | | 0.1808 | 0.1808 | | 0.1808 | 0.1808 | | 5,795.0935 | 5,795.0935 | 0.2158 | | 5,800.4895 |
| **Total** | **2.4336** | **14.3226** | **32.2356** | **0.0619** | | **0.1808** | **0.1808** | | **0.1808** | **0.1808** | | **5,795.0935** | **5,795.0935** | **0.2158** | | **5,800.4895** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0304 | 47.1736 | 14.5802 | 0.1740 | 6.7839 | 0.2345 | 7.0184 | 1.9522 | 0.2243 | 2.1765 | | 18,694.9816 | 18,694.9816 | 0.4553 | 2.7926 | 19,538.5535 |
| Worker | 6.6753 | 3.6504 | 62.2987 | 0.2010 | 33.2502 | 0.0847 | 33.3349 | 8.8199 | 0.0780 | 8.8979 | | 22,327.6475 | 22,327.6475 | 0.3948 | 0.5395 | 22,498.2867 |
| **Total** | **7.7058** | **50.8239** | **76.8790** | **0.3749** | **40.0341** | **0.3192** | **40.3533** | **10.7721** | **0.3023** | **11.0743** | | **41,022.6291** | **41,022.6291** | **0.8501** | **3.3321** | **42,036.8403** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2036

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.4336 | 14.3226 | 32.2356 | 0.0619 | | 0.1808 | 0.1808 | | 0.1808 | 0.1808 | 0.0000 | 5,795.0935 | 5,795.0935 | 0.2158 | | 5,800.4895 |
| **Total** | **2.4336** | **14.3226** | **32.2356** | **0.0619** | | **0.1808** | **0.1808** | | **0.1808** | **0.1808** | **0.0000** | **5,795.0935** | **5,795.0935** | **0.2158** | | **5,800.4895** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0304 | 47.1736 | 14.5802 | 0.1740 | 6.7839 | 0.2345 | 7.0184 | 1.9522 | 0.2243 | 2.1765 | | 18,694.9816 | 18,694.9816 | 0.4553 | 2.7926 | 19,538.5535 |
| Worker | 6.6753 | 3.6504 | 62.2987 | 0.2010 | 33.2502 | 0.0847 | 33.3349 | 8.8199 | 0.0780 | 8.8979 | | 22,327.6475 | 22,327.6475 | 0.3948 | 0.5395 | 22,498.2867 |
| **Total** | **7.7058** | **50.8239** | **76.8790** | **0.3749** | **40.0341** | **0.3192** | **40.3533** | **10.7721** | **0.3023** | **11.0743** | | **41,022.6291** | **41,022.6291** | **0.8501** | **3.3321** | **42,036.8403** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2037

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.4336 | 14.3226 | 32.2356 | 0.0619 | | 0.1808 | 0.1808 | | 0.1808 | 0.1808 | | 5,795.0935 | 5,795.0935 | 0.2158 | | 5,800.4895 |
| **Total** | **2.4336** | **14.3226** | **32.2356** | **0.0619** | | **0.1808** | **0.1808** | | **0.1808** | **0.1808** | | **5,795.0935** | **5,795.0935** | **0.2158** | | **5,800.4895** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0304 | 47.1736 | 14.5802 | 0.1740 | 6.7839 | 0.2345 | 7.0184 | 1.9522 | 0.2243 | 2.1765 | | 18,694.9816 | 18,694.9816 | 0.4553 | 2.7926 | 19,538.5535 |
| Worker | 6.6753 | 3.6504 | 62.2987 | 0.2010 | 33.2502 | 0.0847 | 33.3349 | 8.8199 | 0.0780 | 8.8979 | | 22,327.6475 | 22,327.6475 | 0.3948 | 0.5395 | 22,498.2867 |
| **Total** | **7.7058** | **50.8239** | **76.8790** | **0.3749** | **40.0341** | **0.3192** | **40.3533** | **10.7721** | **0.3023** | **11.0743** | | **41,022.6291** | **41,022.6291** | **0.8501** | **3.3321** | **42,036.8403** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2037

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.4336 | 14.3226 | 32.2356 | 0.0619 | | 0.1808 | 0.1808 | | 0.1808 | 0.1808 | 0.0000 | 5,795.0935 | 5,795.0935 | 0.2158 | | 5,800.4895 |
| **Total** | **2.4336** | **14.3226** | **32.2356** | **0.0619** | | **0.1808** | **0.1808** | | **0.1808** | **0.1808** | **0.0000** | **5,795.0935** | **5,795.0935** | **0.2158** | | **5,800.4895** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0304 | 47.1736 | 14.5802 | 0.1740 | 6.7839 | 0.2345 | 7.0184 | 1.9522 | 0.2243 | 2.1765 | | 18,694.9816 | 18,694.9816 | 0.4553 | 2.7926 | 19,538.5535 |
| Worker | 6.6753 | 3.6504 | 62.2987 | 0.2010 | 33.2502 | 0.0847 | 33.3349 | 8.8199 | 0.0780 | 8.8979 | | 22,327.6475 | 22,327.6475 | 0.3948 | 0.5395 | 22,498.2867 |
| **Total** | **7.7058** | **50.8239** | **76.8790** | **0.3749** | **40.0341** | **0.3192** | **40.3533** | **10.7721** | **0.3023** | **11.0743** | | **41,022.6291** | **41,022.6291** | **0.8501** | **3.3321** | **42,036.8403** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2038

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.4336 | 14.3226 | 32.2356 | 0.0619 | | 0.1808 | 0.1808 | | 0.1808 | 0.1808 | | 5,795.0935 | 5,795.0935 | 0.2158 | | 5,800.4895 |
| **Total** | **2.4336** | **14.3226** | **32.2356** | **0.0619** | | **0.1808** | **0.1808** | | **0.1808** | **0.1808** | | **5,795.0935** | **5,795.0935** | **0.2158** | | **5,800.4895** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0304 | 47.1736 | 14.5802 | 0.1740 | 6.7839 | 0.2345 | 7.0184 | 1.9522 | 0.2243 | 2.1765 | | 18,694.9816 | 18,694.9816 | 0.4553 | 2.7926 | 19,538.5535 |
| Worker | 6.6753 | 3.6504 | 62.2987 | 0.2010 | 33.2502 | 0.0847 | 33.3349 | 8.8199 | 0.0780 | 8.8979 | | 22,327.6475 | 22,327.6475 | 0.3948 | 0.5395 | 22,498.2867 |
| **Total** | **7.7058** | **50.8239** | **76.8790** | **0.3749** | **40.0341** | **0.3192** | **40.3533** | **10.7721** | **0.3023** | **11.0743** | | **41,022.6291** | **41,022.6291** | **0.8501** | **3.3321** | **42,036.8403** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2038

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.4336 | 14.3226 | 32.2356 | 0.0619 | | 0.1808 | 0.1808 | | 0.1808 | 0.1808 | 0.0000 | 5,795.0935 | 5,795.0935 | 0.2158 | | 5,800.4895 |
| **Total** | **2.4336** | **14.3226** | **32.2356** | **0.0619** | | **0.1808** | **0.1808** | | **0.1808** | **0.1808** | **0.0000** | **5,795.0935** | **5,795.0935** | **0.2158** | | **5,800.4895** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0304 | 47.1736 | 14.5802 | 0.1740 | 6.7839 | 0.2345 | 7.0184 | 1.9522 | 0.2243 | 2.1765 | | 18,694.9816 | 18,694.9816 | 0.4553 | 2.7926 | 19,538.5535 |
| Worker | 6.6753 | 3.6504 | 62.2987 | 0.2010 | 33.2502 | 0.0847 | 33.3349 | 8.8199 | 0.0780 | 8.8979 | | 22,327.6475 | 22,327.6475 | 0.3948 | 0.5395 | 22,498.2867 |
| **Total** | **7.7058** | **50.8239** | **76.8790** | **0.3749** | **40.0341** | **0.3192** | **40.3533** | **10.7721** | **0.3023** | **11.0743** | | **41,022.6291** | **41,022.6291** | **0.8501** | **3.3321** | **42,036.8403** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2039

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.4336 | 14.3226 | 32.2356 | 0.0619 | | 0.1808 | 0.1808 | | 0.1808 | 0.1808 | | 5,795.0935 | 5,795.0935 | 0.2158 | | 5,800.4895 |
| **Total** | **2.4336** | **14.3226** | **32.2356** | **0.0619** | | **0.1808** | **0.1808** | | **0.1808** | **0.1808** | | **5,795.0935** | **5,795.0935** | **0.2158** | | **5,800.4895** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0304 | 47.1736 | 14.5802 | 0.1740 | 6.7839 | 0.2345 | 7.0184 | 1.9522 | 0.2243 | 2.1765 | | 18,694.9816 | 18,694.9816 | 0.4553 | 2.7926 | 19,538.5535 |
| Worker | 6.6753 | 3.6504 | 62.2987 | 0.2010 | 33.2502 | 0.0847 | 33.3349 | 8.8199 | 0.0780 | 8.8979 | | 22,327.6475 | 22,327.6475 | 0.3948 | 0.5395 | 22,498.2867 |
| **Total** | **7.7058** | **50.8239** | **76.8790** | **0.3749** | **40.0341** | **0.3192** | **40.3533** | **10.7721** | **0.3023** | **11.0743** | | **41,022.6291** | **41,022.6291** | **0.8501** | **3.3321** | **42,036.8403** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2039

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.4336 | 14.3226 | 32.2356 | 0.0619 | | 0.1808 | 0.1808 | | 0.1808 | 0.1808 | 0.0000 | 5,795.0935 | 5,795.0935 | 0.2158 | | 5,800.4895 |
| **Total** | **2.4336** | **14.3226** | **32.2356** | **0.0619** | | **0.1808** | **0.1808** | | **0.1808** | **0.1808** | **0.0000** | **5,795.0935** | **5,795.0935** | **0.2158** | | **5,800.4895** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.0304 | 47.1736 | 14.5802 | 0.1740 | 6.7839 | 0.2345 | 7.0184 | 1.9522 | 0.2243 | 2.1765 | | 18,694.9816 | 18,694.9816 | 0.4553 | 2.7926 | 19,538.5535 |
| Worker | 6.6753 | 3.6504 | 62.2987 | 0.2010 | 33.2502 | 0.0847 | 33.3349 | 8.8199 | 0.0780 | 8.8979 | | 22,327.6475 | 22,327.6475 | 0.3948 | 0.5395 | 22,498.2867 |
| **Total** | **7.7058** | **50.8239** | **76.8790** | **0.3749** | **40.0341** | **0.3192** | **40.3533** | **10.7721** | **0.3023** | **11.0743** | | **41,022.6291** | **41,022.6291** | **0.8501** | **3.3321** | **42,036.8403** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2040

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.3940 | 13.7806 | 32.2369 | 0.0619 | | 0.1475 | 0.1475 | | 0.1475 | 0.1475 | | 5,795.0942 | 5,795.0942 | 0.2083 | | 5,800.3007 |
| **Total** | **2.3940** | **13.7806** | **32.2369** | **0.0619** | | **0.1475** | **0.1475** | | **0.1475** | **0.1475** | | **5,795.0942** | **5,795.0942** | **0.2083** | | **5,800.3007** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9808 | 45.8545 | 14.5031 | 0.1667 | 6.7827 | 0.2276 | 7.0103 | 1.9517 | 0.2177 | 2.1694 | | 17,906.1323 | 17,906.1323 | 0.4406 | 2.6785 | 18,715.3423 |
| Worker | 5.4443 | 3.3026 | 57.7677 | 0.1920 | 33.2502 | 0.0669 | 33.3170 | 8.8199 | 0.0615 | 8.8814 | | 21,653.8258 | 21,653.8258 | 0.3157 | 0.5177 | 21,815.9957 |
| **Total** | **6.4251** | **49.1571** | **72.2708** | **0.3586** | **40.0329** | **0.2945** | **40.3274** | **10.7716** | **0.2792** | **11.0509** | | **39,559.9581** | **39,559.9581** | **0.7563** | **3.1962** | **40,531.3380** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2040

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.3940 | 13.7806 | 32.2369 | 0.0619 | | 0.1475 | 0.1475 | | 0.1475 | 0.1475 | 0.0000 | 5,795.0942 | 5,795.0942 | 0.2083 | | 5,800.3007 |
| **Total** | **2.3940** | **13.7806** | **32.2369** | **0.0619** | | **0.1475** | **0.1475** | | **0.1475** | **0.1475** | **0.0000** | **5,795.0942** | **5,795.0942** | **0.2083** | | **5,800.3007** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9808 | 45.8545 | 14.5031 | 0.1667 | 6.7827 | 0.2276 | 7.0103 | 1.9517 | 0.2177 | 2.1694 | | 17,906.1323 | 17,906.1323 | 0.4406 | 2.6785 | 18,715.3423 |
| Worker | 5.4443 | 3.3026 | 57.7677 | 0.1920 | 33.2502 | 0.0669 | 33.3170 | 8.8199 | 0.0615 | 8.8814 | | 21,653.8258 | 21,653.8258 | 0.3157 | 0.5177 | 21,815.9957 |
| **Total** | **6.4251** | **49.1571** | **72.2708** | **0.3586** | **40.0329** | **0.2945** | **40.3274** | **10.7716** | **0.2792** | **11.0509** | | **39,559.9581** | **39,559.9581** | **0.7563** | **3.1962** | **40,531.3380** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2041

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.3940 | 13.7806 | 32.2369 | 0.0619 | | 0.1475 | 0.1475 | | 0.1475 | 0.1475 | | 5,795.0942 | 5,795.0942 | 0.2083 | | 5,800.3007 |
| **Total** | **2.3940** | **13.7806** | **32.2369** | **0.0619** | | **0.1475** | **0.1475** | | **0.1475** | **0.1475** | | **5,795.0942** | **5,795.0942** | **0.2083** | | **5,800.3007** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9808 | 45.8545 | 14.5031 | 0.1667 | 6.7827 | 0.2276 | 7.0103 | 1.9517 | 0.2177 | 2.1694 | | 17,906.1323 | 17,906.1323 | 0.4406 | 2.6785 | 18,715.3423 |
| Worker | 5.4443 | 3.3026 | 57.7677 | 0.1920 | 33.2502 | 0.0669 | 33.3170 | 8.8199 | 0.0615 | 8.8814 | | 21,653.8258 | 21,653.8258 | 0.3157 | 0.5177 | 21,815.9957 |
| **Total** | **6.4251** | **49.1571** | **72.2708** | **0.3586** | **40.0329** | **0.2945** | **40.3274** | **10.7716** | **0.2792** | **11.0509** | | **39,559.9581** | **39,559.9581** | **0.7563** | **3.1962** | **40,531.3380** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2041

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.3940 | 13.7806 | 32.2369 | 0.0619 | | 0.1475 | 0.1475 | | 0.1475 | 0.1475 | 0.0000 | 5,795.0942 | 5,795.0942 | 0.2083 | | 5,800.3007 |
| **Total** | **2.3940** | **13.7806** | **32.2369** | **0.0619** | | **0.1475** | **0.1475** | | **0.1475** | **0.1475** | **0.0000** | **5,795.0942** | **5,795.0942** | **0.2083** | | **5,800.3007** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9808 | 45.8545 | 14.5031 | 0.1667 | 6.7827 | 0.2276 | 7.0103 | 1.9517 | 0.2177 | 2.1694 | | 17,906.1323 | 17,906.1323 | 0.4406 | 2.6785 | 18,715.3423 |
| Worker | 5.4443 | 3.3026 | 57.7677 | 0.1920 | 33.2502 | 0.0669 | 33.3170 | 8.8199 | 0.0615 | 8.8814 | | 21,653.8258 | 21,653.8258 | 0.3157 | 0.5177 | 21,815.9957 |
| **Total** | **6.4251** | **49.1571** | **72.2708** | **0.3586** | **40.0329** | **0.2945** | **40.3274** | **10.7716** | **0.2792** | **11.0509** | | **39,559.9581** | **39,559.9581** | **0.7563** | **3.1962** | **40,531.3380** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2042

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.3940 | 13.7806 | 32.2369 | 0.0619 | | 0.1475 | 0.1475 | | 0.1475 | 0.1475 | | 5,795.0942 | 5,795.0942 | 0.2083 | | 5,800.3007 |
| **Total** | **2.3940** | **13.7806** | **32.2369** | **0.0619** | | **0.1475** | **0.1475** | | **0.1475** | **0.1475** | | **5,795.0942** | **5,795.0942** | **0.2083** | | **5,800.3007** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9808 | 45.8545 | 14.5031 | 0.1667 | 6.7827 | 0.2276 | 7.0103 | 1.9517 | 0.2177 | 2.1694 | | 17,906.1323 | 17,906.1323 | 0.4406 | 2.6785 | 18,715.3423 |
| Worker | 5.4443 | 3.3026 | 57.7677 | 0.1920 | 33.2502 | 0.0669 | 33.3170 | 8.8199 | 0.0615 | 8.8814 | | 21,653.8258 | 21,653.8258 | 0.3157 | 0.5177 | 21,815.9957 |
| **Total** | **6.4251** | **49.1571** | **72.2708** | **0.3586** | **40.0329** | **0.2945** | **40.3274** | **10.7716** | **0.2792** | **11.0509** | | **39,559.9581** | **39,559.9581** | **0.7563** | **3.1962** | **40,531.3380** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2042

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.3940 | 13.7806 | 32.2369 | 0.0619 | | 0.1475 | 0.1475 | | 0.1475 | 0.1475 | 0.0000 | 5,795.0942 | 5,795.0942 | 0.2083 | | 5,800.3007 |
| **Total** | **2.3940** | **13.7806** | **32.2369** | **0.0619** | | **0.1475** | **0.1475** | | **0.1475** | **0.1475** | **0.0000** | **5,795.0942** | **5,795.0942** | **0.2083** | | **5,800.3007** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9808 | 45.8545 | 14.5031 | 0.1667 | 6.7827 | 0.2276 | 7.0103 | 1.9517 | 0.2177 | 2.1694 | | 17,906.1323 | 17,906.1323 | 0.4406 | 2.6785 | 18,715.3423 |
| Worker | 5.4443 | 3.3026 | 57.7677 | 0.1920 | 33.2502 | 0.0669 | 33.3170 | 8.8199 | 0.0615 | 8.8814 | | 21,653.8258 | 21,653.8258 | 0.3157 | 0.5177 | 21,815.9957 |
| **Total** | **6.4251** | **49.1571** | **72.2708** | **0.3586** | **40.0329** | **0.2945** | **40.3274** | **10.7716** | **0.2792** | **11.0509** | | **39,559.9581** | **39,559.9581** | **0.7563** | **3.1962** | **40,531.3380** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2043

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.3940 | 13.7806 | 32.2369 | 0.0619 | | 0.1475 | 0.1475 | | 0.1475 | 0.1475 | | 5,795.0942 | 5,795.0942 | 0.2083 | | 5,800.3007 |
| **Total** | **2.3940** | **13.7806** | **32.2369** | **0.0619** | | **0.1475** | **0.1475** | | **0.1475** | **0.1475** | | **5,795.0942** | **5,795.0942** | **0.2083** | | **5,800.3007** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9808 | 45.8545 | 14.5031 | 0.1667 | 6.7827 | 0.2276 | 7.0103 | 1.9517 | 0.2177 | 2.1694 | | 17,906.1323 | 17,906.1323 | 0.4406 | 2.6785 | 18,715.3423 |
| Worker | 5.4443 | 3.3026 | 57.7677 | 0.1920 | 33.2502 | 0.0669 | 33.3170 | 8.8199 | 0.0615 | 8.8814 | | 21,653.8258 | 21,653.8258 | 0.3157 | 0.5177 | 21,815.9957 |
| **Total** | **6.4251** | **49.1571** | **72.2708** | **0.3586** | **40.0329** | **0.2945** | **40.3274** | **10.7716** | **0.2792** | **11.0509** | | **39,559.9581** | **39,559.9581** | **0.7563** | **3.1962** | **40,531.3380** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2043

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.3940 | 13.7806 | 32.2369 | 0.0619 | | 0.1475 | 0.1475 | | 0.1475 | 0.1475 | 0.0000 | 5,795.0942 | 5,795.0942 | 0.2083 | | 5,800.3007 |
| **Total** | **2.3940** | **13.7806** | **32.2369** | **0.0619** | | **0.1475** | **0.1475** | | **0.1475** | **0.1475** | **0.0000** | **5,795.0942** | **5,795.0942** | **0.2083** | | **5,800.3007** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9808 | 45.8545 | 14.5031 | 0.1667 | 6.7827 | 0.2276 | 7.0103 | 1.9517 | 0.2177 | 2.1694 | | 17,906.1323 | 17,906.1323 | 0.4406 | 2.6785 | 18,715.3423 |
| Worker | 5.4443 | 3.3026 | 57.7677 | 0.1920 | 33.2502 | 0.0669 | 33.3170 | 8.8199 | 0.0615 | 8.8814 | | 21,653.8258 | 21,653.8258 | 0.3157 | 0.5177 | 21,815.9957 |
| **Total** | **6.4251** | **49.1571** | **72.2708** | **0.3586** | **40.0329** | **0.2945** | **40.3274** | **10.7716** | **0.2792** | **11.0509** | | **39,559.9581** | **39,559.9581** | **0.7563** | **3.1962** | **40,531.3380** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2044

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.3940 | 13.7806 | 32.2369 | 0.0619 | | 0.1475 | 0.1475 | | 0.1475 | 0.1475 | | 5,795.0942 | 5,795.0942 | 0.2083 | | 5,800.3007 |
| **Total** | **2.3940** | **13.7806** | **32.2369** | **0.0619** | | **0.1475** | **0.1475** | | **0.1475** | **0.1475** | | **5,795.0942** | **5,795.0942** | **0.2083** | | **5,800.3007** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9808 | 45.8545 | 14.5031 | 0.1667 | 6.7827 | 0.2276 | 7.0103 | 1.9517 | 0.2177 | 2.1694 | | 17,906.1323 | 17,906.1323 | 0.4406 | 2.6785 | 18,715.3423 |
| Worker | 5.4443 | 3.3026 | 57.7677 | 0.1920 | 33.2502 | 0.0669 | 33.3170 | 8.8199 | 0.0615 | 8.8814 | | 21,653.8258 | 21,653.8258 | 0.3157 | 0.5177 | 21,815.9957 |
| **Total** | **6.4251** | **49.1571** | **72.2708** | **0.3586** | **40.0329** | **0.2945** | **40.3274** | **10.7716** | **0.2792** | **11.0509** | | **39,559.9581** | **39,559.9581** | **0.7563** | **3.1962** | **40,531.3380** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Building Construction - 2044

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.3940 | 13.7806 | 32.2369 | 0.0619 | | 0.1475 | 0.1475 | | 0.1475 | 0.1475 | 0.0000 | 5,795.0942 | 5,795.0942 | 0.2083 | | 5,800.3007 |
| **Total** | **2.3940** | **13.7806** | **32.2369** | **0.0619** | | **0.1475** | **0.1475** | | **0.1475** | **0.1475** | **0.0000** | **5,795.0942** | **5,795.0942** | **0.2083** | | **5,800.3007** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.9808 | 45.8545 | 14.5031 | 0.1667 | 6.7827 | 0.2276 | 7.0103 | 1.9517 | 0.2177 | 2.1694 | | 17,906.1323 | 17,906.1323 | 0.4406 | 2.6785 | 18,715.3423 |
| Worker | 5.4443 | 3.3026 | 57.7677 | 0.1920 | 33.2502 | 0.0669 | 33.3170 | 8.8199 | 0.0615 | 8.8814 | | 21,653.8258 | 21,653.8258 | 0.3157 | 0.5177 | 21,815.9957 |
| **Total** | **6.4251** | **49.1571** | **72.2708** | **0.3586** | **40.0329** | **0.2945** | **40.3274** | **10.7716** | **0.2792** | **11.0509** | | **39,559.9581** | **39,559.9581** | **0.7563** | **3.1962** | **40,531.3380** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2032

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2615 | 1.7126 | 3.5955 | 5.9400e-003 | | 0.0406 | 0.0406 | | 0.0406 | 0.0406 | | 562.8961 | 562.8961 | 0.0228 | | 563.4656 |
| **Total** | **40.8064** | **1.7126** | **3.5955** | **5.9400e-003** | | **0.0406** | **0.0406** | | **0.0406** | **0.0406** | | **562.8961** | **562.8961** | **0.0228** | | **563.4656** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.5452 | 0.8194 | 13.3906 | 0.0421 | 6.6485 | 0.0203 | 6.6689 | 1.7636 | 0.0187 | 1.7823 | | 4,610.8879 | 4,610.8879 | 0.0943 | 0.1138 | 4,647.1554 |
| **Total** | **1.5452** | **0.8194** | **13.3906** | **0.0421** | **6.6485** | **0.0203** | **6.6689** | **1.7636** | **0.0187** | **1.7823** | | **4,610.8879** | **4,610.8879** | **0.0943** | **0.1138** | **4,647.1554** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2032

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2615 | 1.7126 | 3.5955 | 5.9400e-003 | | 0.0406 | 0.0406 | | 0.0406 | 0.0406 | 0.0000 | 562.8961 | 562.8961 | 0.0228 | | 563.4656 |
| **Total** | **40.8064** | **1.7126** | **3.5955** | **5.9400e-003** | | **0.0406** | **0.0406** | | **0.0406** | **0.0406** | **0.0000** | **562.8961** | **562.8961** | **0.0228** | | **563.4656** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.5452 | 0.8194 | 13.3906 | 0.0421 | 6.6485 | 0.0203 | 6.6689 | 1.7636 | 0.0187 | 1.7823 | | 4,610.8879 | 4,610.8879 | 0.0943 | 0.1138 | 4,647.1554 |
| **Total** | **1.5452** | **0.8194** | **13.3906** | **0.0421** | **6.6485** | **0.0203** | **6.6689** | **1.7636** | **0.0187** | **1.7823** | | **4,610.8879** | **4,610.8879** | **0.0943** | **0.1138** | **4,647.1554** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2033

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2615 | 1.7126 | 3.5955 | 5.9400e-003 | | 0.0406 | 0.0406 | | 0.0406 | 0.0406 | | 562.8961 | 562.8961 | 0.0228 | | 563.4656 |
| **Total** | **40.8064** | **1.7126** | **3.5955** | **5.9400e-003** | | **0.0406** | **0.0406** | | **0.0406** | **0.0406** | | **562.8961** | **562.8961** | **0.0228** | | **563.4656** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.4680 | 0.7834 | 13.0388 | 0.0414 | 6.6485 | 0.0191 | 6.6676 | 1.7636 | 0.0176 | 1.7812 | | 4,555.0501 | 4,555.0501 | 0.0886 | 0.1114 | 4,590.4623 |
| **Total** | **1.4680** | **0.7834** | **13.0388** | **0.0414** | **6.6485** | **0.0191** | **6.6676** | **1.7636** | **0.0176** | **1.7812** | | **4,555.0501** | **4,555.0501** | **0.0886** | **0.1114** | **4,590.4623** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2033

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2615 | 1.7126 | 3.5955 | 5.9400e-003 | | 0.0406 | 0.0406 | | 0.0406 | 0.0406 | 0.0000 | 562.8961 | 562.8961 | 0.0228 | | 563.4656 |
| **Total** | **40.8064** | **1.7126** | **3.5955** | **5.9400e-003** | | **0.0406** | **0.0406** | | **0.0406** | **0.0406** | **0.0000** | **562.8961** | **562.8961** | **0.0228** | | **563.4656** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.4680 | 0.7834 | 13.0388 | 0.0414 | 6.6485 | 0.0191 | 6.6676 | 1.7636 | 0.0176 | 1.7812 | | 4,555.0501 | 4,555.0501 | 0.0886 | 0.1114 | 4,590.4623 |
| **Total** | **1.4680** | **0.7834** | **13.0388** | **0.0414** | **6.6485** | **0.0191** | **6.6676** | **1.7636** | **0.0176** | **1.7812** | | **4,555.0501** | **4,555.0501** | **0.0886** | **0.1114** | **4,590.4623** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2034

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2615 | 1.7126 | 3.5955 | 5.9400e-003 | | 0.0406 | 0.0406 | | 0.0406 | 0.0406 | | 562.8961 | 562.8961 | 0.0228 | | 563.4656 |
| **Total** | **40.8064** | **1.7126** | **3.5955** | **5.9400e-003** | | **0.0406** | **0.0406** | | **0.0406** | **0.0406** | | **562.8961** | **562.8961** | **0.0228** | | **563.4656** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3982 | 0.7535 | 12.7256 | 0.0408 | 6.6485 | 0.0180 | 6.6665 | 1.7636 | 0.0165 | 1.7801 | | 4,506.2727 | 4,506.2727 | 0.0835 | 0.1094 | 4,540.9696 |
| **Total** | **1.3982** | **0.7535** | **12.7256** | **0.0408** | **6.6485** | **0.0180** | **6.6665** | **1.7636** | **0.0165** | **1.7801** | | **4,506.2727** | **4,506.2727** | **0.0835** | **0.1094** | **4,540.9696** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2034

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2615 | 1.7126 | 3.5955 | 5.9400e-003 | | 0.0406 | 0.0406 | | 0.0406 | 0.0406 | 0.0000 | 562.8961 | 562.8961 | 0.0228 | | 563.4656 |
| **Total** | **40.8064** | **1.7126** | **3.5955** | **5.9400e-003** | | **0.0406** | **0.0406** | | **0.0406** | **0.0406** | **0.0000** | **562.8961** | **562.8961** | **0.0228** | | **563.4656** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3982 | 0.7535 | 12.7256 | 0.0408 | 6.6485 | 0.0180 | 6.6665 | 1.7636 | 0.0165 | 1.7801 | | 4,506.2727 | 4,506.2727 | 0.0835 | 0.1094 | 4,540.9696 |
| **Total** | **1.3982** | **0.7535** | **12.7256** | **0.0408** | **6.6485** | **0.0180** | **6.6665** | **1.7636** | **0.0165** | **1.7801** | | **4,506.2727** | **4,506.2727** | **0.0835** | **0.1094** | **4,540.9696** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2035

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2357 | 1.5155 | 3.5886 | 5.9400e-003 | | 0.0198 | 0.0198 | | 0.0198 | 0.0198 | | 562.8961 | 562.8961 | 0.0208 | | 563.4161 |
| **Total** | **40.7806** | **1.5155** | **3.5886** | **5.9400e-003** | | **0.0198** | **0.0198** | | **0.0198** | **0.0198** | | **562.8961** | **562.8961** | **0.0208** | | **563.4161** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3348 | 0.7299 | 12.4569 | 0.0402 | 6.6485 | 0.0169 | 6.6655 | 1.7636 | 0.0156 | 1.7792 | | 4,464.5079 | 4,464.5079 | 0.0790 | 0.1079 | 4,498.6279 |
| **Total** | **1.3348** | **0.7299** | **12.4569** | **0.0402** | **6.6485** | **0.0169** | **6.6655** | **1.7636** | **0.0156** | **1.7792** | | **4,464.5079** | **4,464.5079** | **0.0790** | **0.1079** | **4,498.6279** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2035

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2357 | 1.5155 | 3.5886 | 5.9400e-003 | | 0.0198 | 0.0198 | | 0.0198 | 0.0198 | 0.0000 | 562.8961 | 562.8961 | 0.0208 | | 563.4161 |
| **Total** | **40.7806** | **1.5155** | **3.5886** | **5.9400e-003** | | **0.0198** | **0.0198** | | **0.0198** | **0.0198** | **0.0000** | **562.8961** | **562.8961** | **0.0208** | | **563.4161** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3348 | 0.7299 | 12.4569 | 0.0402 | 6.6485 | 0.0169 | 6.6655 | 1.7636 | 0.0156 | 1.7792 | | 4,464.5079 | 4,464.5079 | 0.0790 | 0.1079 | 4,498.6279 |
| **Total** | **1.3348** | **0.7299** | **12.4569** | **0.0402** | **6.6485** | **0.0169** | **6.6655** | **1.7636** | **0.0156** | **1.7792** | | **4,464.5079** | **4,464.5079** | **0.0790** | **0.1079** | **4,498.6279** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2036

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2357 | 1.5155 | 3.5886 | 5.9400e-003 | | 0.0198 | 0.0198 | | 0.0198 | 0.0198 | | 562.8961 | 562.8961 | 0.0208 | | 563.4161 |
| **Total** | **40.7806** | **1.5155** | **3.5886** | **5.9400e-003** | | **0.0198** | **0.0198** | | **0.0198** | **0.0198** | | **562.8961** | **562.8961** | **0.0208** | | **563.4161** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3348 | 0.7299 | 12.4569 | 0.0402 | 6.6485 | 0.0169 | 6.6655 | 1.7636 | 0.0156 | 1.7792 | | 4,464.5079 | 4,464.5079 | 0.0790 | 0.1079 | 4,498.6279 |
| **Total** | **1.3348** | **0.7299** | **12.4569** | **0.0402** | **6.6485** | **0.0169** | **6.6655** | **1.7636** | **0.0156** | **1.7792** | | **4,464.5079** | **4,464.5079** | **0.0790** | **0.1079** | **4,498.6279** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2036

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2357 | 1.5155 | 3.5886 | 5.9400e-003 | | 0.0198 | 0.0198 | | 0.0198 | 0.0198 | 0.0000 | 562.8961 | 562.8961 | 0.0208 | | 563.4161 |
| **Total** | **40.7806** | **1.5155** | **3.5886** | **5.9400e-003** | | **0.0198** | **0.0198** | | **0.0198** | **0.0198** | **0.0000** | **562.8961** | **562.8961** | **0.0208** | | **563.4161** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3348 | 0.7299 | 12.4569 | 0.0402 | 6.6485 | 0.0169 | 6.6655 | 1.7636 | 0.0156 | 1.7792 | | 4,464.5079 | 4,464.5079 | 0.0790 | 0.1079 | 4,498.6279 |
| **Total** | **1.3348** | **0.7299** | **12.4569** | **0.0402** | **6.6485** | **0.0169** | **6.6655** | **1.7636** | **0.0156** | **1.7792** | | **4,464.5079** | **4,464.5079** | **0.0790** | **0.1079** | **4,498.6279** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2037

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2357 | 1.5155 | 3.5886 | 5.9400e-003 | | 0.0198 | 0.0198 | | 0.0198 | 0.0198 | | 562.8961 | 562.8961 | 0.0208 | | 563.4161 |
| **Total** | **40.7806** | **1.5155** | **3.5886** | **5.9400e-003** | | **0.0198** | **0.0198** | | **0.0198** | **0.0198** | | **562.8961** | **562.8961** | **0.0208** | | **563.4161** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3348 | 0.7299 | 12.4569 | 0.0402 | 6.6485 | 0.0169 | 6.6655 | 1.7636 | 0.0156 | 1.7792 | | 4,464.5079 | 4,464.5079 | 0.0790 | 0.1079 | 4,498.6279 |
| **Total** | **1.3348** | **0.7299** | **12.4569** | **0.0402** | **6.6485** | **0.0169** | **6.6655** | **1.7636** | **0.0156** | **1.7792** | | **4,464.5079** | **4,464.5079** | **0.0790** | **0.1079** | **4,498.6279** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2037

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2357 | 1.5155 | 3.5886 | 5.9400e-003 | | 0.0198 | 0.0198 | | 0.0198 | 0.0198 | 0.0000 | 562.8961 | 562.8961 | 0.0208 | | 563.4161 |
| **Total** | **40.7806** | **1.5155** | **3.5886** | **5.9400e-003** | | **0.0198** | **0.0198** | | **0.0198** | **0.0198** | **0.0000** | **562.8961** | **562.8961** | **0.0208** | | **563.4161** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3348 | 0.7299 | 12.4569 | 0.0402 | 6.6485 | 0.0169 | 6.6655 | 1.7636 | 0.0156 | 1.7792 | | 4,464.5079 | 4,464.5079 | 0.0790 | 0.1079 | 4,498.6279 |
| **Total** | **1.3348** | **0.7299** | **12.4569** | **0.0402** | **6.6485** | **0.0169** | **6.6655** | **1.7636** | **0.0156** | **1.7792** | | **4,464.5079** | **4,464.5079** | **0.0790** | **0.1079** | **4,498.6279** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2038

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2357 | 1.5155 | 3.5886 | 5.9400e-003 | | 0.0198 | 0.0198 | | 0.0198 | 0.0198 | | 562.8961 | 562.8961 | 0.0208 | | 563.4161 |
| **Total** | **40.7806** | **1.5155** | **3.5886** | **5.9400e-003** | | **0.0198** | **0.0198** | | **0.0198** | **0.0198** | | **562.8961** | **562.8961** | **0.0208** | | **563.4161** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3348 | 0.7299 | 12.4569 | 0.0402 | 6.6485 | 0.0169 | 6.6655 | 1.7636 | 0.0156 | 1.7792 | | 4,464.5079 | 4,464.5079 | 0.0790 | 0.1079 | 4,498.6279 |
| **Total** | **1.3348** | **0.7299** | **12.4569** | **0.0402** | **6.6485** | **0.0169** | **6.6655** | **1.7636** | **0.0156** | **1.7792** | | **4,464.5079** | **4,464.5079** | **0.0790** | **0.1079** | **4,498.6279** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2038

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2357 | 1.5155 | 3.5886 | 5.9400e-003 | | 0.0198 | 0.0198 | | 0.0198 | 0.0198 | 0.0000 | 562.8961 | 562.8961 | 0.0208 | | 563.4161 |
| **Total** | **40.7806** | **1.5155** | **3.5886** | **5.9400e-003** | | **0.0198** | **0.0198** | | **0.0198** | **0.0198** | **0.0000** | **562.8961** | **562.8961** | **0.0208** | | **563.4161** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3348 | 0.7299 | 12.4569 | 0.0402 | 6.6485 | 0.0169 | 6.6655 | 1.7636 | 0.0156 | 1.7792 | | 4,464.5079 | 4,464.5079 | 0.0790 | 0.1079 | 4,498.6279 |
| **Total** | **1.3348** | **0.7299** | **12.4569** | **0.0402** | **6.6485** | **0.0169** | **6.6655** | **1.7636** | **0.0156** | **1.7792** | | **4,464.5079** | **4,464.5079** | **0.0790** | **0.1079** | **4,498.6279** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2039

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2357 | 1.5155 | 3.5886 | 5.9400e-003 | | 0.0198 | 0.0198 | | 0.0198 | 0.0198 | | 562.8961 | 562.8961 | 0.0208 | | 563.4161 |
| **Total** | **40.7806** | **1.5155** | **3.5886** | **5.9400e-003** | | **0.0198** | **0.0198** | | **0.0198** | **0.0198** | | **562.8961** | **562.8961** | **0.0208** | | **563.4161** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3348 | 0.7299 | 12.4569 | 0.0402 | 6.6485 | 0.0169 | 6.6655 | 1.7636 | 0.0156 | 1.7792 | | 4,464.5079 | 4,464.5079 | 0.0790 | 0.1079 | 4,498.6279 |
| **Total** | **1.3348** | **0.7299** | **12.4569** | **0.0402** | **6.6485** | **0.0169** | **6.6655** | **1.7636** | **0.0156** | **1.7792** | | **4,464.5079** | **4,464.5079** | **0.0790** | **0.1079** | **4,498.6279** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2039

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2357 | 1.5155 | 3.5886 | 5.9400e-003 | | 0.0198 | 0.0198 | | 0.0198 | 0.0198 | 0.0000 | 562.8961 | 562.8961 | 0.0208 | | 563.4161 |
| **Total** | **40.7806** | **1.5155** | **3.5886** | **5.9400e-003** | | **0.0198** | **0.0198** | | **0.0198** | **0.0198** | **0.0000** | **562.8961** | **562.8961** | **0.0208** | | **563.4161** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.3348 | 0.7299 | 12.4569 | 0.0402 | 6.6485 | 0.0169 | 6.6655 | 1.7636 | 0.0156 | 1.7792 | | 4,464.5079 | 4,464.5079 | 0.0790 | 0.1079 | 4,498.6279 |
| **Total** | **1.3348** | **0.7299** | **12.4569** | **0.0402** | **6.6485** | **0.0169** | **6.6655** | **1.7636** | **0.0156** | **1.7792** | | **4,464.5079** | **4,464.5079** | **0.0790** | **0.1079** | **4,498.6279** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2040

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2298 | 1.4540 | 3.5846 | 5.9400e-003 | | 0.0149 | 0.0149 | | 0.0149 | 0.0149 | | 562.8961 | 562.8961 | 0.0198 | | 563.3913 |
| **Total** | **40.7747** | **1.4540** | **3.5846** | **5.9400e-003** | | **0.0149** | **0.0149** | | **0.0149** | **0.0149** | | **562.8961** | **562.8961** | **0.0198** | | **563.3913** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.0886 | 0.6604 | 11.5509 | 0.0384 | 6.6485 | 0.0134 | 6.6619 | 1.7636 | 0.0123 | 1.7759 | | 4,329.7744 | 4,329.7744 | 0.0631 | 0.1035 | 4,362.2009 |
| **Total** | **1.0886** | **0.6604** | **11.5509** | **0.0384** | **6.6485** | **0.0134** | **6.6619** | **1.7636** | **0.0123** | **1.7759** | | **4,329.7744** | **4,329.7744** | **0.0631** | **0.1035** | **4,362.2009** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2040

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2298 | 1.4540 | 3.5846 | 5.9400e-003 | | 0.0149 | 0.0149 | | 0.0149 | 0.0149 | 0.0000 | 562.8961 | 562.8961 | 0.0198 | | 563.3913 |
| **Total** | **40.7747** | **1.4540** | **3.5846** | **5.9400e-003** | | **0.0149** | **0.0149** | | **0.0149** | **0.0149** | **0.0000** | **562.8961** | **562.8961** | **0.0198** | | **563.3913** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.0886 | 0.6604 | 11.5509 | 0.0384 | 6.6485 | 0.0134 | 6.6619 | 1.7636 | 0.0123 | 1.7759 | | 4,329.7744 | 4,329.7744 | 0.0631 | 0.1035 | 4,362.2009 |
| **Total** | **1.0886** | **0.6604** | **11.5509** | **0.0384** | **6.6485** | **0.0134** | **6.6619** | **1.7636** | **0.0123** | **1.7759** | | **4,329.7744** | **4,329.7744** | **0.0631** | **0.1035** | **4,362.2009** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2041

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2298 | 1.4540 | 3.5846 | 5.9400e-003 | | 0.0149 | 0.0149 | | 0.0149 | 0.0149 | | 562.8961 | 562.8961 | 0.0198 | | 563.3913 |
| **Total** | **40.7747** | **1.4540** | **3.5846** | **5.9400e-003** | | **0.0149** | **0.0149** | | **0.0149** | **0.0149** | | **562.8961** | **562.8961** | **0.0198** | | **563.3913** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.0886 | 0.6604 | 11.5509 | 0.0384 | 6.6485 | 0.0134 | 6.6619 | 1.7636 | 0.0123 | 1.7759 | | 4,329.7744 | 4,329.7744 | 0.0631 | 0.1035 | 4,362.2009 |
| **Total** | **1.0886** | **0.6604** | **11.5509** | **0.0384** | **6.6485** | **0.0134** | **6.6619** | **1.7636** | **0.0123** | **1.7759** | | **4,329.7744** | **4,329.7744** | **0.0631** | **0.1035** | **4,362.2009** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2041

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2298 | 1.4540 | 3.5846 | 5.9400e-003 | | 0.0149 | 0.0149 | | 0.0149 | 0.0149 | 0.0000 | 562.8961 | 562.8961 | 0.0198 | | 563.3913 |
| **Total** | **40.7747** | **1.4540** | **3.5846** | **5.9400e-003** | | **0.0149** | **0.0149** | | **0.0149** | **0.0149** | **0.0000** | **562.8961** | **562.8961** | **0.0198** | | **563.3913** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.0886 | 0.6604 | 11.5509 | 0.0384 | 6.6485 | 0.0134 | 6.6619 | 1.7636 | 0.0123 | 1.7759 | | 4,329.7744 | 4,329.7744 | 0.0631 | 0.1035 | 4,362.2009 |
| **Total** | **1.0886** | **0.6604** | **11.5509** | **0.0384** | **6.6485** | **0.0134** | **6.6619** | **1.7636** | **0.0123** | **1.7759** | | **4,329.7744** | **4,329.7744** | **0.0631** | **0.1035** | **4,362.2009** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2042

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2298 | 1.4540 | 3.5846 | 5.9400e-003 | | 0.0149 | 0.0149 | | 0.0149 | 0.0149 | | 562.8961 | 562.8961 | 0.0198 | | 563.3913 |
| **Total** | **40.7747** | **1.4540** | **3.5846** | **5.9400e-003** | | **0.0149** | **0.0149** | | **0.0149** | **0.0149** | | **562.8961** | **562.8961** | **0.0198** | | **563.3913** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.0886 | 0.6604 | 11.5509 | 0.0384 | 6.6485 | 0.0134 | 6.6619 | 1.7636 | 0.0123 | 1.7759 | | 4,329.7744 | 4,329.7744 | 0.0631 | 0.1035 | 4,362.2009 |
| **Total** | **1.0886** | **0.6604** | **11.5509** | **0.0384** | **6.6485** | **0.0134** | **6.6619** | **1.7636** | **0.0123** | **1.7759** | | **4,329.7744** | **4,329.7744** | **0.0631** | **0.1035** | **4,362.2009** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2042

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2298 | 1.4540 | 3.5846 | 5.9400e-003 | | 0.0149 | 0.0149 | | 0.0149 | 0.0149 | 0.0000 | 562.8961 | 562.8961 | 0.0198 | | 563.3913 |
| **Total** | **40.7747** | **1.4540** | **3.5846** | **5.9400e-003** | | **0.0149** | **0.0149** | | **0.0149** | **0.0149** | **0.0000** | **562.8961** | **562.8961** | **0.0198** | | **563.3913** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.0886 | 0.6604 | 11.5509 | 0.0384 | 6.6485 | 0.0134 | 6.6619 | 1.7636 | 0.0123 | 1.7759 | | 4,329.7744 | 4,329.7744 | 0.0631 | 0.1035 | 4,362.2009 |
| **Total** | **1.0886** | **0.6604** | **11.5509** | **0.0384** | **6.6485** | **0.0134** | **6.6619** | **1.7636** | **0.0123** | **1.7759** | | **4,329.7744** | **4,329.7744** | **0.0631** | **0.1035** | **4,362.2009** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2043

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2298 | 1.4540 | 3.5846 | 5.9400e-003 | | 0.0149 | 0.0149 | | 0.0149 | 0.0149 | | 562.8961 | 562.8961 | 0.0198 | | 563.3913 |
| **Total** | **40.7747** | **1.4540** | **3.5846** | **5.9400e-003** | | **0.0149** | **0.0149** | | **0.0149** | **0.0149** | | **562.8961** | **562.8961** | **0.0198** | | **563.3913** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.0886 | 0.6604 | 11.5509 | 0.0384 | 6.6485 | 0.0134 | 6.6619 | 1.7636 | 0.0123 | 1.7759 | | 4,329.7744 | 4,329.7744 | 0.0631 | 0.1035 | 4,362.2009 |
| **Total** | **1.0886** | **0.6604** | **11.5509** | **0.0384** | **6.6485** | **0.0134** | **6.6619** | **1.7636** | **0.0123** | **1.7759** | | **4,329.7744** | **4,329.7744** | **0.0631** | **0.1035** | **4,362.2009** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2043

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2298 | 1.4540 | 3.5846 | 5.9400e-003 | | 0.0149 | 0.0149 | | 0.0149 | 0.0149 | 0.0000 | 562.8961 | 562.8961 | 0.0198 | | 563.3913 |
| **Total** | **40.7747** | **1.4540** | **3.5846** | **5.9400e-003** | | **0.0149** | **0.0149** | | **0.0149** | **0.0149** | **0.0000** | **562.8961** | **562.8961** | **0.0198** | | **563.3913** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.0886 | 0.6604 | 11.5509 | 0.0384 | 6.6485 | 0.0134 | 6.6619 | 1.7636 | 0.0123 | 1.7759 | | 4,329.7744 | 4,329.7744 | 0.0631 | 0.1035 | 4,362.2009 |
| **Total** | **1.0886** | **0.6604** | **11.5509** | **0.0384** | **6.6485** | **0.0134** | **6.6619** | **1.7636** | **0.0123** | **1.7759** | | **4,329.7744** | **4,329.7744** | **0.0631** | **0.1035** | **4,362.2009** |

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2044

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2298 | 1.4540 | 3.5846 | 5.9400e-003 | | 0.0149 | 0.0149 | | 0.0149 | 0.0149 | | 562.8961 | 562.8961 | 0.0198 | | 563.3913 |
| **Total** | **40.7747** | **1.4540** | **3.5846** | **5.9400e-003** | | **0.0149** | **0.0149** | | **0.0149** | **0.0149** | | **562.8961** | **562.8961** | **0.0198** | | **563.3913** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.0886 | 0.6604 | 11.5509 | 0.0384 | 6.6485 | 0.0134 | 6.6619 | 1.7636 | 0.0123 | 1.7759 | | 4,329.7744 | 4,329.7744 | 0.0631 | 0.1035 | 4,362.2009 |
| **Total** | **1.0886** | **0.6604** | **11.5509** | **0.0384** | **6.6485** | **0.0134** | **6.6619** | **1.7636** | **0.0123** | **1.7759** | | **4,329.7744** | **4,329.7744** | **0.0631** | **0.1035** | **4,362.2009** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.6 Arch Coating - 2044

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 40.5449 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2298 | 1.4540 | 3.5846 | 5.9400e-003 | | 0.0149 | 0.0149 | | 0.0149 | 0.0149 | 0.0000 | 562.8961 | 562.8961 | 0.0198 | | 563.3913 |
| **Total** | **40.7747** | **1.4540** | **3.5846** | **5.9400e-003** | | **0.0149** | **0.0149** | | **0.0149** | **0.0149** | **0.0000** | **562.8961** | **562.8961** | **0.0198** | | **563.3913** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.0886 | 0.6604 | 11.5509 | 0.0384 | 6.6485 | 0.0134 | 6.6619 | 1.7636 | 0.0123 | 1.7759 | | 4,329.7744 | 4,329.7744 | 0.0631 | 0.1035 | 4,362.2009 |
| **Total** | **1.0886** | **0.6604** | **11.5509** | **0.0384** | **6.6485** | **0.0134** | **6.6619** | **1.7636** | **0.0123** | **1.7759** | | **4,329.7744** | **4,329.7744** | **0.0631** | **0.1035** | **4,362.2009** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 151.8293 | 194.7474 | 1,721.7971 | 3.0440 | 460.5517 | 1.5369 | 462.0886 | 122.6142 | 1.4371 | 124.0513 | | 341,973.5506 | 341,973.5506 | 25.1980 | 18.2264 | 348,034.9667 |
| Unmitigated | 151.8293 | 194.7474 | 1,721.7971 | 3.0440 | 460.5517 | 1.5369 | 462.0886 | 122.6142 | 1.4371 | 124.0513 | | 341,973.5506 | 341,973.5506 | 25.1980 | 18.2264 | 348,034.9667 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments Mid Rise | 15,531.20 | 14,018.05 | 11676.95 | 37,887,133 | 37,887,133 |
| Arena | 771.12 | 771.12 | 771.12 | 1,084,591 | 1,084,591 |
| Fast Food Restaurant with Drive Thru | 11,302.80 | 14,786.88 | 11341.92 | 8,155,601 | 8,155,601 |
| General Office Building | 3,126.54 | 709.41 | 224.70 | 4,887,455 | 4,887,455 |
| Government Office Building | 1,671.66 | 0.00 | 0.00 | 1,716,849 | 1,716,849 |
| Health Club | 2,140.45 | 1,356.55 | 1737.45 | 2,722,032 | 2,722,032 |
| High School | 3,045.00 | 870.00 | 375.00 | 6,128,331 | 6,128,331 |
| High Turnover (Sit Down Restaurant) | 11,666.72 | 12,729.60 | 14834.56 | 10,904,068 | 10,904,068 |
| Hotel | 3,427.60 | 3,357.90 | 2439.50 | 5,040,249 | 5,040,249 |
| Hotel | 3,427.60 | 3,357.90 | 2439.50 | 5,040,249 | 5,040,249 |
| Junior College (2yr) | 2,875.00 | 1,050.00 | 100.00 | 4,083,979 | 4,083,979 |
| Junior High School | 4,579.50 | 0.00 | 0.00 | 7,200,145 | 7,200,145 |
| Medical Office Building | 1,447.68 | 356.51 | 59.07 | 1,821,430 | 1,821,430 |
| Regional Shopping Center | 9,248.75 | 11,299.40 | 5169.50 | 12,518,386 | 12,518,386 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Single Family Housing | 31,152.00 | 31,482.00 | 28215.00 | 78,983,735 | 78,983,735 |
| Supermarket | 6,940.70 | 11,545.30 | 10820.55 | 7,015,866 | 7,015,866 |
| Total | 112,354.32 | 107,690.62 | 90,204.82 | 195,190,100 | 195,190,100 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments Mid Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Arena | 10.00 | 5.00 | 6.50 | 0.00 | 81.00 | 19.00 | 66 | 28 | 6 |
| Fast Food Restaurant with Drive | 10.00 | 5.00 | 6.50 | 2.20 | 78.80 | 19.00 | 29 | 21 | 50 |
| General Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 77 | 19 | 4 |
| Government Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 62.00 | 5.00 | 50 | 34 | 16 |
| Health Club | 10.00 | 5.00 | 6.50 | 16.90 | 64.10 | 19.00 | 52 | 39 | 9 |
| High School | 10.00 | 5.00 | 6.50 | 77.80 | 17.20 | 5.00 | 75 | 19 | 6 |
| High Turnover (Sit Down | 10.00 | 5.00 | 6.50 | 8.50 | 72.50 | 19.00 | 37 | 20 | 43 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Junior College (2yr) | 10.00 | 5.00 | 6.50 | 6.40 | 88.60 | 5.00 | 92 | 7 | 1 |
| Junior High School | 10.00 | 5.00 | 6.50 | 72.80 | 22.20 | 5.00 | 63 | 25 | 12 |
| Medical Office Building | 10.00 | 5.00 | 6.50 | 29.60 | 51.40 | 19.00 | 60 | 30 | 10 |
| Regional Shopping Center | 10.00 | 5.00 | 6.50 | 16.30 | 64.70 | 19.00 | 54 | 35 | 11 |
| Single Family Housing | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Supermarket | 10.00 | 5.00 | 6.50 | 6.50 | 74.50 | 19.00 | 34 | 30 | 36 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apartments Mid Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Arena | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Fast Food Restaurant with Drive Thru | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| General Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Government Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Health Club | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High Turnover (Sit Down Restaurant) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Hotel | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Junior College (2yr) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Junior High School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Medical Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Regional Shopping Center | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Single Family Housing | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Supermarket | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 5.8764 | 51.7300 | 32.4698 | 0.3205 | | 4.0600 | 4.0600 | | 4.0600 | 4.0600 | | 64,105.8042 | 64,105.8042 | 1.2287 | 1.1753 | 64,486.7529 |
| NaturalGas Unmitigated | 5.8764 | 51.7300 | 32.4698 | 0.3205 | | 4.0600 | 4.0600 | | 4.0600 | 4.0600 | | 64,105.8042 | 64,105.8042 | 1.2287 | 1.1753 | 64,486.7529 |

### 5.2 Energy by Land Use - NaturalGas

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments Mid Rise | 73653 | 0.7943 | 6.7876 | 2.8884 | 0.0433 | | 0.5488 | 0.5488 | | 0.5488 | 0.5488 | | 8,665.0561 | 8,665.0561 | 0.1661 | 0.1589 | 8,716.5482 |
| Arena | 7016.55 | 0.0757 | 0.6879 | 0.5778 | 4.1300e-003 | | 0.0523 | 0.0523 | | 0.0523 | 0.0523 | | 825.4762 | 825.4762 | 0.0158 | 0.0151 | 830.3816 |
| Fast Food Restaurant with Drive Thru | 11645.6 | 0.1256 | 1.1417 | 0.9591 | 6.8500e-003 | | 0.0868 | 0.0868 | | 0.0868 | 0.0868 | | 1,370.0693 | 1,370.0693 | 0.0263 | 0.0251 | 1,378.2109 |
| General Office Building | 11415.3 | 0.1231 | 1.1192 | 0.9401 | 6.7100e-003 | | 0.0851 | 0.0851 | | 0.0851 | 0.0851 | | 1,342.9750 | 1,342.9750 | 0.0257 | 0.0246 | 1,350.9557 |
| Government Office Building | 2631.56 | 0.0284 | 0.2580 | 0.2167 | 1.5500e-003 | | 0.0196 | 0.0196 | | 0.0196 | 0.0196 | | 309.5955 | 309.5955 | 5.9300e-003 | 5.6800e-003 | 311.4353 |
| Health Club | 6334.38 | 0.0683 | 0.6210 | 0.5217 | 3.7300e-003 | | 0.0472 | 0.0472 | | 0.0472 | 0.0472 | | 745.2216 | 745.2216 | 0.0143 | 0.0137 | 749.6501 |
| High School | 8243.15 | 0.0889 | 0.8082 | 0.6789 | 4.8500e-003 | | 0.0614 | 0.0614 | | 0.0614 | 0.0614 | | 969.7828 | 969.7828 | 0.0186 | 0.0178 | 975.5457 |
| High Turnover (Sit Down Restaurant) | 50464.2 | 0.5442 | 4.9475 | 4.1559 | 0.0297 | | 0.3760 | 0.3760 | | 0.3760 | 0.3760 | | 5,936.9670 | 5,936.9670 | 0.1138 | 0.1088 | 5,972.2474 |
| Hotel | 62370 | 1.3452 | 12.2294 | 10.2727 | 0.0734 | | 0.9294 | 0.9294 | | 0.9294 | 0.9294 | | 14,675.2856 | 14,675.2856 | 0.2813 | 0.2691 | 14,762.4935 |
| Junior College (2yr) | 14805 | 0.1597 | 1.4515 | 1.2192 | 8.7100e-003 | | 0.1103 | 0.1103 | | 0.1103 | 0.1103 | | 1,741.7695 | 1,741.7695 | 0.0334 | 0.0319 | 1,752.1200 |
| Junior High School | 10470.4 | 0.1129 | 1.0265 | 0.8623 | 6.1600e-003 | | 0.0780 | 0.0780 | | 0.0780 | 0.0780 | | 1,231.8115 | 1,231.8115 | 0.0236 | 0.0226 | 1,239.1316 |
| Medical Office Building | 1479.36 | 0.0160 | 0.1450 | 0.1218 | 8.7000e-004 | | 0.0110 | 0.0110 | | 0.0110 | 0.0110 | | 174.0429 | 174.0429 | 3.3400e-003 | 3.1900e-003 | 175.0771 |
| Regional Shopping Center | 3604.52 | 0.0389 | 0.3534 | 0.2968 | 2.1200e-003 | | 0.0269 | 0.0269 | | 0.0269 | 0.0269 | | 424.0612 | 424.0612 | 8.1300e-003 | 7.7700e-003 | 426.5812 |
| Single Family Housing | 213902 | 2.3068 | 19.7125 | 8.3883 | 0.1258 | | 1.5938 | 1.5938 | | 1.5938 | 1.5938 | | 25,164.8906 | 25,164.8906 | 0.4823 | 0.4614 | 25,314.4329 |
| Supermarket | 4494.79 | 0.0485 | 0.4407 | 0.3702 | 2.6400e-003 | | 0.0335 | 0.0335 | | 0.0335 | 0.0335 | | 528.7994 | 528.7994 | 0.0101 | 9.6900e-003 | 531.9418 |
| **Total** | | **5.8764** | **51.7300** | **32.4698** | **0.3205** | | **4.0600** | **4.0600** | | **4.0600** | **4.0600** | | **64,105.8042** | **64,105.8042** | **1.2287** | **1.1753** | **64,486.7529** |

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

UWSP - Construction of Non-Phase I - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments Mid Rise | 73.653 | 0.7943 | 6.7876 | 2.8884 | 0.0433 | | 0.5488 | 0.5488 | | 0.5488 | 0.5488 | | 8,665.0561 | 8,665.0561 | 0.1661 | 0.1589 | 8,716.5482 |
| Arena | 7.01655 | 0.0757 | 0.6879 | 0.5778 | 4.1300e-003 | | 0.0523 | 0.0523 | | 0.0523 | 0.0523 | | 825.4762 | 825.4762 | 0.0158 | 0.0151 | 830.3816 |
| Fast Food Restaurant with Drive Thru | 11.6456 | 0.1256 | 1.1417 | 0.9591 | 6.8500e-003 | | 0.0868 | 0.0868 | | 0.0868 | 0.0868 | | 1,370.0693 | 1,370.0693 | 0.0263 | 0.0251 | 1,378.2109 |
| General Office Building | 11.4153 | 0.1231 | 1.1192 | 0.9401 | 6.7100e-003 | | 0.0851 | 0.0851 | | 0.0851 | 0.0851 | | 1,342.9750 | 1,342.9750 | 0.0257 | 0.0246 | 1,350.9557 |
| Government Office Building | 2.63156 | 0.0284 | 0.2580 | 0.2167 | 1.5500e-003 | | 0.0196 | 0.0196 | | 0.0196 | 0.0196 | | 309.5955 | 309.5955 | 5.9300e-003 | 5.6800e-003 | 311.4353 |
| Health Club | 6.33438 | 0.0683 | 0.6210 | 0.5217 | 3.7300e-003 | | 0.0472 | 0.0472 | | 0.0472 | 0.0472 | | 745.2216 | 745.2216 | 0.0143 | 0.0137 | 749.6501 |
| High School | 8.24315 | 0.0889 | 0.8082 | 0.6789 | 4.8500e-003 | | 0.0614 | 0.0614 | | 0.0614 | 0.0614 | | 969.7828 | 969.7828 | 0.0186 | 0.0178 | 975.5457 |
| High Turnover (Sit Down Restaurant) | 50.4642 | 0.5442 | 4.9475 | 4.1559 | 0.0297 | | 0.3760 | 0.3760 | | 0.3760 | 0.3760 | | 5,936.9670 | 5,936.9670 | 0.1138 | 0.1088 | 5,972.2474 |
| Hotel | 62.37 | 1.3452 | 12.2294 | 10.2727 | 0.0734 | | 0.9294 | 0.9294 | | 0.9294 | 0.9294 | | 14,675.2856 | 14,675.2856 | 0.2813 | 0.2691 | 14,762.4935 |
| Junior College (2yr) | 14.805 | 0.1597 | 1.4515 | 1.2192 | 8.7100e-003 | | 0.1103 | 0.1103 | | 0.1103 | 0.1103 | | 1,741.7695 | 1,741.7695 | 0.0334 | 0.0319 | 1,752.1200 |
| Junior High School | 10.4704 | 0.1129 | 1.0265 | 0.8623 | 6.1600e-003 | | 0.0780 | 0.0780 | | 0.0780 | 0.0780 | | 1,231.8115 | 1,231.8115 | 0.0236 | 0.0226 | 1,239.1316 |
| Medical Office Building | 1.47936 | 0.0160 | 0.1450 | 0.1218 | 8.7000e-004 | | 0.0110 | 0.0110 | | 0.0110 | 0.0110 | | 174.0429 | 174.0429 | 3.3400e-003 | 3.1900e-003 | 175.0771 |
| Regional Shopping Center | 3.60452 | 0.0389 | 0.3534 | 0.2968 | 2.1200e-003 | | 0.0269 | 0.0269 | | 0.0269 | 0.0269 | | 424.0612 | 424.0612 | 8.1300e-003 | 7.7700e-003 | 426.5812 |
| Single Family Housing | 213.902 | 2.3068 | 19.7125 | 8.3883 | 0.1258 | | 1.5938 | 1.5938 | | 1.5938 | 1.5938 | | 25,164.8906 | 25,164.8906 | 0.4823 | 0.4614 | 25,314.4329 |
| Supermarket | 4.49479 | 0.0485 | 0.4407 | 0.3702 | 2.6400e-003 | | 0.0335 | 0.0335 | | 0.0335 | 0.0335 | | 528.7994 | 528.7994 | 0.0101 | 9.6900e-003 | 531.9418 |
| **Total** | | **5.8764** | **51.7300** | **32.4698** | **0.3205** | | **4.0600** | **4.0600** | | **4.0600** | **4.0600** | | **64,105.8042** | **64,105.8042** | **1.2287** | **1.1753** | **64,486.7529** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 302.0782 | 5.8428 | 506.3743 | 0.0269 | | 2.8189 | 2.8189 | | 2.8189 | 2.8189 | 0.0000 | 916.0862 | 916.0862 | 0.8748 | 0.0000 | 937.9563 |
| Unmitigated | 302.0782 | 5.8428 | 506.3743 | 0.0269 | | 2.8189 | 2.8189 | | 2.8189 | 2.8189 | 0.0000 | 916.0862 | 916.0862 | 0.8748 | 0.0000 | 937.9563 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 37.4235 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 249.4596 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 15.1951 | 5.8428 | 506.3743 | 0.0269 | | 2.8189 | 2.8189 | | 2.8189 | 2.8189 | | 916.0862 | 916.0862 | 0.8748 | | 937.9563 |
| **Total** | **302.0782** | **5.8428** | **506.3743** | **0.0269** | | **2.8189** | **2.8189** | | **2.8189** | **2.8189** | **0.0000** | **916.0862** | **916.0862** | **0.8748** | **0.0000** | **937.9563** |

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 37.4235 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 249.4596 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 15.1951 | 5.8428 | 506.3743 | 0.0269 | | 2.8189 | 2.8189 | | 2.8189 | 2.8189 | | 916.0862 | 916.0862 | 0.8748 | | 937.9563 |
| **Total** | **302.0782** | **5.8428** | **506.3743** | **0.0269** | | **2.8189** | **2.8189** | | **2.8189** | **2.8189** | **0.0000** | **916.0862** | **916.0862** | **0.8748** | **0.0000** | **937.9563** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

Apply Water Conservation Strategy

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

# UWSP - Construction of Non-Phase I

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Sacramento Metropolitan AQMD Air District, Mitigation Report**

## Construction Mitigation Summary

| Phase | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Arch Coating | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Building Construction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Grading | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Site Preparation | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## OFFROAD Equipment Mitigation

# UWSP - Construction of Non-Phase I

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Equipment Type | Fuel Type | Tier | Number Mitigated | Total Number of Equipment | DPF | Oxidation Catalyst |
|---|---|---|---|---|---|---|
| Air Compressors | Diesel | No Change | 0 | 2 | No Change | 0.00 |
| Cranes | Diesel | No Change | 0 | 2 | No Change | 0.00 |
| Excavators | Diesel | No Change | 0 | 2 | No Change | 0.00 |
| Forklifts | Diesel | No Change | 0 | 6 | No Change | 0.00 |
| Generator Sets | Diesel | No Change | 0 | 2 | No Change | 0.00 |
| Graders | Diesel | No Change | 0 | 2 | No Change | 0.00 |
| Pavers | Diesel | No Change | 0 | 2 | No Change | 0.00 |
| Paving Equipment | Diesel | No Change | 0 | 2 | No Change | 0.00 |
| Rollers | Diesel | No Change | 0 | 2 | No Change | 0.00 |
| Rubber Tired Dozers | Diesel | No Change | 0 | 4 | No Change | 0.00 |
| Scrapers | Diesel | No Change | 0 | 29 | No Change | 0.00 |
| Tractors/Loaders/Backhoes | Diesel | No Change | 0 | 12 | No Change | 0.00 |
| Welders | Diesel | No Change | 0 | 2 | No Change | 0.00 |

# UWSP - Construction of Non-Phase I

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Unmitigated tons/yr | | | | | | Unmitigated mt/yr | | | | | |
| Air Compressors | 4.03340E-001 | 2.59036E+000 | 6.04509E+000 | 1.00100E-002 | 3.83200E-002 | 3.83200E-002 | 0.00000E+000 | 8.60191E+002 | 8.60191E+002 | 3.19100E-002 | 0.00000E+000 | 8.60989E+002 |
| Cranes | 7.13710E-001 | 1.68946E+000 | 3.98557E+000 | 2.09000E-002 | 5.83300E-002 | 5.83300E-002 | 0.00000E+000 | 1.79563E+003 | 1.79563E+003 | 5.71700E-002 | 0.00000E+000 | 1.79706E+003 |
| Excavators | 2.70700E-002 | 6.67100E-002 | 4.27210E-001 | 7.60000E-004 | 2.92000E-003 | 2.92000E-003 | 0.00000E+000 | 6.55117E+001 | 6.55117E+001 | 2.19000E-003 | 0.00000E+000 | 6.55665E+001 |
| Forklifts | 8.79730E-001 | 4.78356E+000 | 1.20334E+001 | 1.90400E-002 | 5.45000E-002 | 5.45000E-002 | 0.00000E+000 | 1.63583E+003 | 1.63583E+003 | 6.97600E-002 | 0.00000E+000 | 1.63758E+003 |
| Generator Sets | 5.89710E-001 | 5.46519E+000 | 1.22279E+001 | 2.21600E-002 | 6.91500E-002 | 6.91500E-002 | 0.00000E+000 | 1.90418E+003 | 1.90418E+003 | 4.72200E-002 | 0.00000E+000 | 1.90536E+003 |
| Graders | 3.50500E-002 | 1.10990E-001 | 1.86280E-001 | 9.70000E-004 | 3.89000E-003 | 3.89000E-003 | 0.00000E+000 | 8.36573E+001 | 8.36573E+001 | 2.80000E-003 | 0.00000E+000 | 8.37272E+001 |
| Pavers | 3.46700E-002 | 1.64670E-001 | 3.84340E-001 | 6.90000E-004 | 8.55000E-003 | 8.55000E-003 | 0.00000E+000 | 5.95759E+001 | 5.95759E+001 | 2.83000E-003 | 0.00000E+000 | 5.96467E+001 |
| Paving Equipment | 2.91700E-002 | 1.37080E-001 | 3.32490E-001 | 6.00000E-004 | 7.04000E-003 | 7.04000E-003 | 0.00000E+000 | 5.18507E+001 | 5.18507E+001 | 2.37000E-003 | 0.00000E+000 | 5.19100E+001 |
| Rollers | 1.92400E-002 | 1.25460E-001 | 2.34130E-001 | 3.90000E-004 | 4.25000E-003 | 4.25000E-003 | 0.00000E+000 | 3.31705E+001 | 3.31705E+001 | 1.58000E-003 | 0.00000E+000 | 3.32099E+001 |
| Rubber Tired Dozers | 1.40100E-001 | 7.64480E-001 | 5.52870E-001 | 2.51000E-003 | 2.88600E-002 | 2.88600E-002 | 0.00000E+000 | 2.15608E+002 | 2.15608E+002 | 1.13800E-002 | 0.00000E+000 | 2.15893E+002 |
| Scrapers | 1.40017E+000 | 5.71420E+000 | 6.40077E+000 | 2.70300E-002 | 2.16240E-001 | 2.16240E-001 | 0.00000E+000 | 2.78711E+003 | 2.78711E+003 | 1.12800E-001 | 0.00000E+000 | 2.78993E+003 |
| Tractors/Loaders/ Backhoes | 1.51622E+000 | 8.94399E+000 | 2.15761E+001 | 3.49500E-002 | 1.23500E-001 | 1.23500E-001 | 0.00000E+000 | 3.00351E+003 | 3.00351E+003 | 1.21040E-001 | 0.00000E+000 | 3.00654E+003 |
| Welders | 5.09940E-001 | 3.88208E+000 | 5.35410E+000 | 8.61000E-003 | 3.04600E-002 | 3.04600E-002 | 0.00000E+000 | 6.34116E+002 | 6.34116E+002 | 4.12200E-002 | 0.00000E+000 | 6.35146E+002 |

# UWSP - Construction of Non-Phase I

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mitigated tons/yr | | | | | | Mitigated mt/yr | | | | | |
| Air Compressors | 4.03340E-001 | 2.59036E+000 | 6.04508E+000 | 1.00100E-002 | 3.83200E-002 | 3.83200E-002 | 0.00000E+000 | 8.60190E+002 | 8.60190E+002 | 3.19100E-002 | 0.00000E+000 | 8.60988E+002 |
| Cranes | 7.13710E-001 | 1.68946E+000 | 3.98556E+000 | 2.09000E-002 | 5.83300E-002 | 5.83300E-002 | 0.00000E+000 | 1.79562E+003 | 1.79562E+003 | 5.71700E-002 | 0.00000E+000 | 1.79705E+003 |
| Excavators | 2.70700E-002 | 6.67100E-002 | 4.27210E-001 | 7.60000E-004 | 2.92000E-003 | 2.92000E-003 | 0.00000E+000 | 6.55116E+001 | 6.55116E+001 | 2.19000E-003 | 0.00000E+000 | 6.55664E+001 |
| Forklifts | 8.79730E-001 | 4.78355E+000 | 1.20334E+001 | 1.90400E-002 | 5.45000E-002 | 5.45000E-002 | 0.00000E+000 | 1.63583E+003 | 1.63583E+003 | 6.97600E-002 | 0.00000E+000 | 1.63758E+003 |
| Generator Sets | 5.89710E-001 | 5.46519E+000 | 1.22278E+001 | 2.21600E-002 | 6.91500E-002 | 6.91500E-002 | 0.00000E+000 | 1.90418E+003 | 1.90418E+003 | 4.72200E-002 | 0.00000E+000 | 1.90536E+003 |
| Graders | 3.50500E-002 | 1.10990E-001 | 1.86280E-001 | 9.70000E-004 | 3.89000E-003 | 3.89000E-003 | 0.00000E+000 | 8.36572E+001 | 8.36572E+001 | 2.80000E-003 | 0.00000E+000 | 8.37271E+001 |
| Pavers | 3.46700E-002 | 1.64670E-001 | 3.84340E-001 | 6.90000E-004 | 8.55000E-003 | 8.55000E-003 | 0.00000E+000 | 5.95759E+001 | 5.95759E+001 | 2.83000E-003 | 0.00000E+000 | 5.96466E+001 |
| Paving Equipment | 2.91700E-002 | 1.37080E-001 | 3.32490E-001 | 6.00000E-004 | 7.04000E-003 | 7.04000E-003 | 0.00000E+000 | 5.18506E+001 | 5.18506E+001 | 2.37000E-003 | 0.00000E+000 | 5.19099E+001 |
| Rollers | 1.92400E-002 | 1.25460E-001 | 2.34130E-001 | 3.90000E-004 | 4.25000E-003 | 4.25000E-003 | 0.00000E+000 | 3.31704E+001 | 3.31704E+001 | 1.58000E-003 | 0.00000E+000 | 3.32098E+001 |
| Rubber Tired Dozers | 1.40100E-001 | 7.64480E-001 | 5.52870E-001 | 2.51000E-003 | 2.88600E-002 | 2.88600E-002 | 0.00000E+000 | 2.15608E+002 | 2.15608E+002 | 1.13800E-002 | 0.00000E+000 | 2.15892E+002 |
| Scrapers | 1.40017E+000 | 5.71420E+000 | 6.40077E+000 | 2.70300E-002 | 2.16240E-001 | 2.16240E-001 | 0.00000E+000 | 2.78710E+003 | 2.78710E+003 | 1.12800E-001 | 0.00000E+000 | 2.78992E+003 |
| Tractors/Loaders/Backhoes | 1.51622E+000 | 8.94398E+000 | 2.15761E+001 | 3.49500E-002 | 1.23500E-001 | 1.23500E-001 | 0.00000E+000 | 3.00351E+003 | 3.00351E+003 | 1.21040E-001 | 0.00000E+000 | 3.00653E+003 |
| Welders | 5.09940E-001 | 3.88208E+000 | 5.35410E+000 | 8.61000E-003 | 3.04600E-002 | 3.04600E-002 | 0.00000E+000 | 6.34115E+002 | 6.34115E+002 | 4.12200E-002 | 0.00000E+000 | 6.35145E+002 |

# UWSP - Construction of Non-Phase I

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Air Compressors | 0.00000E+000 | 0.00000E+000 | 1.65424E-006 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.19741E-006 | 1.19741E-006 | 0.00000E+000 | 0.00000E+000 | 1.18468E-006 |
| Cranes | 0.00000E+000 | 0.00000E+000 | 2.50905E-006 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.19178E-006 | 1.19178E-006 | 0.00000E+000 | 0.00000E+000 | 1.19084E-006 |
| Excavators | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.22116E-006 | 1.22116E-006 | 0.00000E+000 | 0.00000E+000 | 1.22014E-006 |
| Forklifts | 0.00000E+000 | 2.09049E-006 | 8.31021E-007 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.19205E-006 | 1.19205E-006 | 0.00000E+000 | 0.00000E+000 | 1.19078E-006 |
| Generator Sets | 0.00000E+000 | 0.00000E+000 | 8.17805E-007 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.18686E-006 | 1.18686E-006 | 0.00000E+000 | 0.00000E+000 | 1.18612E-006 |
| Graders | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.19535E-006 | 1.19535E-006 | 0.00000E+000 | 0.00000E+000 | 1.19436E-006 |
| Pavers | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.17497E-006 | 1.17497E-006 | 0.00000E+000 | 0.00000E+000 | 1.17358E-006 |
| Paving Equipment | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.15717E-006 | 1.15717E-006 | 0.00000E+000 | 0.00000E+000 | 1.34849E-006 |
| Rollers | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.20589E-006 | 1.20589E-006 | 0.00000E+000 | 0.00000E+000 | 1.20446E-006 |
| Rubber Tired Dozers | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.15951E-006 | 1.15951E-006 | 0.00000E+000 | 0.00000E+000 | 1.20430E-006 |
| Scrapers | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.18761E-006 | 1.18761E-006 | 0.00000E+000 | 0.00000E+000 | 1.19000E-006 |
| Tractors/Loaders/Backhoes | 0.00000E+000 | 1.11807E-006 | 1.39043E-006 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.19194E-006 | 1.19194E-006 | 0.00000E+000 | 0.00000E+000 | 1.18741E-006 |
| Welders | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.18275E-006 | 1.18275E-006 | 0.00000E+000 | 0.00000E+000 | 1.18083E-006 |

## Fugitive Dust Mitigation

| Yes/No | Mitigation Measure | Mitigation Input | | Mitigation Input | | Mitigation Input | |
|---|---|---|---|---|---|---|---|
| No | Soil Stabilizer for unpaved Roads | PM10 Reduction | | PM2.5 Reduction | | | |

# UWSP - Construction of Non-Phase I

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| No | Replace Ground Cover of Area Disturbed | PM10 Reduction | | PM2.5 Reduction | | | |
| No | Water Exposed Area | PM10 Reduction | | PM2.5 Reduction | | Frequency (per day) | |
| No | Unpaved Road Mitigation | Moisture Content % | | Vehicle Speed (mph) | 0.00 | | |
| No | Clean Paved Road | % PM Reduction | 0.00 | | | | |

| | | Unmitigated | | Mitigated | | Percent Reduction | |
|---|---|---|---|---|---|---|---|
| Phase | Source | PM10 | PM2.5 | PM10 | PM2.5 | PM10 | PM2.5 |
| Arch Coating | Fugitive Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Arch Coating | Roads | 10.81 | 2.88 | 10.81 | 2.88 | 0.00 | 0.00 |
| Building Construction | Fugitive Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Building Construction | Roads | 65.18 | 17.59 | 65.18 | 17.59 | 0.00 | 0.00 |
| Grading | Fugitive Dust | 0.55 | 0.22 | 0.55 | 0.22 | 0.00 | 0.00 |
| Grading | Roads | 0.04 | 0.01 | 0.04 | 0.01 | 0.00 | 0.00 |
| Paving | Fugitive Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving | Roads | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Site Preparation | Fugitive Dust | 1.27 | 0.62 | 1.27 | 0.62 | 0.00 | 0.00 |
| Site Preparation | Roads | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |

## Operational Percent Reduction Summary

# UWSP - Construction of Non-Phase I

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Category | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Architectural Coating | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Consumer Products | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hearth | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mobile | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Natural Gas | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water Indoor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.46 | 0.10 | 0.06 |
| Water Outdoor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## Operational Mobile Mitigation

Project Setting: Suburban Center

| Mitigation | Category | Measure | % Reduction | Input Value 1 | Input Value 2 | Input Value 3 |
|---|---|---|---|---|---|---|
| No | Land Use | Increase Density | 0.00 | 0.00 | 0.00 | |
| No | Land Use | Increase Diversity | 0.30 | 0.74 | | |
| No | Land Use | Improve Walkability Design | 0.00 | 0.00 | | |
| No | Land Use | Improve Destination Accessibility | 0.00 | 5.30 | | |
| No | Land Use | Increase Transit Accessibility | 0.25 | 0.00 | | |
| No | Land Use | Integrate Below Market Rate Housing | 0.00 | 0.00 | | |
| | Land Use | Land Use SubTotal | 0.00 | | | |

## UWSP - Construction of Non-Phase I

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | |
|---|---|---|---|---|---|---|
| No | Neighborhood Enhancements | Improve Pedestrian Network | 2.00 | Project Site and Connecting Off-Site | | |
| No | Neighborhood Enhancements | Provide Traffic Calming Measures | | | | |
| No | Neighborhood Enhancements | Implement NEV Network | 0.00 | | | |
| | Neighborhood Enhancements | Neighborhood Enhancements Subtotal | 0.00 | | | |
| No | Parking Policy Pricing | Limit Parking Supply | 0.00 | 0.00 | | |
| No | Parking Policy Pricing | Unbundle Parking Costs | 0.00 | 0.00 | | |
| No | Parking Policy Pricing | On-street Market Pricing | 0.00 | 0.00 | | |
| | Parking Policy Pricing | Parking Policy Pricing Subtotal | 0.00 | | | |
| No | Transit Improvements | Provide BRT System | 0.00 | 0.00 | | |
| No | Transit Improvements | Expand Transit Network | 0.00 | 0.00 | | |
| No | Transit Improvements | Increase Transit Frequency | 0.00 | | 0.00 | |
| | Transit Improvements | Transit Improvements Subtotal | 0.00 | | | |
| | | Land Use and Site Enhancement Subtotal | 0.00 | | | |
| No | Commute | Implement Trip Reduction Program | 5.40 | | Voluntary | |
| No | Commute | Transit Subsidy | | 0.00 | | |
| No | Commute | Implement Employee Parking "Cash Out" | 4.50 | 0.00 | | |
| No | Commute | Workplace Parking Charge | | 0.00 | | |
| No | Commute | Encourage Telecommuting and Alternative Work Schedules | 0.00 | | | |
| No | Commute | Market Commute Trip Reduction Option | 0.00 | 0.00 | | |
| No | Commute | Employee Vanpool/Shuttle | 0.00 | 0.00 | 2.00 | |

# UWSP - Construction of Non-Phase I

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | |
|---|---|---|---|---|---|---|
| No | Commute | Provide Ride Sharing Program | 10.00 | 0.00 | | |
| | Commute | Commute Subtotal | 0.00 | | | |
| No | School Trip | Implement School Bus Program | 0.00 | 0.00 | | |
| | | Total VMT Reduction | 0.00 | | | |

## Area Mitigation

| Measure Implemented | Mitigation Measure | Input Value |
|---|---|---|
| No | Only Natural Gas Hearth | |
| No | No Hearth | |
| No | Use Low VOC Cleaning Supplies | |
| No | Use Low VOC Paint (Residential Interior) | 100.00 |
| No | Use Low VOC Paint (Residential Exterior) | 100.00 |
| No | Use Low VOC Paint (Non-residential Interior) | 100.00 |
| No | Use Low VOC Paint (Non-residential Exterior) | 100.00 |
| No | Use Low VOC Paint (Parking) | 100.00 |
| No | % Electric Lawnmower | 0.00 |
| No | % Electric Leafblower | 0.00 |
| No | % Electric Chainsaw | 0.00 |

## Energy Mitigation Measures

| Measure Implemented | Mitigation Measure | Input Value 1 | Input Value 2 |
|---|---|---|---|
| No | Exceed Title 24 | | |

# UWSP - Construction of Non-Phase I

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| No | Install High Efficiency Lighting | | |
| No | On-site Renewable | | |

| Appliance Type | Land Use Subtype | % Improvement |
|---|---|---|
| ClothWasher | | 30.00 |
| DishWasher | | 15.00 |
| Fan | | 50.00 |
| Refrigerator | | 15.00 |

## Water Mitigation Measures

| Measure Implemented | Mitigation Measure | Input Value 1 | Input Value 2 |
|---|---|---|---|
| Yes | Apply Water Conservation on Strategy | | 20.00 |
| No | Use Reclaimed Water | 0.00 | 0.00 |
| No | Use Grey Water | 0.00 | |
| No | Install low-flow bathroom faucet | 32.00 | |
| No | Install low-flow Kitchen faucet | 18.00 | |
| No | Install low-flow Toilet | 20.00 | |
| No | Install low-flow Shower | 20.00 | |
| No | Turf Reduction | 0.00 | |
| No | Use Water Efficient Irrigation Systems | 6.10 | |
| No | Water Efficient Landscape | 0.00 | 0.00 |

## Solid Waste Mitigation

# UWSP - Construction of Non-Phase I

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Mitigation Measures | Input Value |
|---|---|
| Institute Recycling and Composting Services<br>Percent Reduction in Waste Disposed | |

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# UWSP - Existing Conditions

**Sacramento Metropolitan AQMD Air District, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| General Office Building | 40.00 | 1000sqft | 0.92 | 40,000.00 | 0 |
| General Light Industry | 45.00 | 1000sqft | 1.03 | 45,000.00 | 0 |
| Unrefrigerated Warehouse-No Rail | 70.00 | 1000sqft | 1.61 | 70,000.00 | 0 |
| Fast Food Restaurant with Drive Thru | 3.00 | 1000sqft | 0.07 | 3,000.00 | 0 |
| Golf Course | 12.00 | Hole | 83.77 | 0.00 | 0 |
| High Turnover (Sit Down Restaurant) | 9.00 | 1000sqft | 0.21 | 9,000.00 | 0 |
| Hotel | 145.00 | Room | 4.83 | 210,540.00 | 0 |
| Single Family Housing | 20.00 | Dwelling Unit | 6.49 | 36,000.00 | 53 |
| Convenience Market with Gas Pumps | 12.00 | Pump | 0.04 | 1,694.10 | 0 |
| Convenience Market with Gas Pumps | 29.00 | 1000sqft | 0.67 | 29,000.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 3.5 | **Precipitation Freq (Days)** | 58 |
| **Climate Zone** | 6 | | | **Operational Year** | 2045 |
| **Utility Company** | Sacramento Municipal Utility District | | | | |
| **CO2 Intensity (lb/MWhr)** | 0 | **CH4 Intensity (lb/MWhr)** | 0.033 | **N2O Intensity (lb/MWhr)** | 0.004 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity factor adjusted to represent compliance with SMUD's RPS projections.

Land Use -

Construction Phase - construction not modeled.

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Grading -

Vehicle Trips - Trip generation rates adjusted per project-specific traffic report.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 60.00 | 1.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 357.98 | 0 |
| tblVehicleTrips | ST_TR | 624.20 | 53.37 |
| tblVehicleTrips | ST_TR | 322.50 | 94.21 |
| tblVehicleTrips | ST_TR | 616.12 | 230.48 |
| tblVehicleTrips | ST_TR | 1.99 | 2.27 |
| tblVehicleTrips | ST_TR | 2.21 | 4.47 |
| tblVehicleTrips | ST_TR | 19.89 | 6.27 |
| tblVehicleTrips | ST_TR | 122.40 | 49.20 |
| tblVehicleTrips | ST_TR | 8.19 | 1.84 |
| tblVehicleTrips | ST_TR | 9.54 | 4.34 |
| tblVehicleTrips | ST_TR | 1.74 | 0.64 |
| tblVehicleTrips | SU_TR | 624.20 | 53.37 |
| tblVehicleTrips | SU_TR | 322.50 | 94.21 |
| tblVehicleTrips | SU_TR | 472.58 | 230.48 |
| tblVehicleTrips | SU_TR | 5.00 | 2.27 |
| tblVehicleTrips | SU_TR | 0.70 | 4.47 |
| tblVehicleTrips | SU_TR | 18.89 | 6.27 |
| tblVehicleTrips | SU_TR | 142.64 | 49.20 |
| tblVehicleTrips | SU_TR | 5.95 | 1.84 |
| tblVehicleTrips | SU_TR | 8.55 | 4.34 |
| tblVehicleTrips | SU_TR | 1.74 | 0.64 |
| tblVehicleTrips | WD_TR | 624.20 | 53.37 |
| tblVehicleTrips | WD_TR | 322.50 | 94.21 |
| tblVehicleTrips | WD_TR | 470.95 | 230.48 |

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblVehicleTrips | WD_TR | 4.96 | 2.27 |
| tblVehicleTrips | WD_TR | 9.74 | 4.47 |
| tblVehicleTrips | WD_TR | 30.38 | 6.27 |
| tblVehicleTrips | WD_TR | 112.18 | 49.20 |
| tblVehicleTrips | WD_TR | 8.36 | 1.84 |
| tblVehicleTrips | WD_TR | 9.44 | 4.34 |
| tblVehicleTrips | WD_TR | 1.74 | 0.64 |

## 2.0 Emissions Summary

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.1 Overall Construction

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2023 | 1.3600e-003 | 0.0138 | 9.3300e-003 | 2.0000e-005 | 9.8900e-003 | 6.3000e-004 | 0.0105 | 5.0700e-003 | 5.8000e-004 | 5.6500e-003 | 0.0000 | 1.7256 | 1.7256 | 5.4000e-004 | 0.0000 | 1.7396 |
| **Maximum** | **1.3600e-003** | **0.0138** | **9.3300e-003** | **2.0000e-005** | **9.8900e-003** | **6.3000e-004** | **0.0105** | **5.0700e-003** | **5.8000e-004** | **5.6500e-003** | **0.0000** | **1.7256** | **1.7256** | **5.4000e-004** | **0.0000** | **1.7396** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2023 | 1.3600e-003 | 0.0138 | 9.3300e-003 | 2.0000e-005 | 9.8900e-003 | 6.3000e-004 | 0.0105 | 5.0700e-003 | 5.8000e-004 | 5.6500e-003 | 0.0000 | 1.7256 | 1.7256 | 5.4000e-004 | 0.0000 | 1.7396 |
| **Maximum** | **1.3600e-003** | **0.0138** | **9.3300e-003** | **2.0000e-005** | **9.8900e-003** | **6.3000e-004** | **0.0105** | **5.0700e-003** | **5.8000e-004** | **5.6500e-003** | **0.0000** | **1.7256** | **1.7256** | **5.4000e-004** | **0.0000** | **1.7396** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | |
|---|---|---|---|---|
| | | **Highest** | | |

## 2.2 Overall Operational

**Unmitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 1.9533 | 2.4100e-003 | 0.2100 | 1.0000e-005 | | 1.1600e-003 | 1.1600e-003 | | 1.1600e-003 | 1.1600e-003 | 0.0000 | 0.3460 | 0.3460 | 3.4000e-004 | 0.0000 | 0.3546 |
| Energy | 0.0699 | 0.6343 | 0.5238 | 3.8100e-003 | | 0.0483 | 0.0483 | | 0.0483 | 0.0483 | 0.0000 | 692.0498 | 692.0498 | 0.0794 | 0.0207 | 700.2073 |
| Mobile | 1.3080 | 1.2148 | 10.0025 | 0.0134 | 1.7765 | 7.7100e-003 | 1.7842 | 0.4743 | 7.1900e-003 | 0.4815 | 0.0000 | 1,362.1873 | 1,362.1873 | 0.1326 | 0.0994 | 1,395.1257 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 98.9946 | 0.0000 | 98.9946 | 5.8504 | 0.0000 | 245.2550 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 15.7797 | 0.0000 | 15.7797 | 0.0633 | 0.0354 | 27.9096 |
| **Total** | **3.3312** | **1.8515** | **10.7363** | **0.0172** | **1.7765** | **0.0572** | **1.8337** | **0.4743** | **0.0567** | **0.5309** | **114.7743** | **2,054.5830** | **2,169.3573** | **6.1260** | **0.1555** | **2,368.8522** |

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.2 Overall Operational

**Mitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 1.9533 | 2.4100e-003 | 0.2100 | 1.0000e-005 | | 1.1600e-003 | 1.1600e-003 | | 1.1600e-003 | 1.1600e-003 | 0.0000 | 0.3460 | 0.3460 | 3.4000e-004 | 0.0000 | 0.3546 |
| Energy | 0.0699 | 0.6343 | 0.5238 | 3.8100e-003 | | 0.0483 | 0.0483 | | 0.0483 | 0.0483 | 0.0000 | 692.0498 | 692.0498 | 0.0794 | 0.0207 | 700.2073 |
| Mobile | 1.3080 | 1.2148 | 10.0025 | 0.0134 | 1.7765 | 7.7100e-003 | 1.7842 | 0.4743 | 7.1900e-003 | 0.4815 | 0.0000 | 1,362.1873 | 1,362.1873 | 0.1326 | 0.0994 | 1,395.1257 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 98.9946 | 0.0000 | 98.9946 | 5.8504 | 0.0000 | 245.2550 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 15.7797 | 0.0000 | 15.7797 | 0.0633 | 0.0354 | 27.9096 |
| **Total** | **3.3312** | **1.8515** | **10.7363** | **0.0172** | **1.7765** | **0.0572** | **1.8337** | **0.4743** | **0.0567** | **0.5309** | **114.7743** | **2,054.5830** | **2,169.3573** | **6.1260** | **0.1555** | **2,368.8522** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 10/19/2023 | 10/19/2023 | 5 | 1 | |

**Acres of Grading (Site Preparation Phase): 1.5**

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 7 | 18.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 9.8300e-003 | 0.0000 | 9.8300e-003 | 5.0500e-003 | 0.0000 | 5.0500e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.3300e-003 | 0.0138 | 9.1200e-003 | 2.0000e-005 | | 6.3000e-004 | 6.3000e-004 | | 5.8000e-004 | 5.8000e-004 | 0.0000 | 1.6725 | 1.6725 | 5.4000e-004 | 0.0000 | 1.6861 |
| **Total** | **1.3300e-003** | **0.0138** | **9.1200e-003** | **2.0000e-005** | **9.8300e-003** | **6.3000e-004** | **0.0105** | **5.0500e-003** | **5.8000e-004** | **5.6300e-003** | **0.0000** | **1.6725** | **1.6725** | **5.4000e-004** | **0.0000** | **1.6861** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.0000e-005 | 2.0000e-005 | 2.1000e-004 | 0.0000 | 7.0000e-005 | 0.0000 | 7.0000e-005 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0530 | 0.0530 | 0.0000 | 0.0000 | 0.0535 |
| **Total** | **3.0000e-005** | **2.0000e-005** | **2.1000e-004** | **0.0000** | **7.0000e-005** | **0.0000** | **7.0000e-005** | **2.0000e-005** | **0.0000** | **2.0000e-005** | **0.0000** | **0.0530** | **0.0530** | **0.0000** | **0.0000** | **0.0535** |

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 9.8300e-003 | 0.0000 | 9.8300e-003 | 5.0500e-003 | 0.0000 | 5.0500e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.3300e-003 | 0.0138 | 9.1200e-003 | 2.0000e-005 | | 6.3000e-004 | 6.3000e-004 | | 5.8000e-004 | 5.8000e-004 | 0.0000 | 1.6725 | 1.6725 | 5.4000e-004 | 0.0000 | 1.6861 |
| **Total** | **1.3300e-003** | **0.0138** | **9.1200e-003** | **2.0000e-005** | **9.8300e-003** | **6.3000e-004** | **0.0105** | **5.0500e-003** | **5.8000e-004** | **5.6300e-003** | **0.0000** | **1.6725** | **1.6725** | **5.4000e-004** | **0.0000** | **1.6861** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.0000e-005 | 2.0000e-005 | 2.1000e-004 | 0.0000 | 7.0000e-005 | 0.0000 | 7.0000e-005 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0530 | 0.0530 | 0.0000 | 0.0000 | 0.0535 |
| **Total** | **3.0000e-005** | **2.0000e-005** | **2.1000e-004** | **0.0000** | **7.0000e-005** | **0.0000** | **7.0000e-005** | **2.0000e-005** | **0.0000** | **2.0000e-005** | **0.0000** | **0.0530** | **0.0530** | **0.0000** | **0.0000** | **0.0535** |

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 1.3080 | 1.2148 | 10.0025 | 0.0134 | 1.7765 | 7.7100e-003 | 1.7842 | 0.4743 | 7.1900e-003 | 0.4815 | 0.0000 | 1,362.1873 | 1,362.1873 | 0.1326 | 0.0994 | 1,395.1257 |
| Unmitigated | 1.3080 | 1.2148 | 10.0025 | 0.0134 | 1.7765 | 7.7100e-003 | 1.7842 | 0.4743 | 7.1900e-003 | 0.4815 | 0.0000 | 1,362.1873 | 1,362.1873 | 0.1326 | 0.0994 | 1,395.1257 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Convenience Market with Gas Pumps | 1,547.73 | 1,547.73 | 1547.73 | 614,113 | 614,113 |
| Convenience Market with Gas Pumps | 640.44 | 640.44 | 640.44 | 254,116 | 254,116 |
| Convenience Market with Gas Pumps | 2,732.09 | 2,732.09 | 2732.09 | 1,084,046 | 1,084,046 |
| Convenience Market with Gas Pumps | 1,130.52 | 1,130.52 | 1130.52 | 448,571 | 448,571 |
| Fast Food Restaurant with Drive Thru | 691.44 | 691.44 | 691.44 | 477,643 | 477,643 |
| General Light Industry | 102.15 | 102.15 | 102.15 | 282,521 | 282,521 |
| General Office Building | 178.80 | 178.80 | 178.80 | 369,241 | 369,241 |
| Golf Course | 75.24 | 75.24 | 75.24 | 117,529 | 117,529 |
| High Turnover (Sit Down Restaurant) | 442.80 | 442.80 | 442.80 | 393,471 | 393,471 |
| Hotel | 266.80 | 266.80 | 266.80 | 410,421 | 410,421 |
| Single Family Housing | 86.80 | 86.80 | 86.80 | 222,738 | 222,738 |
| Unrefrigerated Warehouse-No Rail | 44.80 | 44.80 | 44.80 | 130,292 | 130,292 |
| Total | 7,939.61 | 7,939.61 | 7,939.61 | 4,804,701 | 4,804,701 |

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Convenience Market with Gas | 10.00 | 5.00 | 6.50 | 0.80 | 80.20 | 19.00 | 14 | 21 | 65 |
| Convenience Market with Gas | 10.00 | 5.00 | 6.50 | 0.80 | 80.20 | 19.00 | 14 | 21 | 65 |
| Convenience Market with Gas | 10.00 | 5.00 | 6.50 | 0.80 | 80.20 | 19.00 | 14 | 21 | 65 |
| Convenience Market with Gas | 10.00 | 5.00 | 6.50 | 0.80 | 80.20 | 19.00 | 14 | 21 | 65 |
| Fast Food Restaurant with Drive | 10.00 | 5.00 | 6.50 | 2.20 | 78.80 | 19.00 | 29 | 21 | 50 |
| General Light Industry | 10.00 | 5.00 | 6.50 | 59.00 | 28.00 | 13.00 | 92 | 5 | 3 |
| General Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 77 | 19 | 4 |
| Golf Course | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 52 | 39 | 9 |
| High Turnover (Sit Down | 10.00 | 5.00 | 6.50 | 8.50 | 72.50 | 19.00 | 37 | 20 | 43 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Single Family Housing | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Unrefrigerated Warehouse-No | 10.00 | 5.00 | 6.50 | 59.00 | 0.00 | 41.00 | 92 | 5 | 3 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Convenience Market with Gas Pumps | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Fast Food Restaurant with Drive Thru | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| General Light Industry | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| General Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Golf Course | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High Turnover (Sit Down Restaurant) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Hotel | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Single Family Housing | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Unrefrigerated Warehouse-No Rail | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

## 5.0 Energy Detail

Historical Energy Use: N

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0662 | 8.0200e-003 | 4.0450 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0662 | 8.0200e-003 | 4.0450 |
| NaturalGas Mitigated | 0.0699 | 0.6343 | 0.5238 | 3.8100e-003 | | 0.0483 | 0.0483 | | 0.0483 | 0.0483 | 0.0000 | 692.0498 | 692.0498 | 0.0133 | 0.0127 | 696.1623 |
| NaturalGas Unmitigated | 0.0699 | 0.6343 | 0.5238 | 3.8100e-003 | | 0.0483 | 0.0483 | | 0.0483 | 0.0483 | 0.0000 | 692.0498 | 692.0498 | 0.0133 | 0.0127 | 696.1623 |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Convenience Market with Gas Pumps | 155730 | 8.4000e-004 | 7.6300e-003 | 6.4100e-003 | 5.0000e-005 | | 5.8000e-004 | 5.8000e-004 | | 5.8000e-004 | 5.8000e-004 | 0.0000 | 8.3104 | 8.3104 | 1.6000e-004 | 1.5000e-004 | 8.3597 |
| Convenience Market with Gas Pumps | 9097.32 | 5.0000e-005 | 4.5000e-004 | 3.7000e-004 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.4855 | 0.4855 | 1.0000e-005 | 1.0000e-005 | 0.4884 |
| Fast Food Restaurant with Drive Thru | 531330 | 2.8700e-003 | 0.0261 | 0.0219 | 1.6000e-004 | | 1.9800e-003 | 1.9800e-003 | | 1.9800e-003 | 1.9800e-003 | 0.0000 | 28.3538 | 28.3538 | 5.4000e-004 | 5.2000e-004 | 28.5223 |
| General Light Industry | 1.60065e+006 | 8.6300e-003 | 0.0785 | 0.0659 | 4.7000e-004 | | 5.9600e-003 | 5.9600e-003 | | 5.9600e-003 | 5.9600e-003 | 0.0000 | 85.4168 | 85.4168 | 1.6400e-003 | 1.5700e-003 | 85.9244 |
| General Office Building | 519200 | 2.8000e-003 | 0.0255 | 0.0214 | 1.5000e-004 | | 1.9300e-003 | 1.9300e-003 | | 1.9300e-003 | 1.9300e-003 | 0.0000 | 27.7065 | 27.7065 | 5.3000e-004 | 5.1000e-004 | 27.8711 |
| Golf Course | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| High Turnover (Sit Down Restaurant) | 1.59399e+006 | 8.6000e-003 | 0.0781 | 0.0656 | 4.7000e-004 | | 5.9400e-003 | 5.9400e-003 | | 5.9400e-003 | 5.9400e-003 | 0.0000 | 85.0614 | 85.0614 | 1.6300e-003 | 1.5600e-003 | 85.5669 |
| Hotel | 8.05105e+006 | 0.0434 | 0.3947 | 0.3315 | 2.3700e-003 | | 0.0300 | 0.0300 | | 0.0300 | 0.0300 | 0.0000 | 429.6347 | 429.6347 | 8.2300e-003 | 7.8800e-003 | 432.1878 |
| Single Family Housing | 473176 | 2.5500e-003 | 0.0218 | 9.2800e-003 | 1.4000e-004 | | 1.7600e-003 | 1.7600e-003 | | 1.7600e-003 | 1.7600e-003 | 0.0000 | 25.2505 | 25.2505 | 4.8000e-004 | 4.6000e-004 | 25.4005 |
| Unrefrigerated Warehouse-No Rail | 34300 | 1.8000e-004 | 1.6800e-003 | 1.4100e-003 | 1.0000e-005 | | 1.3000e-004 | 1.3000e-004 | | 1.3000e-004 | 1.3000e-004 | 0.0000 | 1.8304 | 1.8304 | 4.0000e-005 | 3.0000e-005 | 1.8413 |
| **Total** | | **0.0699** | **0.6343** | **0.5238** | **3.8200e-003** | | **0.0483** | **0.0483** | | **0.0483** | **0.0483** | **0.0000** | **692.0498** | **692.0498** | **0.0133** | **0.0127** | **696.1623** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Convenience Market with Gas Pumps | 155730 | 8.4000e-004 | 7.6300e-003 | 6.4100e-003 | 5.0000e-005 | | 5.8000e-004 | 5.8000e-004 | | 5.8000e-004 | 5.8000e-004 | 0.0000 | 8.3104 | 8.3104 | 1.6000e-004 | 1.5000e-004 | 8.3597 |
| Convenience Market with Gas Pumps | 9097.32 | 5.0000e-005 | 4.5000e-004 | 3.7000e-004 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.4855 | 0.4855 | 1.0000e-005 | 1.0000e-005 | 0.4884 |
| Fast Food Restaurant with Drive Thru | 531330 | 2.8700e-003 | 0.0261 | 0.0219 | 1.6000e-004 | | 1.9800e-003 | 1.9800e-003 | | 1.9800e-003 | 1.9800e-003 | 0.0000 | 28.3538 | 28.3538 | 5.4000e-004 | 5.2000e-004 | 28.5223 |
| General Light Industry | 1.60065e+006 | 8.6300e-003 | 0.0785 | 0.0659 | 4.7000e-004 | | 5.9600e-003 | 5.9600e-003 | | 5.9600e-003 | 5.9600e-003 | 0.0000 | 85.4168 | 85.4168 | 1.6400e-003 | 1.5700e-003 | 85.9244 |
| General Office Building | 519200 | 2.8000e-003 | 0.0255 | 0.0214 | 1.5000e-004 | | 1.9300e-003 | 1.9300e-003 | | 1.9300e-003 | 1.9300e-003 | 0.0000 | 27.7065 | 27.7065 | 5.3000e-004 | 5.1000e-004 | 27.8711 |
| Golf Course | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| High Turnover (Sit Down Restaurant) | 1.59399e+006 | 8.6000e-003 | 0.0781 | 0.0656 | 4.7000e-004 | | 5.9400e-003 | 5.9400e-003 | | 5.9400e-003 | 5.9400e-003 | 0.0000 | 85.0614 | 85.0614 | 1.6300e-003 | 1.5600e-003 | 85.5669 |
| Hotel | 8.05105e+006 | 0.0434 | 0.3947 | 0.3315 | 2.3700e-003 | | 0.0300 | 0.0300 | | 0.0300 | 0.0300 | 0.0000 | 429.6347 | 429.6347 | 8.2300e-003 | 7.8800e-003 | 432.1878 |
| Single Family Housing | 473176 | 2.5500e-003 | 0.0218 | 9.2800e-003 | 1.4000e-004 | | 1.7600e-003 | 1.7600e-003 | | 1.7600e-003 | 1.7600e-003 | 0.0000 | 25.2505 | 25.2505 | 4.8000e-004 | 4.6000e-004 | 25.4005 |
| Unrefrigerated Warehouse-No Rail | 34300 | 1.8000e-004 | 1.6800e-003 | 1.4100e-003 | 1.0000e-005 | | 1.3000e-004 | 1.3000e-004 | | 1.3000e-004 | 1.3000e-004 | 0.0000 | 1.8304 | 1.8304 | 4.0000e-005 | 3.0000e-005 | 1.8413 |
| **Total** | | **0.0699** | **0.6343** | **0.5238** | **3.8200e-003** | | **0.0483** | **0.0483** | | **0.0483** | **0.0483** | **0.0000** | **692.0498** | **692.0498** | **0.0133** | **0.0127** | **696.1623** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Convenience Market with Gas Pumps | 19007.8 | 0.0000 | 2.8000e-004 | 3.0000e-005 | 0.0174 |
| Convenience Market with Gas Pumps | 325380 | 0.0000 | 4.8700e-003 | 5.9000e-004 | 0.2977 |
| Fast Food Restaurant with Drive Thru | 122310 | 0.0000 | 1.8300e-003 | 2.2000e-004 | 0.1119 |
| General Light Industry | 666900 | 0.0000 | 9.9800e-003 | 1.2100e-003 | 0.6101 |
| General Office Building | 556000 | 0.0000 | 8.3200e-003 | 1.0100e-003 | 0.5087 |
| Golf Course | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| High Turnover (Sit Down Restaurant) | 366930 | 0.0000 | 5.4900e-003 | 6.7000e-004 | 0.3357 |
| Hotel | 1.98329e+006 | 0.0000 | 0.0297 | 3.6000e-003 | 1.8145 |
| Single Family Housing | 158148 | 0.0000 | 2.3700e-003 | 2.9000e-004 | 0.1447 |
| Unrefrigerated Warehouse-No Rail | 223300 | 0.0000 | 3.3400e-003 | 4.1000e-004 | 0.2043 |
| **Total** | | **0.0000** | **0.0662** | **8.0300e-003** | **4.0450** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.3 Energy by Land Use - Electricity

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Convenience Market with Gas Pumps | 19007.8 | 0.0000 | 2.8000e-004 | 3.0000e-005 | 0.0174 |
| Convenience Market with Gas Pumps | 325380 | 0.0000 | 4.8700e-003 | 5.9000e-004 | 0.2977 |
| Fast Food Restaurant with Drive Thru | 122310 | 0.0000 | 1.8300e-003 | 2.2000e-004 | 0.1119 |
| General Light Industry | 666900 | 0.0000 | 9.9800e-003 | 1.2100e-003 | 0.6101 |
| General Office Building | 556000 | 0.0000 | 8.3200e-003 | 1.0100e-003 | 0.5087 |
| Golf Course | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| High Turnover (Sit Down Restaurant) | 366930 | 0.0000 | 5.4900e-003 | 6.7000e-004 | 0.3357 |
| Hotel | 1.98329e+006 | 0.0000 | 0.0297 | 3.6000e-003 | 1.8145 |
| Single Family Housing | 158148 | 0.0000 | 2.3700e-003 | 2.9000e-004 | 0.1447 |
| Unrefrigerated Warehouse-No Rail | 223300 | 0.0000 | 3.3400e-003 | 4.1000e-004 | 0.2043 |
| **Total** | | **0.0000** | **0.0662** | **8.0300e-003** | **4.0450** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 1.9533 | 2.4100e-003 | 0.2100 | 1.0000e-005 | | 1.1600e-003 | 1.1600e-003 | | 1.1600e-003 | 1.1600e-003 | 0.0000 | 0.3460 | 0.3460 | 3.4000e-004 | 0.0000 | 0.3546 |
| Unmitigated | 1.9533 | 2.4100e-003 | 0.2100 | 1.0000e-005 | | 1.1600e-003 | 1.1600e-003 | | 1.1600e-003 | 1.1600e-003 | 0.0000 | 0.3460 | 0.3460 | 3.4000e-004 | 0.0000 | 0.3546 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.2117 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 1.7350 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 6.5700e-003 | 2.4100e-003 | 0.2100 | 1.0000e-005 | | 1.1600e-003 | 1.1600e-003 | | 1.1600e-003 | 1.1600e-003 | 0.0000 | 0.3460 | 0.3460 | 3.4000e-004 | 0.0000 | 0.3546 |
| **Total** | **1.9533** | **2.4100e-003** | **0.2100** | **1.0000e-005** | | **1.1600e-003** | **1.1600e-003** | | **1.1600e-003** | **1.1600e-003** | **0.0000** | **0.3460** | **0.3460** | **3.4000e-004** | **0.0000** | **0.3546** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.2117 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 1.7350 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 6.5700e-003 | 2.4100e-003 | 0.2100 | 1.0000e-005 | | 1.1600e-003 | 1.1600e-003 | | 1.1600e-003 | 1.1600e-003 | 0.0000 | 0.3460 | 0.3460 | 3.4000e-004 | 0.0000 | 0.3546 |
| **Total** | **1.9533** | **2.4100e-003** | **0.2100** | **1.0000e-005** | | **1.1600e-003** | **1.1600e-003** | | **1.1600e-003** | **1.1600e-003** | **0.0000** | **0.3460** | **0.3460** | **3.4000e-004** | **0.0000** | **0.3546** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 15.7797 | 0.0633 | 0.0354 | 27.9096 |
| Unmitigated | 15.7797 | 0.0633 | 0.0354 | 27.9096 |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Convenience Market with Gas Pumps | 0.125486 / 0.0769109 | 0.0444 | 1.7000e-004 | 1.0000e-004 | 0.0778 |
| Convenience Market with Gas Pumps | 2.1481 / 1.31658 | 0.7600 | 2.8500e-003 | 1.6800e-003 | 1.3319 |
| Fast Food Restaurant with Drive Thru | 0.910601 / 0.0581235 | 0.3222 | 1.1800e-003 | 7.1000e-004 | 0.5630 |
| General Light Industry | 10.4063 / 0 | 3.6818 | 0.0135 | 8.1000e-003 | 6.4320 |
| General Office Building | 7.10935 / 4.35734 | 2.5153 | 9.4200e-003 | 5.5600e-003 | 4.4081 |
| Golf Course | 0 / 99.8142 | 0.0000 | 5.2300e-003 | 6.3000e-004 | 0.3196 |
| High Turnover (Sit Down Restaurant) | 2.7318 / 0.17437 | 0.9665 | 3.5400e-003 | 2.1300e-003 | 1.6891 |
| Hotel | 3.67818 / 0.408687 | 1.3014 | 4.7700e-003 | 2.8700e-003 | 2.2747 |
| Single Family Housing | 1.30308 / 0.821507 | 0.4610 | 1.7300e-003 | 1.0200e-003 | 0.8081 |
| Unrefrigerated Warehouse-No Rail | 16.1875 / 0 | 5.7272 | 0.0209 | 0.0126 | 10.0053 |
| **Total** | | **15.7797** | **0.0633** | **0.0354** | **27.9096** |

## 7.2 Water by Land Use

**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Convenience Market with Gas Pumps | 0.125486 / 0.0769109 | 0.0444 | 1.7000e-004 | 1.0000e-004 | 0.0778 |
| Convenience Market with Gas Pumps | 2.1481 / 1.31658 | 0.7600 | 2.8500e-003 | 1.6800e-003 | 1.3319 |
| Fast Food Restaurant with Drive Thru | 0.910601 / 0.0581235 | 0.3222 | 1.1800e-003 | 7.1000e-004 | 0.5630 |
| General Light Industry | 10.4063 / 0 | 3.6818 | 0.0135 | 8.1000e-003 | 6.4320 |
| General Office Building | 7.10935 / 4.35734 | 2.5153 | 9.4200e-003 | 5.5600e-003 | 4.4081 |
| Golf Course | 0 / 99.8142 | 0.0000 | 5.2300e-003 | 6.3000e-004 | 0.3196 |
| High Turnover (Sit Down Restaurant) | 2.7318 / 0.17437 | 0.9665 | 3.5400e-003 | 2.1300e-003 | 1.6891 |
| Hotel | 3.67818 / 0.408687 | 1.3014 | 4.7700e-003 | 2.8700e-003 | 2.2747 |
| Single Family Housing | 1.30308 / 0.821507 | 0.4610 | 1.7300e-003 | 1.0200e-003 | 0.8081 |
| Unrefrigerated Warehouse-No Rail | 16.1875 / 0 | 5.7272 | 0.0209 | 0.0126 | 10.0053 |
| **Total** | | **15.7797** | **0.0633** | **0.0354** | **27.9096** |

# 8.0 Waste Detail

## 8.1 Mitigation Measures Waste

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 98.9946 | 5.8504 | 0.0000 | 245.2550 |
| Unmitigated | 98.9946 | 5.8504 | 0.0000 | 245.2550 |

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Convenience Market with Gas Pumps | 87.15 | 17.6907 | 1.0455 | 0.0000 | 43.8279 |
| Fast Food Restaurant with Drive Thru | 34.56 | 7.0154 | 0.4146 | 0.0000 | 17.3803 |
| General Light Industry | 55.8 | 11.3269 | 0.6694 | 0.0000 | 28.0619 |
| General Office Building | 37.2 | 7.5513 | 0.4463 | 0.0000 | 18.7079 |
| Golf Course | 1.6 | 0.3248 | 0.0192 | 0.0000 | 0.8046 |
| High Turnover (Sit Down Restaurant) | 107.1 | 21.7403 | 1.2848 | 0.0000 | 53.8608 |
| Hotel | 79.39 | 16.1155 | 0.9524 | 0.0000 | 39.9254 |
| Single Family Housing | 19.08 | 3.8731 | 0.2289 | 0.0000 | 9.5954 |
| Unrefrigerated Warehouse-No Rail | 65.8 | 13.3568 | 0.7894 | 0.0000 | 33.0909 |
| **Total** | | **98.9946** | **5.8504** | **0.0000** | **245.2550** |

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 8.2 Waste by Land Use

**Mitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Convenience Market with Gas Pumps | 87.15 | 17.6907 | 1.0455 | 0.0000 | 43.8279 |
| Fast Food Restaurant with Drive Thru | 34.56 | 7.0154 | 0.4146 | 0.0000 | 17.3803 |
| General Light Industry | 55.8 | 11.3269 | 0.6694 | 0.0000 | 28.0619 |
| General Office Building | 37.2 | 7.5513 | 0.4463 | 0.0000 | 18.7079 |
| Golf Course | 1.6 | 0.3248 | 0.0192 | 0.0000 | 0.8046 |
| High Turnover (Sit Down Restaurant) | 107.1 | 21.7403 | 1.2848 | 0.0000 | 53.8608 |
| Hotel | 79.39 | 16.1155 | 0.9524 | 0.0000 | 39.9254 |
| Single Family Housing | 19.08 | 3.8731 | 0.2289 | 0.0000 | 9.5954 |
| Unrefrigerated Warehouse-No Rail | 65.8 | 13.3568 | 0.7894 | 0.0000 | 33.0909 |
| **Total** | | **98.9946** | **5.8504** | **0.0000** | **245.2550** |

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# UWSP - Existing Conditions

**Sacramento Metropolitan AQMD Air District, Summer**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| General Office Building | 40.00 | 1000sqft | 0.92 | 40,000.00 | 0 |
| General Light Industry | 45.00 | 1000sqft | 1.03 | 45,000.00 | 0 |
| Unrefrigerated Warehouse-No Rail | 70.00 | 1000sqft | 1.61 | 70,000.00 | 0 |
| Fast Food Restaurant with Drive Thru | 3.00 | 1000sqft | 0.07 | 3,000.00 | 0 |
| Golf Course | 12.00 | Hole | 83.77 | 0.00 | 0 |
| High Turnover (Sit Down Restaurant) | 9.00 | 1000sqft | 0.21 | 9,000.00 | 0 |
| Hotel | 145.00 | Room | 4.83 | 210,540.00 | 0 |
| Single Family Housing | 20.00 | Dwelling Unit | 6.49 | 36,000.00 | 53 |
| Convenience Market with Gas Pumps | 12.00 | Pump | 0.04 | 1,694.10 | 0 |
| Convenience Market with Gas Pumps | 29.00 | 1000sqft | 0.67 | 29,000.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 3.5 | **Precipitation Freq (Days)** | 58 |
| **Climate Zone** | 6 | | | **Operational Year** | 2045 |
| **Utility Company** | Sacramento Municipal Utility District | | | | |
| **CO2 Intensity (lb/MWhr)** | 0 | **CH4 Intensity (lb/MWhr)** | 0.033 | **N2O Intensity (lb/MWhr)** | 0.004 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity factor adjusted to represent compliance with SMUD's RPS projections.

Land Use -

Construction Phase - construction not modeled.

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Grading -

Vehicle Trips - Trip generation rates adjusted per project-specific traffic report.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 60.00 | 1.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 357.98 | 0 |
| tblVehicleTrips | ST_TR | 624.20 | 53.37 |
| tblVehicleTrips | ST_TR | 322.50 | 94.21 |
| tblVehicleTrips | ST_TR | 616.12 | 230.48 |
| tblVehicleTrips | ST_TR | 1.99 | 2.27 |
| tblVehicleTrips | ST_TR | 2.21 | 4.47 |
| tblVehicleTrips | ST_TR | 19.89 | 6.27 |
| tblVehicleTrips | ST_TR | 122.40 | 49.20 |
| tblVehicleTrips | ST_TR | 8.19 | 1.84 |
| tblVehicleTrips | ST_TR | 9.54 | 4.34 |
| tblVehicleTrips | ST_TR | 1.74 | 0.64 |
| tblVehicleTrips | SU_TR | 624.20 | 53.37 |
| tblVehicleTrips | SU_TR | 322.50 | 94.21 |
| tblVehicleTrips | SU_TR | 472.58 | 230.48 |
| tblVehicleTrips | SU_TR | 5.00 | 2.27 |
| tblVehicleTrips | SU_TR | 0.70 | 4.47 |
| tblVehicleTrips | SU_TR | 18.89 | 6.27 |
| tblVehicleTrips | SU_TR | 142.64 | 49.20 |
| tblVehicleTrips | SU_TR | 5.95 | 1.84 |
| tblVehicleTrips | SU_TR | 8.55 | 4.34 |
| tblVehicleTrips | SU_TR | 1.74 | 0.64 |
| tblVehicleTrips | WD_TR | 624.20 | 53.37 |
| tblVehicleTrips | WD_TR | 322.50 | 94.21 |
| tblVehicleTrips | WD_TR | 470.95 | 230.48 |

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblVehicleTrips | WD_TR | 4.96 | 2.27 |
| tblVehicleTrips | WD_TR | 9.74 | 4.47 |
| tblVehicleTrips | WD_TR | 30.38 | 6.27 |
| tblVehicleTrips | WD_TR | 112.18 | 49.20 |
| tblVehicleTrips | WD_TR | 8.36 | 1.84 |
| tblVehicleTrips | WD_TR | 9.44 | 4.34 |
| tblVehicleTrips | WD_TR | 1.74 | 0.64 |

## 2.0 Emissions Summary

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 2.7201 | 27.5533 | 18.7349 | 0.0393 | 19.7939 | 1.2667 | 21.0607 | 10.1388 | 1.1654 | 11.3042 | 0.0000 | 3,815.4139 | 3,815.4139 | 1.1961 | 3.1500e-003 | 3,846.2531 |
| **Maximum** | **2.7201** | **27.5533** | **18.7349** | **0.0393** | **19.7939** | **1.2667** | **21.0607** | **10.1388** | **1.1654** | **11.3042** | **0.0000** | **3,815.4139** | **3,815.4139** | **1.1961** | **3.1500e-003** | **3,846.2531** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 2.7201 | 27.5533 | 18.7349 | 0.0393 | 19.7939 | 1.2667 | 21.0607 | 10.1388 | 1.1654 | 11.3042 | 0.0000 | 3,815.4139 | 3,815.4139 | 1.1961 | 3.1500e-003 | 3,846.2531 |
| **Maximum** | **2.7201** | **27.5533** | **18.7349** | **0.0393** | **19.7939** | **1.2667** | **21.0607** | **10.1388** | **1.1654** | **11.3042** | **0.0000** | **3,815.4139** | **3,815.4139** | **1.1961** | **3.1500e-003** | **3,846.2531** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 10.7194 | 0.0193 | 1.6798 | 9.0000e-005 | | 9.2800e-003 | 9.2800e-003 | | 9.2800e-003 | 9.2800e-003 | 0.0000 | 3.0509 | 3.0509 | 3.0300e-003 | 0.0000 | 3.1268 |
| Energy | 0.3832 | 3.4757 | 2.8701 | 0.0209 | | 0.2647 | 0.2647 | | 0.2647 | 0.2647 | | 4,180.0236 | 4,180.0236 | 0.0801 | 0.0766 | 4,204.8634 |
| Mobile | 10.1035 | 6.2347 | 53.5348 | 0.0785 | 10.1076 | 0.0424 | 10.1500 | 2.6910 | 0.0395 | 2.7305 | | 8,822.0778 | 8,822.0778 | 0.7389 | 0.5777 | 9,012.6999 |
| **Total** | **21.2060** | **9.7297** | **58.0847** | **0.0995** | **10.1076** | **0.3164** | **10.4240** | **2.6910** | **0.3135** | **3.0045** | **0.0000** | **13,005.1523** | **13,005.1523** | **0.8221** | **0.6543** | **13,220.6901** |

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 10.7194 | 0.0193 | 1.6798 | 9.0000e-005 | | 9.2800e-003 | 9.2800e-003 | | 9.2800e-003 | 9.2800e-003 | 0.0000 | 3.0509 | 3.0509 | 3.0300e-003 | 0.0000 | 3.1268 |
| Energy | 0.3832 | 3.4757 | 2.8701 | 0.0209 | | 0.2647 | 0.2647 | | 0.2647 | 0.2647 | | 4,180.0236 | 4,180.0236 | 0.0801 | 0.0766 | 4,204.8634 |
| Mobile | 10.1035 | 6.2347 | 53.5348 | 0.0785 | 10.1076 | 0.0424 | 10.1500 | 2.6910 | 0.0395 | 2.7305 | | 8,822.0778 | 8,822.0778 | 0.7389 | 0.5777 | 9,012.6999 |
| **Total** | **21.2060** | **9.7297** | **58.0847** | **0.0995** | **10.1076** | **0.3164** | **10.4240** | **2.6910** | **0.3135** | **3.0045** | **0.0000** | **13,005.1523** | **13,005.1523** | **0.8221** | **0.6543** | **13,220.6901** |

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 10/19/2023 | 10/19/2023 | 5 | 1 | |

**Acres of Grading (Site Preparation Phase): 1.5**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

### OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |

### Trips and VMT

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 7 | 18.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.6595 | 27.5242 | 18.2443 | 0.0381 | | 1.2660 | 1.2660 | | 1.1647 | 1.1647 | | 3,687.3081 | 3,687.3081 | 1.1926 | | 3,717.1219 |
| **Total** | **2.6595** | **27.5242** | **18.2443** | **0.0381** | **19.6570** | **1.2660** | **20.9230** | **10.1025** | **1.1647** | **11.2672** | | **3,687.3081** | **3,687.3081** | **1.1926** | | **3,717.1219** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0607 | 0.0291 | 0.4906 | 1.2500e-003 | 0.1369 | 7.1000e-004 | 0.1376 | 0.0363 | 6.5000e-004 | 0.0370 | | 128.1058 | 128.1058 | 3.5200e-003 | 3.1500e-003 | 129.1312 |
| **Total** | **0.0607** | **0.0291** | **0.4906** | **1.2500e-003** | **0.1369** | **7.1000e-004** | **0.1376** | **0.0363** | **6.5000e-004** | **0.0370** | | **128.1058** | **128.1058** | **3.5200e-003** | **3.1500e-003** | **129.1312** |

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.6595 | 27.5242 | 18.2443 | 0.0381 | | 1.2660 | 1.2660 | | 1.1647 | 1.1647 | 0.0000 | 3,687.3081 | 3,687.3081 | 1.1926 | | 3,717.1219 |
| **Total** | **2.6595** | **27.5242** | **18.2443** | **0.0381** | **19.6570** | **1.2660** | **20.9230** | **10.1025** | **1.1647** | **11.2672** | **0.0000** | **3,687.3081** | **3,687.3081** | **1.1926** | | **3,717.1219** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0607 | 0.0291 | 0.4906 | 1.2500e-003 | 0.1369 | 7.1000e-004 | 0.1376 | 0.0363 | 6.5000e-004 | 0.0370 | | 128.1058 | 128.1058 | 3.5200e-003 | 3.1500e-003 | 129.1312 |
| **Total** | **0.0607** | **0.0291** | **0.4906** | **1.2500e-003** | **0.1369** | **7.1000e-004** | **0.1376** | **0.0363** | **6.5000e-004** | **0.0370** | | **128.1058** | **128.1058** | **3.5200e-003** | **3.1500e-003** | **129.1312** |

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 10.1035 | 6.2347 | 53.5348 | 0.0785 | 10.1076 | 0.0424 | 10.1500 | 2.6910 | 0.0395 | 2.7305 | | 8,822.0778 | 8,822.0778 | 0.7389 | 0.5777 | 9,012.6999 |
| Unmitigated | 10.1035 | 6.2347 | 53.5348 | 0.0785 | 10.1076 | 0.0424 | 10.1500 | 2.6910 | 0.0395 | 2.7305 | | 8,822.0778 | 8,822.0778 | 0.7389 | 0.5777 | 9,012.6999 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Convenience Market with Gas Pumps | 1,547.73 | 1,547.73 | 1547.73 | 614,113 | 614,113 |
| Convenience Market with Gas Pumps | 640.44 | 640.44 | 640.44 | 254,116 | 254,116 |
| Convenience Market with Gas Pumps | 2,732.09 | 2,732.09 | 2732.09 | 1,084,046 | 1,084,046 |
| Convenience Market with Gas Pumps | 1,130.52 | 1,130.52 | 1130.52 | 448,571 | 448,571 |
| Fast Food Restaurant with Drive Thru | 691.44 | 691.44 | 691.44 | 477,643 | 477,643 |
| General Light Industry | 102.15 | 102.15 | 102.15 | 282,521 | 282,521 |
| General Office Building | 178.80 | 178.80 | 178.80 | 369,241 | 369,241 |
| Golf Course | 75.24 | 75.24 | 75.24 | 117,529 | 117,529 |
| High Turnover (Sit Down Restaurant) | 442.80 | 442.80 | 442.80 | 393,471 | 393,471 |
| Hotel | 266.80 | 266.80 | 266.80 | 410,421 | 410,421 |
| Single Family Housing | 86.80 | 86.80 | 86.80 | 222,738 | 222,738 |
| Unrefrigerated Warehouse-No Rail | 44.80 | 44.80 | 44.80 | 130,292 | 130,292 |
| Total | 7,939.61 | 7,939.61 | 7,939.61 | 4,804,701 | 4,804,701 |

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Convenience Market with Gas | 10.00 | 5.00 | 6.50 | 0.80 | 80.20 | 19.00 | 14 | 21 | 65 |
| Convenience Market with Gas | 10.00 | 5.00 | 6.50 | 0.80 | 80.20 | 19.00 | 14 | 21 | 65 |
| Convenience Market with Gas | 10.00 | 5.00 | 6.50 | 0.80 | 80.20 | 19.00 | 14 | 21 | 65 |
| Convenience Market with Gas | 10.00 | 5.00 | 6.50 | 0.80 | 80.20 | 19.00 | 14 | 21 | 65 |
| Fast Food Restaurant with Drive | 10.00 | 5.00 | 6.50 | 2.20 | 78.80 | 19.00 | 29 | 21 | 50 |
| General Light Industry | 10.00 | 5.00 | 6.50 | 59.00 | 28.00 | 13.00 | 92 | 5 | 3 |
| General Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 77 | 19 | 4 |
| Golf Course | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 52 | 39 | 9 |
| High Turnover (Sit Down | 10.00 | 5.00 | 6.50 | 8.50 | 72.50 | 19.00 | 37 | 20 | 43 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Single Family Housing | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Unrefrigerated Warehouse-No | 10.00 | 5.00 | 6.50 | 59.00 | 0.00 | 41.00 | 92 | 5 | 3 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Convenience Market with Gas Pumps | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Fast Food Restaurant with Drive Thru | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| General Light Industry | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| General Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Golf Course | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High Turnover (Sit Down Restaurant) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Hotel | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Single Family Housing | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Unrefrigerated Warehouse-No Rail | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

## 5.0 Energy Detail

Historical Energy Use: N

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 0.3832 | 3.4757 | 2.8701 | 0.0209 | | 0.2647 | 0.2647 | | 0.2647 | 0.2647 | | 4,180.0236 | 4,180.0236 | 0.0801 | 0.0766 | 4,204.8634 |
| NaturalGas Unmitigated | 0.3832 | 3.4757 | 2.8701 | 0.0209 | | 0.2647 | 0.2647 | | 0.2647 | 0.2647 | | 4,180.0236 | 4,180.0236 | 0.0801 | 0.0766 | 4,204.8634 |

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Convenience Market with Gas Pumps | 24.9242 | 2.7000e-004 | 2.4400e-003 | 2.0500e-003 | 1.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | | 2.9323 | 2.9323 | 6.0000e-005 | 5.0000e-005 | 2.9497 |
| Convenience Market with Gas Pumps | 426.658 | 4.6000e-003 | 0.0418 | 0.0351 | 2.5000e-004 | | 3.1800e-003 | 3.1800e-003 | | 3.1800e-003 | 3.1800e-003 | | 50.1950 | 50.1950 | 9.6000e-004 | 9.2000e-004 | 50.4933 |
| Fast Food Restaurant with Drive Thru | 1455.7 | 0.0157 | 0.1427 | 0.1199 | 8.6000e-004 | | 0.0109 | 0.0109 | | 0.0109 | 0.0109 | | 171.2587 | 171.2587 | 3.2800e-003 | 3.1400e-003 | 172.2764 |
| General Light Industry | 4385.34 | 0.0473 | 0.4299 | 0.3612 | 2.5800e-003 | | 0.0327 | 0.0327 | | 0.0327 | 0.0327 | | 515.9226 | 515.9226 | 9.8900e-003 | 9.4600e-003 | 518.9885 |
| General Office Building | 1422.47 | 0.0153 | 0.1395 | 0.1171 | 8.4000e-004 | | 0.0106 | 0.0106 | | 0.0106 | 0.0106 | | 167.3489 | 167.3489 | 3.2100e-003 | 3.0700e-003 | 168.3434 |
| Golf Course | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| High Turnover (Sit Down Restaurant) | 4367.1 | 0.0471 | 0.4282 | 0.3596 | 2.5700e-003 | | 0.0325 | 0.0325 | | 0.0325 | 0.0325 | | 513.7760 | 513.7760 | 9.8500e-003 | 9.4200e-003 | 516.8291 |
| Hotel | 22057.7 | 0.2379 | 2.1625 | 1.8165 | 0.0130 | | 0.1644 | 0.1644 | | 0.1644 | 0.1644 | | 2,595.0200 | 2,595.0200 | 0.0497 | 0.0476 | 2,610.4409 |
| Single Family Housing | 1296.37 | 0.0140 | 0.1195 | 0.0508 | 7.6000e-004 | | 9.6600e-003 | 9.6600e-003 | | 9.6600e-003 | 9.6600e-003 | | 152.5145 | 152.5145 | 2.9200e-003 | 2.8000e-003 | 153.4208 |
| Unrefrigerated Warehouse-No Rail | 93.9726 | 1.0100e-003 | 9.2100e-003 | 7.7400e-003 | 6.0000e-005 | | 7.0000e-004 | 7.0000e-004 | | 7.0000e-004 | 7.0000e-004 | | 11.0556 | 11.0556 | 2.1000e-004 | 2.0000e-004 | 11.1213 |
| **Total** | | **0.3832** | **3.4757** | **2.8701** | **0.0209** | | **0.2648** | **0.2648** | | **0.2648** | **0.2648** | | **4,180.0236** | **4,180.0236** | **0.0801** | **0.0766** | **4,204.8634** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Convenience Market with Gas Pumps | 0.0249242 | 2.7000e-004 | 2.4400e-003 | 2.0500e-003 | 1.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | | 2.9323 | 2.9323 | 6.0000e-005 | 5.0000e-005 | 2.9497 |
| Convenience Market with Gas Pumps | 0.426658 | 4.6000e-003 | 0.0418 | 0.0351 | 2.5000e-004 | | 3.1800e-003 | 3.1800e-003 | | 3.1800e-003 | 3.1800e-003 | | 50.1950 | 50.1950 | 9.6000e-004 | 9.2000e-004 | 50.4933 |
| Fast Food Restaurant with Drive Thru | 1.4557 | 0.0157 | 0.1427 | 0.1199 | 8.6000e-004 | | 0.0109 | 0.0109 | | 0.0109 | 0.0109 | | 171.2587 | 171.2587 | 3.2800e-003 | 3.1400e-003 | 172.2764 |
| General Light Industry | 4.38534 | 0.0473 | 0.4299 | 0.3612 | 2.5800e-003 | | 0.0327 | 0.0327 | | 0.0327 | 0.0327 | | 515.9226 | 515.9226 | 9.8900e-003 | 9.4600e-003 | 518.9885 |
| General Office Building | 1.42247 | 0.0153 | 0.1395 | 0.1171 | 8.4000e-004 | | 0.0106 | 0.0106 | | 0.0106 | 0.0106 | | 167.3489 | 167.3489 | 3.2100e-003 | 3.0700e-003 | 168.3434 |
| Golf Course | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| High Turnover (Sit Down Restaurant) | 4.3671 | 0.0471 | 0.4282 | 0.3596 | 2.5700e-003 | | 0.0325 | 0.0325 | | 0.0325 | 0.0325 | | 513.7760 | 513.7760 | 9.8500e-003 | 9.4200e-003 | 516.8291 |
| Hotel | 22.0577 | 0.2379 | 2.1625 | 1.8165 | 0.0130 | | 0.1644 | 0.1644 | | 0.1644 | 0.1644 | | 2,595.0200 | 2,595.0200 | 0.0497 | 0.0476 | 2,610.4409 |
| Single Family Housing | 1.29637 | 0.0140 | 0.1195 | 0.0508 | 7.6000e-004 | | 9.6600e-003 | 9.6600e-003 | | 9.6600e-003 | 9.6600e-003 | | 152.5145 | 152.5145 | 2.9200e-003 | 2.8000e-003 | 153.4208 |
| Unrefrigerated Warehouse-No Rail | 0.0939726 | 1.0100e-003 | 9.2100e-003 | 7.7400e-003 | 6.0000e-005 | | 7.0000e-004 | 7.0000e-004 | | 7.0000e-004 | 7.0000e-004 | | 11.0556 | 11.0556 | 2.1000e-004 | 2.0000e-004 | 11.1213 |
| **Total** | | **0.3832** | **3.4757** | **2.8701** | **0.0209** | | **0.2648** | **0.2648** | | **0.2648** | **0.2648** | | **4,180.0236** | **4,180.0236** | **0.0801** | **0.0766** | **4,204.8634** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 10.7194 | 0.0193 | 1.6798 | 9.0000e-005 | | 9.2800e-003 | 9.2800e-003 | | 9.2800e-003 | 9.2800e-003 | 0.0000 | 3.0509 | 3.0509 | 3.0300e-003 | 0.0000 | 3.1268 |
| Unmitigated | 10.7194 | 0.0193 | 1.6798 | 9.0000e-005 | | 9.2800e-003 | 9.2800e-003 | | 9.2800e-003 | 9.2800e-003 | 0.0000 | 3.0509 | 3.0509 | 3.0300e-003 | 0.0000 | 3.1268 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 1.1602 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 9.5066 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 0.0525 | 0.0193 | 1.6798 | 9.0000e-005 | | 9.2800e-003 | 9.2800e-003 | | 9.2800e-003 | 9.2800e-003 | | 3.0509 | 3.0509 | 3.0300e-003 | | 3.1268 |
| **Total** | **10.7194** | **0.0193** | **1.6798** | **9.0000e-005** | | **9.2800e-003** | **9.2800e-003** | | **9.2800e-003** | **9.2800e-003** | **0.0000** | **3.0509** | **3.0509** | **3.0300e-003** | **0.0000** | **3.1268** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 1.1602 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 9.5066 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 0.0525 | 0.0193 | 1.6798 | 9.0000e-005 | | 9.2800e-003 | 9.2800e-003 | | 9.2800e-003 | 9.2800e-003 | | 3.0509 | 3.0509 | 3.0300e-003 | | 3.1268 |
| **Total** | **10.7194** | **0.0193** | **1.6798** | **9.0000e-005** | | **9.2800e-003** | **9.2800e-003** | | **9.2800e-003** | **9.2800e-003** | **0.0000** | **3.0509** | **3.0509** | **3.0300e-003** | **0.0000** | **3.1268** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# UWSP - Existing Conditions

**Sacramento Metropolitan AQMD Air District, Winter**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| General Office Building | 40.00 | 1000sqft | 0.92 | 40,000.00 | 0 |
| General Light Industry | 45.00 | 1000sqft | 1.03 | 45,000.00 | 0 |
| Unrefrigerated Warehouse-No Rail | 70.00 | 1000sqft | 1.61 | 70,000.00 | 0 |
| Fast Food Restaurant with Drive Thru | 3.00 | 1000sqft | 0.07 | 3,000.00 | 0 |
| Golf Course | 12.00 | Hole | 83.77 | 0.00 | 0 |
| High Turnover (Sit Down Restaurant) | 9.00 | 1000sqft | 0.21 | 9,000.00 | 0 |
| Hotel | 145.00 | Room | 4.83 | 210,540.00 | 0 |
| Single Family Housing | 20.00 | Dwelling Unit | 6.49 | 36,000.00 | 53 |
| Convenience Market with Gas Pumps | 12.00 | Pump | 0.04 | 1,694.10 | 0 |
| Convenience Market with Gas Pumps | 29.00 | 1000sqft | 0.67 | 29,000.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 3.5 | **Precipitation Freq (Days)** | 58 |
| **Climate Zone** | 6 | | | **Operational Year** | 2045 |
| **Utility Company** | Sacramento Municipal Utility District | | | | |
| **CO2 Intensity (lb/MWhr)** | 0 | **CH4 Intensity (lb/MWhr)** | 0.033 | **N2O Intensity (lb/MWhr)** | 0.004 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity factor adjusted to represent compliance with SMUD's RPS projections.

Land Use -

Construction Phase - construction not modeled.

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Grading -

Vehicle Trips - Trip generation rates adjusted per project-specific traffic report.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 60.00 | 1.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 357.98 | 0 |
| tblVehicleTrips | ST_TR | 624.20 | 53.37 |
| tblVehicleTrips | ST_TR | 322.50 | 94.21 |
| tblVehicleTrips | ST_TR | 616.12 | 230.48 |
| tblVehicleTrips | ST_TR | 1.99 | 2.27 |
| tblVehicleTrips | ST_TR | 2.21 | 4.47 |
| tblVehicleTrips | ST_TR | 19.89 | 6.27 |
| tblVehicleTrips | ST_TR | 122.40 | 49.20 |
| tblVehicleTrips | ST_TR | 8.19 | 1.84 |
| tblVehicleTrips | ST_TR | 9.54 | 4.34 |
| tblVehicleTrips | ST_TR | 1.74 | 0.64 |
| tblVehicleTrips | SU_TR | 624.20 | 53.37 |
| tblVehicleTrips | SU_TR | 322.50 | 94.21 |
| tblVehicleTrips | SU_TR | 472.58 | 230.48 |
| tblVehicleTrips | SU_TR | 5.00 | 2.27 |
| tblVehicleTrips | SU_TR | 0.70 | 4.47 |
| tblVehicleTrips | SU_TR | 18.89 | 6.27 |
| tblVehicleTrips | SU_TR | 142.64 | 49.20 |
| tblVehicleTrips | SU_TR | 5.95 | 1.84 |
| tblVehicleTrips | SU_TR | 8.55 | 4.34 |
| tblVehicleTrips | SU_TR | 1.74 | 0.64 |
| tblVehicleTrips | WD_TR | 624.20 | 53.37 |
| tblVehicleTrips | WD_TR | 322.50 | 94.21 |
| tblVehicleTrips | WD_TR | 470.95 | 230.48 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblVehicleTrips | WD_TR | 4.96 | 2.27 |
| tblVehicleTrips | WD_TR | 9.74 | 4.47 |
| tblVehicleTrips | WD_TR | 30.38 | 6.27 |
| tblVehicleTrips | WD_TR | 112.18 | 49.20 |
| tblVehicleTrips | WD_TR | 8.36 | 1.84 |
| tblVehicleTrips | WD_TR | 9.44 | 4.34 |
| tblVehicleTrips | WD_TR | 1.74 | 0.64 |

## 2.0 Emissions Summary

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 2.7132 | 27.5599 | 18.6716 | 0.0392 | 19.7939 | 1.2667 | 21.0607 | 10.1388 | 1.1654 | 11.3042 | 0.0000 | 3,801.2622 | 3,801.2622 | 1.1966 | 3.6100e-003 | 3,832.2524 |
| **Maximum** | **2.7132** | **27.5599** | **18.6716** | **0.0392** | **19.7939** | **1.2667** | **21.0607** | **10.1388** | **1.1654** | **11.3042** | **0.0000** | **3,801.2622** | **3,801.2622** | **1.1966** | **3.6100e-003** | **3,832.2524** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 2.7132 | 27.5599 | 18.6716 | 0.0392 | 19.7939 | 1.2667 | 21.0607 | 10.1388 | 1.1654 | 11.3042 | 0.0000 | 3,801.2622 | 3,801.2622 | 1.1966 | 3.6100e-003 | 3,832.2524 |
| **Maximum** | **2.7132** | **27.5599** | **18.6716** | **0.0392** | **19.7939** | **1.2667** | **21.0607** | **10.1388** | **1.1654** | **11.3042** | **0.0000** | **3,801.2622** | **3,801.2622** | **1.1966** | **3.6100e-003** | **3,832.2524** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 10.7194 | 0.0193 | 1.6798 | 9.0000e-005 | | 9.2800e-003 | 9.2800e-003 | | 9.2800e-003 | 9.2800e-003 | 0.0000 | 3.0509 | 3.0509 | 3.0300e-003 | 0.0000 | 3.1268 |
| Energy | 0.3832 | 3.4757 | 2.8701 | 0.0209 | | 0.2647 | 0.2647 | | 0.2647 | 0.2647 | | 4,180.0236 | 4,180.0236 | 0.0801 | 0.0766 | 4,204.8634 |
| Mobile | 6.4395 | 7.1657 | 62.5436 | 0.0724 | 10.1076 | 0.0425 | 10.1501 | 2.6910 | 0.0396 | 2.7306 | | 8,125.3971 | 8,125.3971 | 0.8842 | 0.6391 | 8,337.9384 |
| **Total** | **17.5420** | **10.6607** | **67.0935** | **0.0933** | **10.1076** | **0.3165** | **10.4241** | **2.6910** | **0.3136** | **3.0046** | **0.0000** | **12,308.4716** | **12,308.4716** | **0.9673** | **0.7157** | **12,545.9285** |

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 10.7194 | 0.0193 | 1.6798 | 9.0000e-005 | | 9.2800e-003 | 9.2800e-003 | | 9.2800e-003 | 9.2800e-003 | 0.0000 | 3.0509 | 3.0509 | 3.0300e-003 | 0.0000 | 3.1268 |
| Energy | 0.3832 | 3.4757 | 2.8701 | 0.0209 | | 0.2647 | 0.2647 | | 0.2647 | 0.2647 | | 4,180.0236 | 4,180.0236 | 0.0801 | 0.0766 | 4,204.8634 |
| Mobile | 6.4395 | 7.1657 | 62.5436 | 0.0724 | 10.1076 | 0.0425 | 10.1501 | 2.6910 | 0.0396 | 2.7306 | | 8,125.3971 | 8,125.3971 | 0.8842 | 0.6391 | 8,337.9384 |
| **Total** | **17.5420** | **10.6607** | **67.0935** | **0.0933** | **10.1076** | **0.3165** | **10.4241** | **2.6910** | **0.3136** | **3.0046** | **0.0000** | **12,308.4716** | **12,308.4716** | **0.9673** | **0.7157** | **12,545.9285** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 10/19/2023 | 10/19/2023 | 5 | 1 | |

**Acres of Grading (Site Preparation Phase): 1.5**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

### OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |

### Trips and VMT

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 7 | 18.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.6595 | 27.5242 | 18.2443 | 0.0381 | | 1.2660 | 1.2660 | | 1.1647 | 1.1647 | | 3,687.3081 | 3,687.3081 | 1.1926 | | 3,717.1219 |
| **Total** | **2.6595** | **27.5242** | **18.2443** | **0.0381** | **19.6570** | **1.2660** | **20.9230** | **10.1025** | **1.1647** | **11.2672** | | **3,687.3081** | **3,687.3081** | **1.1926** | | **3,717.1219** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0537 | 0.0358 | 0.4272 | 1.1100e-003 | 0.1369 | 7.1000e-004 | 0.1376 | 0.0363 | 6.5000e-004 | 0.0370 | | 113.9541 | 113.9541 | 4.0500e-003 | 3.6100e-003 | 115.1305 |
| **Total** | **0.0537** | **0.0358** | **0.4272** | **1.1100e-003** | **0.1369** | **7.1000e-004** | **0.1376** | **0.0363** | **6.5000e-004** | **0.0370** | | **113.9541** | **113.9541** | **4.0500e-003** | **3.6100e-003** | **115.1305** |

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.6595 | 27.5242 | 18.2443 | 0.0381 | | 1.2660 | 1.2660 | | 1.1647 | 1.1647 | 0.0000 | 3,687.3081 | 3,687.3081 | 1.1926 | | 3,717.1219 |
| **Total** | **2.6595** | **27.5242** | **18.2443** | **0.0381** | **19.6570** | **1.2660** | **20.9230** | **10.1025** | **1.1647** | **11.2672** | **0.0000** | **3,687.3081** | **3,687.3081** | **1.1926** | | **3,717.1219** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0537 | 0.0358 | 0.4272 | 1.1100e-003 | 0.1369 | 7.1000e-004 | 0.1376 | 0.0363 | 6.5000e-004 | 0.0370 | | 113.9541 | 113.9541 | 4.0500e-003 | 3.6100e-003 | 115.1305 |
| **Total** | **0.0537** | **0.0358** | **0.4272** | **1.1100e-003** | **0.1369** | **7.1000e-004** | **0.1376** | **0.0363** | **6.5000e-004** | **0.0370** | | **113.9541** | **113.9541** | **4.0500e-003** | **3.6100e-003** | **115.1305** |

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 6.4395 | 7.1657 | 62.5436 | 0.0724 | 10.1076 | 0.0425 | 10.1501 | 2.6910 | 0.0396 | 2.7306 | | 8,125.3971 | 8,125.3971 | 0.8842 | 0.6391 | 8,337.9384 |
| Unmitigated | 6.4395 | 7.1657 | 62.5436 | 0.0724 | 10.1076 | 0.0425 | 10.1501 | 2.6910 | 0.0396 | 2.7306 | | 8,125.3971 | 8,125.3971 | 0.8842 | 0.6391 | 8,337.9384 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Convenience Market with Gas Pumps | 1,547.73 | 1,547.73 | 1547.73 | 614,113 | 614,113 |
| Convenience Market with Gas Pumps | 640.44 | 640.44 | 640.44 | 254,116 | 254,116 |
| Convenience Market with Gas Pumps | 2,732.09 | 2,732.09 | 2732.09 | 1,084,046 | 1,084,046 |
| Convenience Market with Gas Pumps | 1,130.52 | 1,130.52 | 1130.52 | 448,571 | 448,571 |
| Fast Food Restaurant with Drive Thru | 691.44 | 691.44 | 691.44 | 477,643 | 477,643 |
| General Light Industry | 102.15 | 102.15 | 102.15 | 282,521 | 282,521 |
| General Office Building | 178.80 | 178.80 | 178.80 | 369,241 | 369,241 |
| Golf Course | 75.24 | 75.24 | 75.24 | 117,529 | 117,529 |
| High Turnover (Sit Down Restaurant) | 442.80 | 442.80 | 442.80 | 393,471 | 393,471 |
| Hotel | 266.80 | 266.80 | 266.80 | 410,421 | 410,421 |
| Single Family Housing | 86.80 | 86.80 | 86.80 | 222,738 | 222,738 |
| Unrefrigerated Warehouse-No Rail | 44.80 | 44.80 | 44.80 | 130,292 | 130,292 |
| Total | 7,939.61 | 7,939.61 | 7,939.61 | 4,804,701 | 4,804,701 |

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Convenience Market with Gas | 10.00 | 5.00 | 6.50 | 0.80 | 80.20 | 19.00 | 14 | 21 | 65 |
| Convenience Market with Gas | 10.00 | 5.00 | 6.50 | 0.80 | 80.20 | 19.00 | 14 | 21 | 65 |
| Convenience Market with Gas | 10.00 | 5.00 | 6.50 | 0.80 | 80.20 | 19.00 | 14 | 21 | 65 |
| Convenience Market with Gas | 10.00 | 5.00 | 6.50 | 0.80 | 80.20 | 19.00 | 14 | 21 | 65 |
| Fast Food Restaurant with Drive | 10.00 | 5.00 | 6.50 | 2.20 | 78.80 | 19.00 | 29 | 21 | 50 |
| General Light Industry | 10.00 | 5.00 | 6.50 | 59.00 | 28.00 | 13.00 | 92 | 5 | 3 |
| General Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 77 | 19 | 4 |
| Golf Course | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 52 | 39 | 9 |
| High Turnover (Sit Down | 10.00 | 5.00 | 6.50 | 8.50 | 72.50 | 19.00 | 37 | 20 | 43 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Single Family Housing | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Unrefrigerated Warehouse-No | 10.00 | 5.00 | 6.50 | 59.00 | 0.00 | 41.00 | 92 | 5 | 3 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Convenience Market with Gas Pumps | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Fast Food Restaurant with Drive Thru | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| General Light Industry | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| General Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Golf Course | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High Turnover (Sit Down Restaurant) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Hotel | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Single Family Housing | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Unrefrigerated Warehouse-No Rail | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

## 5.0 Energy Detail

Historical Energy Use: N

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 0.3832 | 3.4757 | 2.8701 | 0.0209 | | 0.2647 | 0.2647 | | 0.2647 | 0.2647 | | 4,180.0236 | 4,180.0236 | 0.0801 | 0.0766 | 4,204.8634 |
| NaturalGas Unmitigated | 0.3832 | 3.4757 | 2.8701 | 0.0209 | | 0.2647 | 0.2647 | | 0.2647 | 0.2647 | | 4,180.0236 | 4,180.0236 | 0.0801 | 0.0766 | 4,204.8634 |

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Convenience Market with Gas Pumps | 24.9242 | 2.7000e-004 | 2.4400e-003 | 2.0500e-003 | 1.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | | 2.9323 | 2.9323 | 6.0000e-005 | 5.0000e-005 | 2.9497 |
| Convenience Market with Gas Pumps | 426.658 | 4.6000e-003 | 0.0418 | 0.0351 | 2.5000e-004 | | 3.1800e-003 | 3.1800e-003 | | 3.1800e-003 | 3.1800e-003 | | 50.1950 | 50.1950 | 9.6000e-004 | 9.2000e-004 | 50.4933 |
| Fast Food Restaurant with Drive Thru | 1455.7 | 0.0157 | 0.1427 | 0.1199 | 8.6000e-004 | | 0.0109 | 0.0109 | | 0.0109 | 0.0109 | | 171.2587 | 171.2587 | 3.2800e-003 | 3.1400e-003 | 172.2764 |
| General Light Industry | 4385.34 | 0.0473 | 0.4299 | 0.3612 | 2.5800e-003 | | 0.0327 | 0.0327 | | 0.0327 | 0.0327 | | 515.9226 | 515.9226 | 9.8900e-003 | 9.4600e-003 | 518.9885 |
| General Office Building | 1422.47 | 0.0153 | 0.1395 | 0.1171 | 8.4000e-004 | | 0.0106 | 0.0106 | | 0.0106 | 0.0106 | | 167.3489 | 167.3489 | 3.2100e-003 | 3.0700e-003 | 168.3434 |
| Golf Course | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| High Turnover (Sit Down Restaurant) | 4367.1 | 0.0471 | 0.4282 | 0.3596 | 2.5700e-003 | | 0.0325 | 0.0325 | | 0.0325 | 0.0325 | | 513.7760 | 513.7760 | 9.8500e-003 | 9.4200e-003 | 516.8291 |
| Hotel | 22057.7 | 0.2379 | 2.1625 | 1.8165 | 0.0130 | | 0.1644 | 0.1644 | | 0.1644 | 0.1644 | | 2,595.0200 | 2,595.0200 | 0.0497 | 0.0476 | 2,610.4409 |
| Single Family Housing | 1296.37 | 0.0140 | 0.1195 | 0.0508 | 7.6000e-004 | | 9.6600e-003 | 9.6600e-003 | | 9.6600e-003 | 9.6600e-003 | | 152.5145 | 152.5145 | 2.9200e-003 | 2.8000e-003 | 153.4208 |
| Unrefrigerated Warehouse-No Rail | 93.9726 | 1.0100e-003 | 9.2100e-003 | 7.7400e-003 | 6.0000e-005 | | 7.0000e-004 | 7.0000e-004 | | 7.0000e-004 | 7.0000e-004 | | 11.0556 | 11.0556 | 2.1000e-004 | 2.0000e-004 | 11.1213 |
| **Total** | | **0.3832** | **3.4757** | **2.8701** | **0.0209** | | **0.2648** | **0.2648** | | **0.2648** | **0.2648** | | **4,180.0236** | **4,180.0236** | **0.0801** | **0.0766** | **4,204.8634** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Convenience Market with Gas Pumps | 0.0249242 | 2.7000e-004 | 2.4400e-003 | 2.0500e-003 | 1.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | | 2.9323 | 2.9323 | 6.0000e-005 | 5.0000e-005 | 2.9497 |
| Convenience Market with Gas Pumps | 0.426658 | 4.6000e-003 | 0.0418 | 0.0351 | 2.5000e-004 | | 3.1800e-003 | 3.1800e-003 | | 3.1800e-003 | 3.1800e-003 | | 50.1950 | 50.1950 | 9.6000e-004 | 9.2000e-004 | 50.4933 |
| Fast Food Restaurant with Drive Thru | 1.4557 | 0.0157 | 0.1427 | 0.1199 | 8.6000e-004 | | 0.0109 | 0.0109 | | 0.0109 | 0.0109 | | 171.2587 | 171.2587 | 3.2800e-003 | 3.1400e-003 | 172.2764 |
| General Light Industry | 4.38534 | 0.0473 | 0.4299 | 0.3612 | 2.5800e-003 | | 0.0327 | 0.0327 | | 0.0327 | 0.0327 | | 515.9226 | 515.9226 | 9.8900e-003 | 9.4600e-003 | 518.9885 |
| General Office Building | 1.42247 | 0.0153 | 0.1395 | 0.1171 | 8.4000e-004 | | 0.0106 | 0.0106 | | 0.0106 | 0.0106 | | 167.3489 | 167.3489 | 3.2100e-003 | 3.0700e-003 | 168.3434 |
| Golf Course | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| High Turnover (Sit Down Restaurant) | 4.3671 | 0.0471 | 0.4282 | 0.3596 | 2.5700e-003 | | 0.0325 | 0.0325 | | 0.0325 | 0.0325 | | 513.7760 | 513.7760 | 9.8500e-003 | 9.4200e-003 | 516.8291 |
| Hotel | 22.0577 | 0.2379 | 2.1625 | 1.8165 | 0.0130 | | 0.1644 | 0.1644 | | 0.1644 | 0.1644 | | 2,595.0200 | 2,595.0200 | 0.0497 | 0.0476 | 2,610.4409 |
| Single Family Housing | 1.29637 | 0.0140 | 0.1195 | 0.0508 | 7.6000e-004 | | 9.6600e-003 | 9.6600e-003 | | 9.6600e-003 | 9.6600e-003 | | 152.5145 | 152.5145 | 2.9200e-003 | 2.8000e-003 | 153.4208 |
| Unrefrigerated Warehouse-No Rail | 0.0939726 | 1.0100e-003 | 9.2100e-003 | 7.7400e-003 | 6.0000e-005 | | 7.0000e-004 | 7.0000e-004 | | 7.0000e-004 | 7.0000e-004 | | 11.0556 | 11.0556 | 2.1000e-004 | 2.0000e-004 | 11.1213 |
| **Total** | | **0.3832** | **3.4757** | **2.8701** | **0.0209** | | **0.2648** | **0.2648** | | **0.2648** | **0.2648** | | **4,180.0236** | **4,180.0236** | **0.0801** | **0.0766** | **4,204.8634** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 10.7194 | 0.0193 | 1.6798 | 9.0000e-005 | | 9.2800e-003 | 9.2800e-003 | | 9.2800e-003 | 9.2800e-003 | 0.0000 | 3.0509 | 3.0509 | 3.0300e-003 | 0.0000 | 3.1268 |
| Unmitigated | 10.7194 | 0.0193 | 1.6798 | 9.0000e-005 | | 9.2800e-003 | 9.2800e-003 | | 9.2800e-003 | 9.2800e-003 | 0.0000 | 3.0509 | 3.0509 | 3.0300e-003 | 0.0000 | 3.1268 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 1.1602 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 9.5066 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 0.0525 | 0.0193 | 1.6798 | 9.0000e-005 | | 9.2800e-003 | 9.2800e-003 | | 9.2800e-003 | 9.2800e-003 | | 3.0509 | 3.0509 | 3.0300e-003 | | 3.1268 |
| **Total** | **10.7194** | **0.0193** | **1.6798** | **9.0000e-005** | | **9.2800e-003** | **9.2800e-003** | | **9.2800e-003** | **9.2800e-003** | **0.0000** | **3.0509** | **3.0509** | **3.0300e-003** | **0.0000** | **3.1268** |

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 1.1602 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 9.5066 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 0.0525 | 0.0193 | 1.6798 | 9.0000e-005 | | 9.2800e-003 | 9.2800e-003 | | 9.2800e-003 | 9.2800e-003 | | 3.0509 | 3.0509 | 3.0300e-003 | | 3.1268 |
| **Total** | **10.7194** | **0.0193** | **1.6798** | **9.0000e-005** | | **9.2800e-003** | **9.2800e-003** | | **9.2800e-003** | **9.2800e-003** | **0.0000** | **3.0509** | **3.0509** | **3.0300e-003** | **0.0000** | **3.1268** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

UWSP - Existing Conditions - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

# UWSP - Existing Conditions

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Sacramento Metropolitan AQMD Air District, Mitigation Report**

## Construction Mitigation Summary

| Phase | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Site Preparation | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## OFFROAD Equipment Mitigation

| Equipment Type | Fuel Type | Tier | Number Mitigated | Total Number of Equipment | DPF | Oxidation Catalyst |
|---|---|---|---|---|---|---|
| Rubber Tired Dozers | Diesel | No Change | 0 | 3 | No Change | 0.00 |
| Tractors/Loaders/Backhoes | Diesel | No Change | 0 | 4 | No Change | 0.00 |

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Unmitigated tons/yr | | | | | | Unmitigated mt/yr | | | | | |
| Rubber Tired Dozers | 1.03000E-003 | 1.06900E-002 | 4.66000E-003 | 1.00000E-005 | 4.80000E-004 | 4.40000E-004 | 0.00000E+000 | 1.12536E+000 | 1.12536E+000 | 3.60000E-004 | 0.00000E+000 | 1.13446E+000 |
| Tractors/Loaders/ Backhoes | 3.00000E-004 | 3.07000E-003 | 4.46000E-003 | 1.00000E-005 | 1.50000E-004 | 1.40000E-004 | 0.00000E+000 | 5.47170E-001 | 5.47170E-001 | 1.80000E-004 | 0.00000E+000 | 5.51600E-001 |

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mitigated tons/yr | | | | | | Mitigated mt/yr | | | | | |
| Rubber Tired Dozers | 1.03000E-003 | 1.06900E-002 | 4.66000E-003 | 1.00000E-005 | 4.80000E-004 | 4.40000E-004 | 0.00000E+000 | 1.12536E+000 | 1.12536E+000 | 3.60000E-004 | 0.00000E+000 | 1.13446E+000 |
| Tractors/Loaders/Backhoes | 3.00000E-004 | 3.07000E-003 | 4.46000E-003 | 1.00000E-005 | 1.50000E-004 | 1.40000E-004 | 0.00000E+000 | 5.47170E-001 | 5.47170E-001 | 1.80000E-004 | 0.00000E+000 | 5.51590E-001 |

# UWSP - Existing Conditions

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Rubber Tired Dozers | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |
| Tractors/Loaders/Backhoes | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.81291E-005 |

## Fugitive Dust Mitigation

| Yes/No | Mitigation Measure | Mitigation Input | | Mitigation Input | | Mitigation Input | |
|---|---|---|---|---|---|---|---|
| No | Soil Stabilizer for unpaved Roads | PM10 Reduction | | PM2.5 Reduction | | | |
| No | Replace Ground Cover of Area Disturbed | PM10 Reduction | | PM2.5 Reduction | | | |
| No | Water Exposed Area | PM10 Reduction | | PM2.5 Reduction | | Frequency (per day) | |
| No | Unpaved Road Mitigation | Moisture Content % | | Vehicle Speed (mph) | 0.00 | | |
| No | Clean Paved Road | % PM Reduction | 0.00 | | | | |

| | | Unmitigated | | Mitigated | | Percent Reduction | |
|---|---|---|---|---|---|---|---|
| Phase | Source | PM10 | PM2.5 | PM10 | PM2.5 | PM10 | PM2.5 |
| Site Preparation | Fugitive Dust | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 |
| Site Preparation | Roads | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

# UWSP - Existing Conditions

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## Operational Percent Reduction Summary

| Category | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Architectural Coating | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Consumer Products | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hearth | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mobile | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Natural Gas | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water Indoor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water Outdoor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## Operational Mobile Mitigation

Project Setting:

| Mitigation | Category | Measure | % Reduction | Input Value 1 | Input Value 2 | Input Value 3 |
|---|---|---|---|---|---|---|
| No | Land Use | Increase Density | 0.00 | | | |
| No | Land Use | Increase Diversity | 0.30 | 0.72 | | |
| No | Land Use | Improve Walkability Design | 0.00 | | | |
| No | Land Use | Improve Destination Accessibility | 0.00 | | | |
| No | Land Use | Increase Transit Accessibility | 0.25 | | | |

## UWSP - Existing Conditions

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | |
|---|---|---|---|---|---|---|
| No | Land Use | Integrate Below Market Rate Housing | 0.00 | | | |
| | Land Use | Land Use SubTotal | 0.00 | | | |
| No | Neighborhood Enhancements | Improve Pedestrian Network | | | | |
| No | Neighborhood Enhancements | Provide Traffic Calming Measures | | | | |
| No | Neighborhood Enhancements | Implement NEV Network | 0.00 | | | |
| | Neighborhood Enhancements | Neighborhood Enhancements Subtotal | 0.00 | | | |
| No | Parking Policy Pricing | Limit Parking Supply | 0.00 | | | |
| No | Parking Policy Pricing | Unbundle Parking Costs | 0.00 | | | |
| No | Parking Policy Pricing | On-street Market Pricing | 0.00 | | | |
| | Parking Policy Pricing | Parking Policy Pricing Subtotal | 0.00 | | | |
| No | Transit Improvements | Provide BRT System | 0.00 | | | |
| No | Transit Improvements | Expand Transit Network | 0.00 | | | |
| No | Transit Improvements | Increase Transit Frequency | 0.00 | | | |
| | Transit Improvements | Transit Improvements Subtotal | 0.00 | | | |
| | | Land Use and Site Enhancement Subtotal | 0.00 | | | |
| No | Commute | Implement Trip Reduction Program | | | | |
| No | Commute | Transit Subsidy | | | | |
| No | Commute | Implement Employee Parking "Cash Out" | | | | |
| No | Commute | Workplace Parking Charge | | | | |
| No | Commute | Encourage Telecommuting and Alternative Work Schedules | 0.00 | | | |

# UWSP - Existing Conditions

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | |
|---|---|---|---|---|---|---|
| No | Commute | Market Commute Trip Reduction Option | 0.00 | | | |
| No | Commute | Employee Vanpool/Shuttle | 0.00 | | 2.00 | |
| No | Commute | Provide Ride Sharing Program | | | | |
| | Commute | Commute Subtotal | 0.00 | | | |
| No | School Trip | Implement School Bus Program | 0.00 | | | |
| | | Total VMT Reduction | 0.00 | | | |

## Area Mitigation

| Measure Implemented | Mitigation Measure | Input Value |
|---|---|---|
| No | Only Natural Gas Hearth | |
| No | No Hearth | |
| No | Use Low VOC Cleaning Supplies | |
| No | Use Low VOC Paint (Residential Interior) | 100.00 |
| No | Use Low VOC Paint (Residential Exterior) | 100.00 |
| No | Use Low VOC Paint (Non-residential Interior) | 100.00 |
| No | Use Low VOC Paint (Non-residential Exterior) | 100.00 |
| No | Use Low VOC Paint (Parking) | 100.00 |
| No | % Electric Lawnmower | |
| No | % Electric Leafblower | |
| No | % Electric Chainsaw | |

## Energy Mitigation Measures

# UWSP - Existing Conditions

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Measure Implemented | Mitigation Measure | Input Value 1 | Input Value 2 |
|---|---|---|---|
| No | Exceed Title 24 | | |
| No | Install High Efficiency Lighting | | |
| No | On-site Renewable | | |

| Appliance Type | Land Use Subtype | % Improvement |
|---|---|---|
| ClothWasher | | 30.00 |
| DishWasher | | 15.00 |
| Fan | | 50.00 |
| Refrigerator | | 15.00 |

## Water Mitigation Measures

| Measure Implemented | Mitigation Measure | Input Value 1 | Input Value 2 |
|---|---|---|---|
| No | Apply Water Conservation on Strategy | | |
| No | Use Reclaimed Water | | |
| No | Use Grey Water | | |
| No | Install low-flow bathroom faucet | 32.00 | |
| No | Install low-flow Kitchen faucet | 18.00 | |
| No | Install low-flow Toilet | 20.00 | |
| No | Install low-flow Shower | 20.00 | |
| No | Turf Reduction | | |
| No | Use Water Efficient Irrigation Systems | 6.10 | |

# UWSP - Existing Conditions

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| No | Water Efficient Landscape | | |

## Solid Waste Mitigation

| Mitigation Measures | Input Value |
|---|---|
| Institute Recycling and Composting Services<br>Percent Reduction in Waste Disposed | |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# UWSP - Proposed Project

**Sacramento Metropolitan AQMD Air District, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| General Office Building | 1,573.00 | 1000sqft | 36.11 | 1,573,000.00 | 0 |
| Government Office Building | 74.00 | 1000sqft | 1.70 | 74,000.00 | 0 |
| Medical Office Building | 41.60 | 1000sqft | 0.96 | 41,600.00 | 0 |
| High School | 1,500.00 | Student | 4.57 | 198,991.47 | 0 |
| Junior College (2yr) | 2,500.00 | Student | 2.51 | 208,000.00 | 0 |
| Junior High School | 3,000.00 | Student | 8.10 | 352,685.05 | 0 |
| Arena | 72.00 | 1000sqft | 23.14 | 72,000.00 | 0 |
| Fast Food Restaurant with Drive Thru | 24.00 | 1000sqft | 0.55 | 24,000.00 | 0 |
| Health Club | 65.00 | 1000sqft | 1.49 | 65,000.00 | 0 |
| High Turnover (Sit Down Restaurant) | 104.00 | 1000sqft | 2.39 | 104,000.00 | 0 |
| Hotel | 410.00 | Room | 13.67 | 595,320.00 | 0 |
| Hotel | 410.00 | Room | 13.67 | 595,320.00 | 0 |
| Apartments Mid Rise | 4,989.00 | Dwelling Unit | 131.29 | 4,989,000.00 | 13321 |
| Single Family Housing | 4,367.00 | Dwelling Unit | 1,417.86 | 7,860,600.00 | 11660 |
| Regional Shopping Center | 245.00 | 1000sqft | 5.62 | 245,000.00 | 0 |
| Supermarket | 65.00 | 1000sqft | 1.49 | 65,000.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 3.5 | **Precipitation Freq (Days)** | 58 |
| **Climate Zone** | 6 | | | **Operational Year** | 2045 |
| **Utility Company** | Sacramento Municipal Utility District | | | | |
| | | | | | Operational Emissions - Proposed Project |
| **CO2 Intensity** | 0 | **CH4 Intensity** | 0.033 | **N2O Intensity** | 0.004 |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**(lb/MWhr) (lb/MWhr) (lb/MWhr)**

## 1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity factor adjusted to reflect SMUD's RPS projections.

Land Use - All land uses are consistent with the project-specific traffic report.

Construction Phase - construction not modeled.

Vehicle Trips - Trip rates adjusted per the project-specific traffic report from F&P.

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Area Mitigation -

Water Mitigation - Water conservation strategy applied to reflect project compliance with MWELO.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 6,000.00 | 1.00 |
| tblLandUse | LandUseSquareFeet | 109,130.59 | 208,000.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 357.98 | 0 |
| tblVehicleTrips | ST_TR | 4.91 | 3.69 |
| tblVehicleTrips | ST_TR | 10.71 | 19.54 |
| tblVehicleTrips | ST_TR | 616.12 | 319.28 |
| tblVehicleTrips | ST_TR | 2.21 | 6.75 |
| tblVehicleTrips | ST_TR | 0.00 | 15.40 |
| tblVehicleTrips | ST_TR | 20.87 | 18.04 |
| tblVehicleTrips | ST_TR | 0.58 | 1.38 |
| tblVehicleTrips | ST_TR | 122.40 | 75.90 |
| tblVehicleTrips | ST_TR | 8.19 | 4.20 |
| tblVehicleTrips | ST_TR | 0.42 | 1.92 |
| tblVehicleTrips | ST_TR | 0.00 | 1.44 |
| tblVehicleTrips | ST_TR | 8.57 | 24.62 |
| tblVehicleTrips | ST_TR | 46.12 | 37.49 |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblVehicleTrips | ST_TR | 9.54 | 6.40 |
| tblVehicleTrips | ST_TR | 177.62 | 66.32 |
| tblVehicleTrips | SU_TR | 4.09 | 3.69 |
| tblVehicleTrips | SU_TR | 10.71 | 19.54 |
| tblVehicleTrips | SU_TR | 472.58 | 319.28 |
| tblVehicleTrips | SU_TR | 0.70 | 6.75 |
| tblVehicleTrips | SU_TR | 0.00 | 15.40 |
| tblVehicleTrips | SU_TR | 26.73 | 18.04 |
| tblVehicleTrips | SU_TR | 0.25 | 1.38 |
| tblVehicleTrips | SU_TR | 142.64 | 75.90 |
| tblVehicleTrips | SU_TR | 5.95 | 4.20 |
| tblVehicleTrips | SU_TR | 0.04 | 1.92 |
| tblVehicleTrips | SU_TR | 0.00 | 1.44 |
| tblVehicleTrips | SU_TR | 1.42 | 24.62 |
| tblVehicleTrips | SU_TR | 21.10 | 37.49 |
| tblVehicleTrips | SU_TR | 8.55 | 6.40 |
| tblVehicleTrips | SU_TR | 166.47 | 66.32 |
| tblVehicleTrips | WD_TR | 5.44 | 3.69 |
| tblVehicleTrips | WD_TR | 10.71 | 19.54 |
| tblVehicleTrips | WD_TR | 470.95 | 319.28 |
| tblVehicleTrips | WD_TR | 9.74 | 6.75 |
| tblVehicleTrips | WD_TR | 22.59 | 15.40 |
| tblVehicleTrips | WD_TR | 32.93 | 18.04 |
| tblVehicleTrips | WD_TR | 2.03 | 1.38 |
| tblVehicleTrips | WD_TR | 112.18 | 75.90 |
| tblVehicleTrips | WD_TR | 8.36 | 4.20 |
| tblVehicleTrips | WD_TR | 1.15 | 1.92 |
| tblVehicleTrips | WD_TR | 2.13 | 1.44 |
| tblVehicleTrips | WD_TR | 34.80 | 24.62 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblVehicleTrips | WD_TR | 37.75 | 37.49 |
| tblVehicleTrips | WD_TR | 9.44 | 6.40 |
| tblVehicleTrips | WD_TR | 106.78 | 66.32 |

## 2.0 Emissions Summary

### 2.1 Overall Construction

**Unmitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2023 | 1.3600e-003 | 0.0138 | 9.3300e-003 | 2.0000e-005 | 9.8900e-003 | 6.3000e-004 | 0.0105 | 5.0700e-003 | 5.8000e-004 | 5.6500e-003 | 0.0000 | 1.7256 | 1.7256 | 5.4000e-004 | 0.0000 | 1.7396 |
| **Maximum** | **1.3600e-003** | **0.0138** | **9.3300e-003** | **2.0000e-005** | **9.8900e-003** | **6.3000e-004** | **0.0105** | **5.0700e-003** | **5.8000e-004** | **5.6500e-003** | **0.0000** | **1.7256** | **1.7256** | **5.4000e-004** | **0.0000** | **1.7396** |

**Mitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2023 | 1.3600e-003 | 0.0138 | 9.3300e-003 | 2.0000e-005 | 9.8900e-003 | 6.3000e-004 | 0.0105 | 5.0700e-003 | 5.8000e-004 | 5.6500e-003 | 0.0000 | 1.7256 | 1.7256 | 5.4000e-004 | 0.0000 | 1.7396 |
| **Maximum** | **1.3600e-003** | **0.0138** | **9.3300e-003** | **2.0000e-005** | **9.8900e-003** | **6.3000e-004** | **0.0105** | **5.0700e-003** | **5.8000e-004** | **5.6500e-003** | **0.0000** | **1.7256** | **1.7256** | **5.4000e-004** | **0.0000** | **1.7396** |

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| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| **1** | **6-1-2023** | **8-31-2023** | 0.0108 | 0.0108 |
| | | **Highest** | 0.0108 | 0.0108 |

## 2.2 Overall Operational

**Unmitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 79.5199 | 1.1100 | 96.1893 | 5.1000e-003 | | 0.5355 | 0.5355 | | 0.5355 | 0.5355 | 0.0000 | 157.8572 | 157.8572 | 0.1507 | 0.0000 | 161.6237 |
| Energy | 1.4127 | 12.4005 | 7.5461 | 0.0771 | | 0.9760 | 0.9760 | | 0.9760 | 0.9760 | 0.0000 | 13,980.6937 | 13,980.6937 | 1.8672 | 0.4502 | 14,161.5185 |
| Mobile | 26.0378 | 29.9396 | 262.5933 | 0.5275 | 76.0629 | 0.2584 | 76.3213 | 20.3066 | 0.2417 | 20.5483 | 0.0000 | 53,767.9104 | 53,767.9104 | 3.5637 | 2.6016 | 54,632.2733 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 2,580.0882 | 0.0000 | 2,580.0882 | 152.4789 | 0.0000 | 6,392.0594 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 371.1318 | 0.0000 | 371.1318 | 1.3887 | 0.8206 | 650.3796 |
| **Total** | **106.9703** | **43.4500** | **366.3287** | **0.6097** | **76.0629** | **1.7699** | **77.8329** | **20.3066** | **1.7532** | **22.0598** | **2,951.2200** | **67,906.4612** | **70,857.6813** | **159.4490** | **3.8723** | **75,997.8544** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.2 Overall Operational

**Mitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 79.5199 | 1.1100 | 96.1893 | 5.1000e-003 | | 0.5355 | 0.5355 | | 0.5355 | 0.5355 | 0.0000 | 157.8572 | 157.8572 | 0.1507 | 0.0000 | 161.6237 |
| Energy | 1.4127 | 12.4005 | 7.5461 | 0.0771 | | 0.9760 | 0.9760 | | 0.9760 | 0.9760 | 0.0000 | 13,980.6937 | 13,980.6937 | 1.8672 | 0.4502 | 14,161.5185 |
| Mobile | 26.0378 | 29.9396 | 262.5933 | 0.5275 | 76.0629 | 0.2584 | 76.3213 | 20.3066 | 0.2417 | 20.5483 | 0.0000 | 53,767.9104 | 53,767.9104 | 3.5637 | 2.6016 | 54,632.2733 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 2,580.0882 | 0.0000 | 2,580.0882 | 152.4789 | 0.0000 | 6,392.0594 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 371.1318 | 0.0000 | 371.1318 | 1.3821 | 0.8198 | 649.9760 |
| **Total** | **106.9703** | **43.4500** | **366.3287** | **0.6097** | **76.0629** | **1.7699** | **77.8329** | **20.3066** | **1.7532** | **22.0598** | **2,951.2200** | **67,906.4612** | **70,857.6813** | **159.4424** | **3.8715** | **75,997.4508** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.02** | **0.00** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 6/1/2023 | 6/1/2023 | 5 | 1 | |

**Acres of Grading (Site Preparation Phase): 1.5**

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**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 7 | 18.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

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## 3.2 Site Preparation - 2023

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 9.8300e-003 | 0.0000 | 9.8300e-003 | 5.0500e-003 | 0.0000 | 5.0500e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.3300e-003 | 0.0138 | 9.1200e-003 | 2.0000e-005 | | 6.3000e-004 | 6.3000e-004 | | 5.8000e-004 | 5.8000e-004 | 0.0000 | 1.6725 | 1.6725 | 5.4000e-004 | 0.0000 | 1.6861 |
| **Total** | **1.3300e-003** | **0.0138** | **9.1200e-003** | **2.0000e-005** | **9.8300e-003** | **6.3000e-004** | **0.0105** | **5.0500e-003** | **5.8000e-004** | **5.6300e-003** | **0.0000** | **1.6725** | **1.6725** | **5.4000e-004** | **0.0000** | **1.6861** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.0000e-005 | 2.0000e-005 | 2.1000e-004 | 0.0000 | 7.0000e-005 | 0.0000 | 7.0000e-005 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0530 | 0.0530 | 0.0000 | 0.0000 | 0.0535 |
| **Total** | **3.0000e-005** | **2.0000e-005** | **2.1000e-004** | **0.0000** | **7.0000e-005** | **0.0000** | **7.0000e-005** | **2.0000e-005** | **0.0000** | **2.0000e-005** | **0.0000** | **0.0530** | **0.0530** | **0.0000** | **0.0000** | **0.0535** |

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## 3.2 Site Preparation - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 9.8300e-003 | 0.0000 | 9.8300e-003 | 5.0500e-003 | 0.0000 | 5.0500e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.3300e-003 | 0.0138 | 9.1200e-003 | 2.0000e-005 | | 6.3000e-004 | 6.3000e-004 | | 5.8000e-004 | 5.8000e-004 | 0.0000 | 1.6725 | 1.6725 | 5.4000e-004 | 0.0000 | 1.6861 |
| **Total** | **1.3300e-003** | **0.0138** | **9.1200e-003** | **2.0000e-005** | **9.8300e-003** | **6.3000e-004** | **0.0105** | **5.0500e-003** | **5.8000e-004** | **5.6300e-003** | **0.0000** | **1.6725** | **1.6725** | **5.4000e-004** | **0.0000** | **1.6861** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.0000e-005 | 2.0000e-005 | 2.1000e-004 | 0.0000 | 7.0000e-005 | 0.0000 | 7.0000e-005 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0530 | 0.0530 | 0.0000 | 0.0000 | 0.0535 |
| **Total** | **3.0000e-005** | **2.0000e-005** | **2.1000e-004** | **0.0000** | **7.0000e-005** | **0.0000** | **7.0000e-005** | **2.0000e-005** | **0.0000** | **2.0000e-005** | **0.0000** | **0.0530** | **0.0530** | **0.0000** | **0.0000** | **0.0535** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 26.0378 | 29.9396 | 262.5933 | 0.5275 | 76.0629 | 0.2584 | 76.3213 | 20.3066 | 0.2417 | 20.5483 | 0.0000 | 53,767.9104 | 53,767.9104 | 3.5637 | 2.6016 | 54,632.2733 |
| Unmitigated | 26.0378 | 29.9396 | 262.5933 | 0.5275 | 76.0629 | 0.2584 | 76.3213 | 20.3066 | 0.2417 | 20.5483 | 0.0000 | 53,767.9104 | 53,767.9104 | 3.5637 | 2.6016 | 54,632.2733 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments Mid Rise | 18,409.41 | 18,409.41 | 18409.41 | 47,240,553 | 47,240,553 |
| Arena | 1,406.88 | 1,406.88 | 1406.88 | 1,978,797 | 1,978,797 |
| Fast Food Restaurant with Drive Thru | 7,662.72 | 7,662.72 | 7662.72 | 5,293,366 | 5,293,366 |
| General Office Building | 10,617.75 | 10,617.75 | 10617.75 | 21,926,757 | 21,926,757 |
| Government Office Building | 1,139.60 | 1,139.60 | 1139.60 | 1,638,569 | 1,638,569 |
| Health Club | 1,172.60 | 1,172.60 | 1172.60 | 1,619,497 | 1,619,497 |
| High School | 2,070.00 | 2,070.00 | 2070.00 | 5,391,592 | 5,391,592 |
| High Turnover (Sit Down Restaurant) | 7,893.60 | 7,893.60 | 7893.60 | 7,014,228 | 7,014,228 |
| Hotel | 1,722.00 | 1,722.00 | 1722.00 | 2,648,969 | 2,648,969 |
| Hotel | 1,722.00 | 1,722.00 | 1722.00 | 2,648,969 | 2,648,969 |
| Junior College (2yr) | 4,800.00 | 4,800.00 | 4800.00 | 8,838,757 | 8,838,757 |
| Junior High School | 4,320.00 | 4,320.00 | 4320.00 | 9,509,003 | 9,509,003 |
| Medical Office Building | 1,024.19 | 1,024.19 | 1024.19 | 1,706,100 | 1,706,100 |
| Regional Shopping Center | 9,185.05 | 9,185.05 | 9185.05 | 12,834,316 | 12,834,316 |

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| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Single Family Housing | 27,948.80 | 27,948.80 | 27948.80 | 71,719,667 | 71,719,667 |
| Supermarket | 4,310.80 | 4,310.80 | 4310.80 | 3,709,662 | 3,709,662 |
| Total | 105,405.40 | 105,405.40 | 105,405.40 | 205,718,801 | 205,718,801 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments Mid Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Arena | 10.00 | 5.00 | 6.50 | 0.00 | 81.00 | 19.00 | 66 | 28 | 6 |
| Fast Food Restaurant with Drive | 10.00 | 5.00 | 6.50 | 2.20 | 78.80 | 19.00 | 29 | 21 | 50 |
| General Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 77 | 19 | 4 |
| Government Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 62.00 | 5.00 | 50 | 34 | 16 |
| Health Club | 10.00 | 5.00 | 6.50 | 16.90 | 64.10 | 19.00 | 52 | 39 | 9 |
| High School | 10.00 | 5.00 | 6.50 | 77.80 | 17.20 | 5.00 | 75 | 19 | 6 |
| High Turnover (Sit Down | 10.00 | 5.00 | 6.50 | 8.50 | 72.50 | 19.00 | 37 | 20 | 43 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Junior College (2yr) | 10.00 | 5.00 | 6.50 | 6.40 | 88.60 | 5.00 | 92 | 7 | 1 |
| Junior High School | 10.00 | 5.00 | 6.50 | 72.80 | 22.20 | 5.00 | 63 | 25 | 12 |
| Medical Office Building | 10.00 | 5.00 | 6.50 | 29.60 | 51.40 | 19.00 | 60 | 30 | 10 |
| Regional Shopping Center | 10.00 | 5.00 | 6.50 | 16.30 | 64.70 | 19.00 | 54 | 35 | 11 |
| Single Family Housing | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Supermarket | 10.00 | 5.00 | 6.50 | 6.50 | 74.50 | 19.00 | 34 | 30 | 36 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apartments Mid Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Arena | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Fast Food Restaurant with Drive Thru | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| General Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Government Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Health Club | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High Turnover (Sit Down Restaurant) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Hotel | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Junior College (2yr) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Junior High School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Medical Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Regional Shopping Center | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Single Family Housing | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Supermarket | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 1.5992 | 0.1938 | 97.7445 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 1.5992 | 0.1938 | 97.7445 |
| NaturalGas Mitigated | 1.4127 | 12.4005 | 7.5461 | 0.0771 | | 0.9760 | 0.9760 | | 0.9760 | 0.9760 | 0.0000 | 13,980.6937 | 13,980.6937 | 0.2680 | 0.2563 | 14,063.7740 |
| NaturalGas Unmitigated | 1.4127 | 12.4005 | 7.5461 | 0.0771 | | 0.9760 | 0.9760 | | 0.9760 | 0.9760 | 0.0000 | 13,980.6937 | 13,980.6937 | 0.2680 | 0.2563 | 14,063.7740 |

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Apartments Mid Rise | 4.69776e+007 | 0.2533 | 2.1647 | 0.9211 | 0.0138 | | 0.1750 | 0.1750 | | 0.1750 | 0.1750 | 0.0000 | 2,506.9021 | 2,506.9021 | 0.0481 | 0.0460 | 2,521.7994 |
| Arena | 2.56104e+006 | 0.0138 | 0.1255 | 0.1055 | 7.5000e-004 | | 9.5400e-003 | 9.5400e-003 | | 9.5400e-003 | 9.5400e-003 | 0.0000 | 136.6669 | 136.6669 | 2.6200e-003 | 2.5100e-003 | 137.4790 |
| Fast Food Restaurant with Drive Thru | 4.25064e+006 | 0.0229 | 0.2084 | 0.1750 | 1.2500e-003 | | 0.0158 | 0.0158 | | 0.0158 | 0.0158 | 0.0000 | 226.8303 | 226.8303 | 4.3500e-003 | 4.1600e-003 | 228.1783 |
| General Office Building | 2.04175e+007 | 0.1101 | 1.0009 | 0.8407 | 6.0100e-003 | | 0.0761 | 0.0761 | | 0.0761 | 0.0761 | 0.0000 | 1,089.5577 | 1,089.5577 | 0.0209 | 0.0200 | 1,096.0324 |
| Government Office Building | 960520 | 5.1800e-003 | 0.0471 | 0.0396 | 2.8000e-004 | | 3.5800e-003 | 3.5800e-003 | | 3.5800e-003 | 3.5800e-003 | 0.0000 | 51.2570 | 51.2570 | 9.8000e-004 | 9.4000e-004 | 51.5616 |
| Health Club | 2.31205e+006 | 0.0125 | 0.1133 | 0.0952 | 6.8000e-004 | | 8.6100e-003 | 8.6100e-003 | | 8.6100e-003 | 8.6100e-003 | 0.0000 | 123.3798 | 123.3798 | 2.3600e-003 | 2.2600e-003 | 124.1130 |
| High School | 3.00875e+006 | 0.0162 | 0.1475 | 0.1239 | 8.8000e-004 | | 0.0112 | 0.0112 | | 0.0112 | 0.0112 | 0.0000 | 160.5584 | 160.5584 | 3.0800e-003 | 2.9400e-003 | 161.5125 |
| High Turnover (Sit Down Restaurant) | 1.84194e+007 | 0.0993 | 0.9029 | 0.7585 | 5.4200e-003 | | 0.0686 | 0.0686 | | 0.0686 | 0.0686 | 0.0000 | 982.9315 | 982.9315 | 0.0188 | 0.0180 | 988.7725 |
| Hotel | 2.2765e+007 | 0.2455 | 2.2319 | 1.8748 | 0.0134 | | 0.1696 | 0.1696 | | 0.1696 | 0.1696 | 0.0000 | 2,429.6581 | 2,429.6581 | 0.0466 | 0.0445 | 2,444.0964 |
| Junior College (2yr) | 5.40384e+006 | 0.0291 | 0.2649 | 0.2225 | 1.5900e-003 | | 0.0201 | 0.0201 | | 0.0201 | 0.0201 | 0.0000 | 288.3695 | 288.3695 | 5.5300e-003 | 5.2900e-003 | 290.0831 |
| Junior High School | 5.3326e+006 | 0.0288 | 0.2614 | 0.2196 | 1.5700e-003 | | 0.0199 | 0.0199 | | 0.0199 | 0.0199 | 0.0000 | 284.5677 | 284.5677 | 5.4500e-003 | 5.2200e-003 | 286.2588 |
| Medical Office Building | 539968 | 2.9100e-003 | 0.0265 | 0.0222 | 1.6000e-004 | | 2.0100e-003 | 2.0100e-003 | | 2.0100e-003 | 2.0100e-003 | 0.0000 | 28.8148 | 28.8148 | 5.5000e-004 | 5.3000e-004 | 28.9860 |
| Regional Shopping Center | 1.31565e+006 | 7.0900e-003 | 0.0645 | 0.0542 | 3.9000e-004 | | 4.9000e-003 | 4.9000e-003 | | 4.9000e-003 | 4.9000e-003 | 0.0000 | 70.2081 | 70.2081 | 1.3500e-003 | 1.2900e-003 | 70.6253 |
| Single Family Housing | 1.03318e+008 | 0.5571 | 4.7607 | 2.0258 | 0.0304 | | 0.3849 | 0.3849 | | 0.3849 | 0.3849 | 0.0000 | 5,513.4432 | 5,513.4432 | 0.1057 | 0.1011 | 5,546.2068 |
| Supermarket | 1.6406e+006 | 8.8500e-003 | 0.0804 | 0.0676 | 4.8000e-004 | | 6.1100e-003 | 6.1100e-003 | | 6.1100e-003 | 6.1100e-003 | 0.0000 | 87.5487 | 87.5487 | 1.6800e-003 | 1.6100e-003 | 88.0689 |
| **Total** | | **1.4127** | **12.4005** | **7.5461** | **0.0771** | | **0.9760** | **0.9760** | | **0.9760** | **0.9760** | **0.0000** | **13,980.6937** | **13,980.6937** | **0.2680** | **0.2563** | **14,063.7740** |

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Apartments Mid Rise | 4.69776e+007 | 0.2533 | 2.1647 | 0.9211 | 0.0138 | | 0.1750 | 0.1750 | | 0.1750 | 0.1750 | 0.0000 | 2,506.9021 | 2,506.9021 | 0.0481 | 0.0460 | 2,521.7994 |
| Arena | 2.56104e+006 | 0.0138 | 0.1255 | 0.1055 | 7.5000e-004 | | 9.5400e-003 | 9.5400e-003 | | 9.5400e-003 | 9.5400e-003 | 0.0000 | 136.6669 | 136.6669 | 2.6200e-003 | 2.5100e-003 | 137.4790 |
| Fast Food Restaurant with Drive Thru | 4.25064e+006 | 0.0229 | 0.2084 | 0.1750 | 1.2500e-003 | | 0.0158 | 0.0158 | | 0.0158 | 0.0158 | 0.0000 | 226.8303 | 226.8303 | 4.3500e-003 | 4.1600e-003 | 228.1783 |
| General Office Building | 2.04175e+007 | 0.1101 | 1.0009 | 0.8407 | 6.0100e-003 | | 0.0761 | 0.0761 | | 0.0761 | 0.0761 | 0.0000 | 1,089.5577 | 1,089.5577 | 0.0209 | 0.0200 | 1,096.0324 |
| Government Office Building | 960520 | 5.1800e-003 | 0.0471 | 0.0396 | 2.8000e-004 | | 3.5800e-003 | 3.5800e-003 | | 3.5800e-003 | 3.5800e-003 | 0.0000 | 51.2570 | 51.2570 | 9.8000e-004 | 9.4000e-004 | 51.5616 |
| Health Club | 2.31205e+006 | 0.0125 | 0.1133 | 0.0952 | 6.8000e-004 | | 8.6100e-003 | 8.6100e-003 | | 8.6100e-003 | 8.6100e-003 | 0.0000 | 123.3798 | 123.3798 | 2.3600e-003 | 2.2600e-003 | 124.1130 |
| High School | 3.00875e+006 | 0.0162 | 0.1475 | 0.1239 | 8.8000e-004 | | 0.0112 | 0.0112 | | 0.0112 | 0.0112 | 0.0000 | 160.5584 | 160.5584 | 3.0800e-003 | 2.9400e-003 | 161.5125 |
| High Turnover (Sit Down Restaurant) | 1.84194e+007 | 0.0993 | 0.9029 | 0.7585 | 5.4200e-003 | | 0.0686 | 0.0686 | | 0.0686 | 0.0686 | 0.0000 | 982.9315 | 982.9315 | 0.0188 | 0.0180 | 988.7725 |
| Hotel | 2.2765e+007 | 0.2455 | 2.2319 | 1.8748 | 0.0134 | | 0.1696 | 0.1696 | | 0.1696 | 0.1696 | 0.0000 | 2,429.6581 | 2,429.6581 | 0.0466 | 0.0445 | 2,444.0964 |
| Junior College (2yr) | 5.40384e+006 | 0.0291 | 0.2649 | 0.2225 | 1.5900e-003 | | 0.0201 | 0.0201 | | 0.0201 | 0.0201 | 0.0000 | 288.3695 | 288.3695 | 5.5300e-003 | 5.2900e-003 | 290.0831 |
| Junior High School | 5.3326e+006 | 0.0288 | 0.2614 | 0.2196 | 1.5700e-003 | | 0.0199 | 0.0199 | | 0.0199 | 0.0199 | 0.0000 | 284.5677 | 284.5677 | 5.4500e-003 | 5.2200e-003 | 286.2588 |
| Medical Office Building | 539968 | 2.9100e-003 | 0.0265 | 0.0222 | 1.6000e-004 | | 2.0100e-003 | 2.0100e-003 | | 2.0100e-003 | 2.0100e-003 | 0.0000 | 28.8148 | 28.8148 | 5.5000e-004 | 5.3000e-004 | 28.9860 |
| Regional Shopping Center | 1.31565e+006 | 7.0900e-003 | 0.0645 | 0.0542 | 3.9000e-004 | | 4.9000e-003 | 4.9000e-003 | | 4.9000e-003 | 4.9000e-003 | 0.0000 | 70.2081 | 70.2081 | 1.3500e-003 | 1.2900e-003 | 70.6253 |
| Single Family Housing | 1.03318e+008 | 0.5571 | 4.7607 | 2.0258 | 0.0304 | | 0.3849 | 0.3849 | | 0.3849 | 0.3849 | 0.0000 | 5,513.4432 | 5,513.4432 | 0.1057 | 0.1011 | 5,546.2068 |
| Supermarket | 1.6406e+006 | 8.8500e-003 | 0.0804 | 0.0676 | 4.8000e-004 | | 6.1100e-003 | 6.1100e-003 | | 6.1100e-003 | 6.1100e-003 | 0.0000 | 87.5487 | 87.5487 | 1.6800e-003 | 1.6100e-003 | 88.0689 |
| **Total** | | **1.4127** | **12.4005** | **7.5461** | **0.0771** | | **0.9760** | **0.9760** | | **0.9760** | **0.9760** | **0.0000** | **13,980.6937** | **13,980.6937** | **0.2680** | **0.2563** | **14,063.7740** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Apartments Mid Rise | 1.94258e+007 | 0.0000 | 0.2908 | 0.0353 | 17.7726 |
| Arena | 1.06704e+006 | 0.0000 | 0.0160 | 1.9400e-003 | 0.9762 |
| Fast Food Restaurant with Drive Thru | 978480 | 0.0000 | 0.0147 | 1.7800e-003 | 0.8952 |
| General Office Building | 2.18647e+007 | 0.0000 | 0.3273 | 0.0397 | 20.0039 |
| Government Office Building | 1.0286e+006 | 0.0000 | 0.0154 | 1.8700e-003 | 0.9411 |
| Health Club | 963300 | 0.0000 | 0.0144 | 1.7500e-003 | 0.8813 |
| High School | 1.41284e+006 | 0.0000 | 0.0212 | 2.5600e-003 | 1.2926 |
| High Turnover (Sit Down Restaurant) | 4.24008e+006 | 0.0000 | 0.0635 | 7.6900e-003 | 3.8792 |
| Hotel | 5.60791e+006 | 0.0000 | 0.1679 | 0.0204 | 10.2613 |
| Junior College (2yr) | 1.69104e+006 | 0.0000 | 0.0253 | 3.0700e-003 | 1.5471 |
| Junior High School | 2.50406e+006 | 0.0000 | 0.0375 | 4.5400e-003 | 2.2910 |
| Medical Office Building | 578240 | 0.0000 | 8.6600e-003 | 1.0500e-003 | 0.5290 |
| Regional Shopping Center | 2.7489e+006 | 0.0000 | 0.0412 | 4.9900e-003 | 2.5150 |
| Single Family Housing | 3.45316e+007 | 0.0000 | 0.5169 | 0.0627 | 31.5928 |
| Supermarket | 2.58635e+006 | 0.0000 | 0.0387 | 4.6900e-003 | 2.3662 |
| **Total** | | **0.0000** | **1.5992** | **0.1939** | **97.7445** |

## 5.3 Energy by Land Use - Electricity

**Mitigated**

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Apartments Mid Rise | 1.94258e+007 | 0.0000 | 0.2908 | 0.0353 | 17.7726 |
| Arena | 1.06704e+006 | 0.0000 | 0.0160 | 1.9400e-003 | 0.9762 |
| Fast Food Restaurant with Drive Thru | 978480 | 0.0000 | 0.0147 | 1.7800e-003 | 0.8952 |
| General Office Building | 2.18647e+007 | 0.0000 | 0.3273 | 0.0397 | 20.0039 |
| Government Office Building | 1.0286e+006 | 0.0000 | 0.0154 | 1.8700e-003 | 0.9411 |
| Health Club | 963300 | 0.0000 | 0.0144 | 1.7500e-003 | 0.8813 |
| High School | 1.41284e+006 | 0.0000 | 0.0212 | 2.5600e-003 | 1.2926 |
| High Turnover (Sit Down Restaurant) | 4.24008e+006 | 0.0000 | 0.0635 | 7.6900e-003 | 3.8792 |
| Hotel | 5.60791e+006 | 0.0000 | 0.1679 | 0.0204 | 10.2613 |
| Junior College (2yr) | 1.69104e+006 | 0.0000 | 0.0253 | 3.0700e-003 | 1.5471 |
| Junior High School | 2.50406e+006 | 0.0000 | 0.0375 | 4.5400e-003 | 2.2910 |
| Medical Office Building | 578240 | 0.0000 | 8.6600e-003 | 1.0500e-003 | 0.5290 |
| Regional Shopping Center | 2.7489e+006 | 0.0000 | 0.0412 | 4.9900e-003 | 2.5150 |
| Single Family Housing | 3.45316e+007 | 0.0000 | 0.5169 | 0.0627 | 31.5928 |
| Supermarket | 2.58635e+006 | 0.0000 | 0.0387 | 4.6900e-003 | 2.3662 |
| **Total** | | **0.0000** | **1.5992** | **0.1939** | **97.7445** |

## 6.0 Area Detail



### 6.1 Mitigation Measures Area

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 79.5199 | 1.1100 | 96.1893 | 5.1000e-003 | | 0.5355 | 0.5355 | | 0.5355 | 0.5355 | 0.0000 | 157.8572 | 157.8572 | 0.1507 | 0.0000 | 161.6237 |
| Unmitigated | 79.5199 | 1.1100 | 96.1893 | 5.1000e-003 | | 0.5355 | 0.5355 | | 0.5355 | 0.5355 | 0.0000 | 157.8572 | 157.8572 | 0.1507 | 0.0000 | 161.6237 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 9.9935 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 66.6416 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 2.8848 | 1.1100 | 96.1893 | 5.1000e-003 | | 0.5355 | 0.5355 | | 0.5355 | 0.5355 | 0.0000 | 157.8572 | 157.8572 | 0.1507 | 0.0000 | 161.6237 |
| **Total** | **79.5199** | **1.1100** | **96.1893** | **5.1000e-003** | | **0.5355** | **0.5355** | | **0.5355** | **0.5355** | **0.0000** | **157.8572** | **157.8572** | **0.1507** | **0.0000** | **161.6237** |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 9.9935 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 66.6416 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 2.8848 | 1.1100 | 96.1893 | 5.1000e-003 | | 0.5355 | 0.5355 | | 0.5355 | 0.5355 | 0.0000 | 157.8572 | 157.8572 | 0.1507 | 0.0000 | 161.6237 |
| **Total** | **79.5199** | **1.1100** | **96.1893** | **5.1000e-003** | | **0.5355** | **0.5355** | | **0.5355** | **0.5355** | **0.0000** | **157.8572** | **157.8572** | **0.1507** | **0.0000** | **161.6237** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

Apply Water Conservation Strategy

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 371.1318 | 1.3821 | 0.8198 | 649.9760 |
| Unmitigated | 371.1318 | 1.3887 | 0.8206 | 650.3796 |

## 7.2 Water by Land Use

**Unmitigated**

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Apartments Mid Rise | 325.053 / 204.925 | 115.0044 | 0.4308 | 0.2543 | 201.5671 |
| Arena | 31.0154 / 1.97971 | 10.9733 | 0.0402 | 0.0242 | 19.1766 |
| Fast Food Restaurant with Drive Thru | 7.28481 / 0.464988 | 2.5774 | 9.4400e-003 | 5.6700e-003 | 4.5041 |
| General Office Building | 279.575 / 171.353 | 98.9141 | 0.3703 | 0.2187 | 173.3502 |
| Government Office Building | 14.7008 / 9.01018 | 5.2012 | 0.0195 | 0.0115 | 9.1152 |
| Health Club | 3.8443 / 2.35619 | 1.3601 | 5.0900e-003 | 3.0100e-003 | 2.3837 |
| High School | 6.60744 / 16.9906 | 2.3377 | 9.4300e-003 | 5.2500e-003 | 4.1384 |
| High Turnover (Sit Down Restaurant) | 31.5675 / 2.01495 | 11.1686 | 0.0409 | 0.0246 | 19.5179 |
| Hotel | 20.8008 / 2.31119 | 7.3593 | 0.0270 | 0.0162 | 12.8641 |
| Junior College (2yr) | 5.35275 / 8.37225 | 1.8938 | 7.3600e-003 | 4.2200e-003 | 3.3353 |
| Junior High School | 7.27272 / 18.7013 | 2.5731 | 0.0104 | 5.7800e-003 | 4.5551 |
| Medical Office Building | 5.21999 / 0.994284 | 1.8468 | 6.8000e-003 | 4.0700e-003 | 3.2296 |
| Regional Shopping Center | 18.1478 / 11.1228 | 6.4207 | 0.0240 | 0.0142 | 11.2525 |
| Single Family Housing | 284.528 / 179.376 | 100.6663 | 0.3771 | 0.2226 | 176.4369 |
| Supermarket | 8.01243 / 0.247807 | 2.8348 | 0.0104 | 6.2400e-003 | 4.9532 |
| **Total** | | **371.1318** | **1.3887** | **0.8206** | **650.3796** |

## 7.2 Water by Land Use

**Mitigated**

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Apartments Mid Rise | 325.053 / 163.94 | 115.0044 | 0.4287 | 0.2541 | 201.4359 |
| Arena | 31.0154 / 1.58377 | 10.9733 | 0.0402 | 0.0242 | 19.1753 |
| Fast Food Restaurant with Drive Thru | 7.28481 / 0.37199 | 2.5774 | 9.4300e-003 | 5.6700e-003 | 4.5038 |
| General Office Building | 279.575 / 137.082 | 98.9141 | 0.3685 | 0.2185 | 173.2404 |
| Government Office Building | 14.7008 / 7.20814 | 5.2012 | 0.0194 | 0.0115 | 9.1095 |
| Health Club | 3.8443 / 1.88495 | 1.3601 | 5.0700e-003 | 3.0000e-003 | 2.3822 |
| High School | 6.60744 / 13.5924 | 2.3377 | 9.2500e-003 | 5.2300e-003 | 4.1275 |
| High Turnover (Sit Down Restaurant) | 31.5675 / 1.61196 | 11.1686 | 0.0409 | 0.0246 | 19.5166 |
| Hotel | 20.8008 / 1.84896 | 7.3593 | 0.0270 | 0.0162 | 12.8626 |
| Junior College (2yr) | 5.35275 / 6.6978 | 1.8938 | 7.2700e-003 | 4.2100e-003 | 3.3299 |
| Junior High School | 7.27272 / 14.961 | 2.5731 | 0.0102 | 5.7600e-003 | 4.5431 |
| Medical Office Building | 5.21999 / 0.795427 | 1.8468 | 6.7900e-003 | 4.0700e-003 | 3.2290 |
| Regional Shopping Center | 18.1478 / 8.89826 | 6.4207 | 0.0239 | 0.0142 | 11.2454 |
| Single Family Housing | 284.528 / 143.501 | 100.6663 | 0.3752 | 0.2224 | 176.3220 |
| Supermarket | 8.01243 / 0.198246 | 2.8348 | 0.0104 | 6.2400e-003 | 4.9530 |
| **Total** | | **371.1318** | **1.3821** | **0.8198** | **649.9760** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 8.0 Waste Detail

## 8.1 Mitigation Measures Waste

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 2,580.0882 | 152.4789 | 0.0000 | 6,392.0594 |
| Unmitigated | 2,580.0882 | 152.4789 | 0.0000 | 6,392.0594 |

## 8.2 Waste by Land Use

**Unmitigated**

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Apartments Mid Rise | 2294.94 | 465.8521 | 27.5311 | 0.0000 | 1,154.1288 |
| Arena | 1.98 | 0.4019 | 0.0238 | 0.0000 | 0.9958 |
| Fast Food Restaurant with Drive Thru | 276.45 | 56.1169 | 3.3164 | 0.0000 | 139.0271 |
| General Office Building | 1462.89 | 296.9535 | 17.5495 | 0.0000 | 735.6896 |
| Government Office Building | 68.82 | 13.9698 | 0.8256 | 0.0000 | 34.6097 |
| Health Club | 370.5 | 75.2082 | 4.4447 | 0.0000 | 186.3250 |
| High School | 273.75 | 55.5688 | 3.2840 | 0.0000 | 137.6693 |
| High Turnover (Sit Down Restaurant) | 1237.6 | 251.2216 | 14.8468 | 0.0000 | 622.3909 |
| Hotel | 448.95 | 91.1328 | 5.3858 | 0.0000 | 225.7776 |
| Junior College (2yr) | 456.25 | 92.6146 | 5.4734 | 0.0000 | 229.4488 |
| Junior High School | 547.5 | 111.1376 | 6.5680 | 0.0000 | 275.3386 |
| Medical Office Building | 449.28 | 91.1998 | 5.3898 | 0.0000 | 225.9436 |
| Regional Shopping Center | 257.25 | 52.2194 | 3.0861 | 0.0000 | 129.3714 |
| Single Family Housing | 4197.6 | 852.0749 | 50.3562 | 0.0000 | 2,110.9794 |
| Supermarket | 366.6 | 74.4165 | 4.3979 | 0.0000 | 184.3637 |
| **Total** | | **2,580.0882** | **152.4788** | **0.0000** | **6,392.0593** |

## 8.2 Waste by Land Use

**Mitigated**

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Apartments Mid Rise | 2294.94 | 465.8521 | 27.5311 | 0.0000 | 1,154.1288 |
| Arena | 1.98 | 0.4019 | 0.0238 | 0.0000 | 0.9958 |
| Fast Food Restaurant with Drive Thru | 276.45 | 56.1169 | 3.3164 | 0.0000 | 139.0271 |
| General Office Building | 1462.89 | 296.9535 | 17.5495 | 0.0000 | 735.6896 |
| Government Office Building | 68.82 | 13.9698 | 0.8256 | 0.0000 | 34.6097 |
| Health Club | 370.5 | 75.2082 | 4.4447 | 0.0000 | 186.3250 |
| High School | 273.75 | 55.5688 | 3.2840 | 0.0000 | 137.6693 |
| High Turnover (Sit Down Restaurant) | 1237.6 | 251.2216 | 14.8468 | 0.0000 | 622.3909 |
| Hotel | 448.95 | 91.1328 | 5.3858 | 0.0000 | 225.7776 |
| Junior College (2yr) | 456.25 | 92.6146 | 5.4734 | 0.0000 | 229.4488 |
| Junior High School | 547.5 | 111.1376 | 6.5680 | 0.0000 | 275.3386 |
| Medical Office Building | 449.28 | 91.1998 | 5.3898 | 0.0000 | 225.9436 |
| Regional Shopping Center | 257.25 | 52.2194 | 3.0861 | 0.0000 | 129.3714 |
| Single Family Housing | 4197.6 | 852.0749 | 50.3562 | 0.0000 | 2,110.9794 |
| Supermarket | 366.6 | 74.4165 | 4.3979 | 0.0000 | 184.3637 |
| **Total** | | **2,580.0882** | **152.4788** | **0.0000** | **6,392.0593** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# UWSP - Proposed Project

**Sacramento Metropolitan AQMD Air District, Summer**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| General Office Building | 1,573.00 | 1000sqft | 36.11 | 1,573,000.00 | 0 |
| Government Office Building | 74.00 | 1000sqft | 1.70 | 74,000.00 | 0 |
| Medical Office Building | 41.60 | 1000sqft | 0.96 | 41,600.00 | 0 |
| High School | 1,500.00 | Student | 4.57 | 198,991.47 | 0 |
| Junior College (2yr) | 2,500.00 | Student | 2.51 | 208,000.00 | 0 |
| Junior High School | 3,000.00 | Student | 8.10 | 352,685.05 | 0 |
| Arena | 72.00 | 1000sqft | 23.14 | 72,000.00 | 0 |
| Fast Food Restaurant with Drive Thru | 24.00 | 1000sqft | 0.55 | 24,000.00 | 0 |
| Health Club | 65.00 | 1000sqft | 1.49 | 65,000.00 | 0 |
| High Turnover (Sit Down Restaurant) | 104.00 | 1000sqft | 2.39 | 104,000.00 | 0 |
| Hotel | 410.00 | Room | 13.67 | 595,320.00 | 0 |
| Hotel | 410.00 | Room | 13.67 | 595,320.00 | 0 |
| Apartments Mid Rise | 4,989.00 | Dwelling Unit | 131.29 | 4,989,000.00 | 13321 |
| Single Family Housing | 4,367.00 | Dwelling Unit | 1,417.86 | 7,860,600.00 | 11660 |
| Regional Shopping Center | 245.00 | 1000sqft | 5.62 | 245,000.00 | 0 |
| Supermarket | 65.00 | 1000sqft | 1.49 | 65,000.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 3.5 | **Precipitation Freq (Days)** | 58 |
| **Climate Zone** | 6 | | | **Operational Year** | 2045 |
| **Utility Company** | Sacramento Municipal Utility District | | | | |
| | | | | | Operational Emissions - Proposed Project |
| **CO2 Intensity** | 0 | **CH4 Intensity** | 0.033 | **N2O Intensity** | 0.004 |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**(lb/MWhr) (lb/MWhr) (lb/MWhr)**

## 1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity factor adjusted to reflect SMUD's RPS projections.

Land Use - All land uses are consistent with the project-specific traffic report.

Construction Phase - construction not modeled.

Vehicle Trips - Trip rates adjusted per the project-specific traffic report from F&P.

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Area Mitigation -

Water Mitigation - Water conservation strategy applied to reflect project compliance with MWELO.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 6,000.00 | 1.00 |
| tblLandUse | LandUseSquareFeet | 109,130.59 | 208,000.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 357.98 | 0 |
| tblVehicleTrips | ST_TR | 4.91 | 3.69 |
| tblVehicleTrips | ST_TR | 10.71 | 19.54 |
| tblVehicleTrips | ST_TR | 616.12 | 319.28 |
| tblVehicleTrips | ST_TR | 2.21 | 6.75 |
| tblVehicleTrips | ST_TR | 0.00 | 15.40 |
| tblVehicleTrips | ST_TR | 20.87 | 18.04 |
| tblVehicleTrips | ST_TR | 0.58 | 1.38 |
| tblVehicleTrips | ST_TR | 122.40 | 75.90 |
| tblVehicleTrips | ST_TR | 8.19 | 4.20 |
| tblVehicleTrips | ST_TR | 0.42 | 1.92 |
| tblVehicleTrips | ST_TR | 0.00 | 1.44 |
| tblVehicleTrips | ST_TR | 8.57 | 24.62 |
| tblVehicleTrips | ST_TR | 46.12 | 37.49 |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblVehicleTrips | ST_TR | 9.54 | 6.40 |
| tblVehicleTrips | ST_TR | 177.62 | 66.32 |
| tblVehicleTrips | SU_TR | 4.09 | 3.69 |
| tblVehicleTrips | SU_TR | 10.71 | 19.54 |
| tblVehicleTrips | SU_TR | 472.58 | 319.28 |
| tblVehicleTrips | SU_TR | 0.70 | 6.75 |
| tblVehicleTrips | SU_TR | 0.00 | 15.40 |
| tblVehicleTrips | SU_TR | 26.73 | 18.04 |
| tblVehicleTrips | SU_TR | 0.25 | 1.38 |
| tblVehicleTrips | SU_TR | 142.64 | 75.90 |
| tblVehicleTrips | SU_TR | 5.95 | 4.20 |
| tblVehicleTrips | SU_TR | 0.04 | 1.92 |
| tblVehicleTrips | SU_TR | 0.00 | 1.44 |
| tblVehicleTrips | SU_TR | 1.42 | 24.62 |
| tblVehicleTrips | SU_TR | 21.10 | 37.49 |
| tblVehicleTrips | SU_TR | 8.55 | 6.40 |
| tblVehicleTrips | SU_TR | 166.47 | 66.32 |
| tblVehicleTrips | WD_TR | 5.44 | 3.69 |
| tblVehicleTrips | WD_TR | 10.71 | 19.54 |
| tblVehicleTrips | WD_TR | 470.95 | 319.28 |
| tblVehicleTrips | WD_TR | 9.74 | 6.75 |
| tblVehicleTrips | WD_TR | 22.59 | 15.40 |
| tblVehicleTrips | WD_TR | 32.93 | 18.04 |
| tblVehicleTrips | WD_TR | 2.03 | 1.38 |
| tblVehicleTrips | WD_TR | 112.18 | 75.90 |
| tblVehicleTrips | WD_TR | 8.36 | 4.20 |
| tblVehicleTrips | WD_TR | 1.15 | 1.92 |
| tblVehicleTrips | WD_TR | 2.13 | 1.44 |
| tblVehicleTrips | WD_TR | 34.80 | 24.62 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblVehicleTrips | WD_TR | 37.75 | 37.49 |
| tblVehicleTrips | WD_TR | 9.44 | 6.40 |
| tblVehicleTrips | WD_TR | 106.78 | 66.32 |

## 2.0 Emissions Summary

### 2.1 Overall Construction (Maximum Daily Emission)

**Unmitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 2.7201 | 27.5533 | 18.7349 | 0.0393 | 19.7939 | 1.2667 | 21.0607 | 10.1388 | 1.1654 | 11.3042 | 0.0000 | 3,815.4139 | 3,815.4139 | 1.1961 | 3.1500e-003 | 3,846.2531 |
| **Maximum** | **2.7201** | **27.5533** | **18.7349** | **0.0393** | **19.7939** | **1.2667** | **21.0607** | **10.1388** | **1.1654** | **11.3042** | **0.0000** | **3,815.4139** | **3,815.4139** | **1.1961** | **3.1500e-003** | **3,846.2531** |

**Mitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 2.7201 | 27.5533 | 18.7349 | 0.0393 | 19.7939 | 1.2667 | 21.0607 | 10.1388 | 1.1654 | 11.3042 | 0.0000 | 3,815.4139 | 3,815.4139 | 1.1961 | 3.1500e-003 | 3,846.2531 |
| **Maximum** | **2.7201** | **27.5533** | **18.7349** | **0.0393** | **19.7939** | **1.2667** | **21.0607** | **10.1388** | **1.1654** | **11.3042** | **0.0000** | **3,815.4139** | **3,815.4139** | **1.1961** | **3.1500e-003** | **3,846.2531** |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 442.9965 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | 0.0000 | 1,392.0621 | 1,392.0621 | 1.3286 | 0.0000 | 1,425.2772 |
| Energy | 7.7407 | 67.9480 | 41.3484 | 0.4222 | | 5.3481 | 5.3481 | | 5.3481 | 5.3481 | | 84,444.2564 | 84,444.2564 | 1.6185 | 1.5481 | 84,946.0663 |
| Mobile | 181.3189 | 151.3874 | 1,521.6022 | 3.1164 | 432.7699 | 1.4208 | 434.1907 | 115.2178 | 1.3288 | 116.5466 | | 350,437.2847 | 350,437.2847 | 20.7844 | 15.1307 | 355,465.8392 |
| **Total** | **632.0561** | **228.2150** | **2,332.4646** | **3.5795** | **432.7699** | **11.0531** | **443.8230** | **115.2178** | **10.9611** | **126.1788** | **0.0000** | **436,273.6032** | **436,273.6032** | **23.7315** | **16.6788** | **441,837.1827** |

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 442.9965 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | 0.0000 | 1,392.0621 | 1,392.0621 | 1.3286 | 0.0000 | 1,425.2772 |
| Energy | 7.7407 | 67.9480 | 41.3484 | 0.4222 | | 5.3481 | 5.3481 | | 5.3481 | 5.3481 | | 84,444.2564 | 84,444.2564 | 1.6185 | 1.5481 | 84,946.0663 |
| Mobile | 181.3189 | 151.3874 | 1,521.6022 | 3.1164 | 432.7699 | 1.4208 | 434.1907 | 115.2178 | 1.3288 | 116.5466 | | 350,437.2847 | 350,437.2847 | 20.7844 | 15.1307 | 355,465.8392 |
| **Total** | **632.0561** | **228.2150** | **2,332.4646** | **3.5795** | **432.7699** | **11.0531** | **443.8230** | **115.2178** | **10.9611** | **126.1788** | **0.0000** | **436,273.6032** | **436,273.6032** | **23.7315** | **16.6788** | **441,837.1827** |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 6/1/2023 | 6/1/2023 | 5 | 1 | |

**Acres of Grading (Site Preparation Phase): 1.5**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

### OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |

### Trips and VMT

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 7 | 18.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |



## 3.1 Mitigation Measures Construction

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.6595 | 27.5242 | 18.2443 | 0.0381 | | 1.2660 | 1.2660 | | 1.1647 | 1.1647 | | 3,687.3081 | 3,687.3081 | 1.1926 | | 3,717.1219 |
| **Total** | **2.6595** | **27.5242** | **18.2443** | **0.0381** | **19.6570** | **1.2660** | **20.9230** | **10.1025** | **1.1647** | **11.2672** | | **3,687.3081** | **3,687.3081** | **1.1926** | | **3,717.1219** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0607 | 0.0291 | 0.4906 | 1.2500e-003 | 0.1369 | 7.1000e-004 | 0.1376 | 0.0363 | 6.5000e-004 | 0.0370 | | 128.1058 | 128.1058 | 3.5200e-003 | 3.1500e-003 | 129.1312 |
| **Total** | **0.0607** | **0.0291** | **0.4906** | **1.2500e-003** | **0.1369** | **7.1000e-004** | **0.1376** | **0.0363** | **6.5000e-004** | **0.0370** | | **128.1058** | **128.1058** | **3.5200e-003** | **3.1500e-003** | **129.1312** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.6595 | 27.5242 | 18.2443 | 0.0381 | | 1.2660 | 1.2660 | | 1.1647 | 1.1647 | 0.0000 | 3,687.3081 | 3,687.3081 | 1.1926 | | 3,717.1219 |
| **Total** | **2.6595** | **27.5242** | **18.2443** | **0.0381** | **19.6570** | **1.2660** | **20.9230** | **10.1025** | **1.1647** | **11.2672** | **0.0000** | **3,687.3081** | **3,687.3081** | **1.1926** | | **3,717.1219** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0607 | 0.0291 | 0.4906 | 1.2500e-003 | 0.1369 | 7.1000e-004 | 0.1376 | 0.0363 | 6.5000e-004 | 0.0370 | | 128.1058 | 128.1058 | 3.5200e-003 | 3.1500e-003 | 129.1312 |
| **Total** | **0.0607** | **0.0291** | **0.4906** | **1.2500e-003** | **0.1369** | **7.1000e-004** | **0.1376** | **0.0363** | **6.5000e-004** | **0.0370** | | **128.1058** | **128.1058** | **3.5200e-003** | **3.1500e-003** | **129.1312** |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 181.3189 | 151.3874 | 1,521.6022 | 3.1164 | 432.7699 | 1.4208 | 434.1907 | 115.2178 | 1.3288 | 116.5466 | | 350,437.2847 | 350,437.2847 | 20.7844 | 15.1307 | 355,465.8392 |
| Unmitigated | 181.3189 | 151.3874 | 1,521.6022 | 3.1164 | 432.7699 | 1.4208 | 434.1907 | 115.2178 | 1.3288 | 116.5466 | | 350,437.2847 | 350,437.2847 | 20.7844 | 15.1307 | 355,465.8392 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments Mid Rise | 18,409.41 | 18,409.41 | 18409.41 | 47,240,553 | 47,240,553 |
| Arena | 1,406.88 | 1,406.88 | 1406.88 | 1,978,797 | 1,978,797 |
| Fast Food Restaurant with Drive Thru | 7,662.72 | 7,662.72 | 7662.72 | 5,293,366 | 5,293,366 |
| General Office Building | 10,617.75 | 10,617.75 | 10617.75 | 21,926,757 | 21,926,757 |
| Government Office Building | 1,139.60 | 1,139.60 | 1139.60 | 1,638,569 | 1,638,569 |
| Health Club | 1,172.60 | 1,172.60 | 1172.60 | 1,619,497 | 1,619,497 |
| High School | 2,070.00 | 2,070.00 | 2070.00 | 5,391,592 | 5,391,592 |
| High Turnover (Sit Down Restaurant) | 7,893.60 | 7,893.60 | 7893.60 | 7,014,228 | 7,014,228 |
| Hotel | 1,722.00 | 1,722.00 | 1722.00 | 2,648,969 | 2,648,969 |
| Hotel | 1,722.00 | 1,722.00 | 1722.00 | 2,648,969 | 2,648,969 |
| Junior College (2yr) | 4,800.00 | 4,800.00 | 4800.00 | 8,838,757 | 8,838,757 |
| Junior High School | 4,320.00 | 4,320.00 | 4320.00 | 9,509,003 | 9,509,003 |
| Medical Office Building | 1,024.19 | 1,024.19 | 1024.19 | 1,706,100 | 1,706,100 |
| Regional Shopping Center | 9,185.05 | 9,185.05 | 9185.05 | 12,834,316 | 12,834,316 |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Single Family Housing | 27,948.80 | 27,948.80 | 27948.80 | 71,719,667 | 71,719,667 |
| Supermarket | 4,310.80 | 4,310.80 | 4310.80 | 3,709,662 | 3,709,662 |
| Total | 105,405.40 | 105,405.40 | 105,405.40 | 205,718,801 | 205,718,801 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments Mid Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Arena | 10.00 | 5.00 | 6.50 | 0.00 | 81.00 | 19.00 | 66 | 28 | 6 |
| Fast Food Restaurant with Drive | 10.00 | 5.00 | 6.50 | 2.20 | 78.80 | 19.00 | 29 | 21 | 50 |
| General Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 77 | 19 | 4 |
| Government Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 62.00 | 5.00 | 50 | 34 | 16 |
| Health Club | 10.00 | 5.00 | 6.50 | 16.90 | 64.10 | 19.00 | 52 | 39 | 9 |
| High School | 10.00 | 5.00 | 6.50 | 77.80 | 17.20 | 5.00 | 75 | 19 | 6 |
| High Turnover (Sit Down | 10.00 | 5.00 | 6.50 | 8.50 | 72.50 | 19.00 | 37 | 20 | 43 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Junior College (2yr) | 10.00 | 5.00 | 6.50 | 6.40 | 88.60 | 5.00 | 92 | 7 | 1 |
| Junior High School | 10.00 | 5.00 | 6.50 | 72.80 | 22.20 | 5.00 | 63 | 25 | 12 |
| Medical Office Building | 10.00 | 5.00 | 6.50 | 29.60 | 51.40 | 19.00 | 60 | 30 | 10 |
| Regional Shopping Center | 10.00 | 5.00 | 6.50 | 16.30 | 64.70 | 19.00 | 54 | 35 | 11 |
| Single Family Housing | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Supermarket | 10.00 | 5.00 | 6.50 | 6.50 | 74.50 | 19.00 | 34 | 30 | 36 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apartments Mid Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Arena | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Fast Food Restaurant with Drive Thru | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| General Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Government Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Health Club | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High Turnover (Sit Down Restaurant) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Hotel | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Junior College (2yr) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Junior High School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Medical Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Regional Shopping Center | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Single Family Housing | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Supermarket | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 7.7407 | 67.9480 | 41.3484 | 0.4222 | | 5.3481 | 5.3481 | | 5.3481 | 5.3481 | | 84,444.2564 | 84,444.2564 | 1.6185 | 1.5481 | 84,946.0663 |
| NaturalGas Unmitigated | 7.7407 | 67.9480 | 41.3484 | 0.4222 | | 5.3481 | 5.3481 | | 5.3481 | 5.3481 | | 84,444.2564 | 84,444.2564 | 1.6185 | 1.5481 | 84,946.0663 |

### 5.2 Energy by Land Use - NaturalGas

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments Mid Rise | 128706 | 1.3880 | 11.8611 | 5.0473 | 0.0757 | | 0.9590 | 0.9590 | | 0.9590 | 0.9590 | | 15,141.8442 | 15,141.8442 | 0.2902 | 0.2776 | 15,231.8246 |
| Arena | 7016.55 | 0.0757 | 0.6879 | 0.5778 | 4.1300e-003 | | 0.0523 | 0.0523 | | 0.0523 | 0.0523 | | 825.4762 | 825.4762 | 0.0158 | 0.0151 | 830.3816 |
| Fast Food Restaurant with Drive Thru | 11645.6 | 0.1256 | 1.1417 | 0.9591 | 6.8500e-003 | | 0.0868 | 0.0868 | | 0.0868 | 0.0868 | | 1,370.0693 | 1,370.0693 | 0.0263 | 0.0251 | 1,378.2109 |
| General Office Building | 55938.5 | 0.6033 | 5.4842 | 4.6067 | 0.0329 | | 0.4168 | 0.4168 | | 0.4168 | 0.4168 | | 6,580.9960 | 6,580.9960 | 0.1261 | 0.1207 | 6,620.1035 |
| Government Office Building | 2631.56 | 0.0284 | 0.2580 | 0.2167 | 1.5500e-003 | | 0.0196 | 0.0196 | | 0.0196 | 0.0196 | | 309.5955 | 309.5955 | 5.9300e-003 | 5.6800e-003 | 311.4353 |
| Health Club | 6334.38 | 0.0683 | 0.6210 | 0.5217 | 3.7300e-003 | | 0.0472 | 0.0472 | | 0.0472 | 0.0472 | | 745.2216 | 745.2216 | 0.0143 | 0.0137 | 749.6501 |
| High School | 8243.15 | 0.0889 | 0.8082 | 0.6789 | 4.8500e-003 | | 0.0614 | 0.0614 | | 0.0614 | 0.0614 | | 969.7828 | 969.7828 | 0.0186 | 0.0178 | 975.5457 |
| High Turnover (Sit Down Restaurant) | 50464.2 | 0.5442 | 4.9475 | 4.1559 | 0.0297 | | 0.3760 | 0.3760 | | 0.3760 | 0.3760 | | 5,936.9670 | 5,936.9670 | 0.1138 | 0.1088 | 5,972.2474 |
| Hotel | 62370 | 1.3452 | 12.2294 | 10.2727 | 0.0734 | | 0.9294 | 0.9294 | | 0.9294 | 0.9294 | | 14,675.2856 | 14,675.2856 | 0.2813 | 0.2691 | 14,762.4935 |
| Junior College (2yr) | 14805 | 0.1597 | 1.4515 | 1.2192 | 8.7100e-003 | | 0.1103 | 0.1103 | | 0.1103 | 0.1103 | | 1,741.7695 | 1,741.7695 | 0.0334 | 0.0319 | 1,752.1200 |
| Junior High School | 14609.9 | 0.1576 | 1.4323 | 1.2032 | 8.5900e-003 | | 0.1089 | 0.1089 | | 0.1089 | 0.1089 | | 1,718.8068 | 1,718.8068 | 0.0329 | 0.0315 | 1,729.0208 |
| Medical Office Building | 1479.36 | 0.0160 | 0.1450 | 0.1218 | 8.7000e-004 | | 0.0110 | 0.0110 | | 0.0110 | 0.0110 | | 174.0429 | 174.0429 | 3.3400e-003 | 3.1900e-003 | 175.0771 |
| Regional Shopping Center | 3604.52 | 0.0389 | 0.3534 | 0.2968 | 2.1200e-003 | | 0.0269 | 0.0269 | | 0.0269 | 0.0269 | | 424.0612 | 424.0612 | 8.1300e-003 | 7.7700e-003 | 426.5812 |
| Single Family Housing | 283063 | 3.0526 | 26.0862 | 11.1005 | 0.1665 | | 2.1091 | 2.1091 | | 2.1091 | 2.1091 | | 33,301.5385 | 33,301.5385 | 0.6383 | 0.6105 | 33,499.4329 |
| Supermarket | 4494.79 | 0.0485 | 0.4407 | 0.3702 | 2.6400e-003 | | 0.0335 | 0.0335 | | 0.0335 | 0.0335 | | 528.7994 | 528.7994 | 0.0101 | 9.6900e-003 | 531.9418 |
| **Total** | | **7.7407** | **67.9480** | **41.3484** | **0.4222** | | **5.3481** | **5.3481** | | **5.3481** | **5.3481** | | **84,444.2564** | **84,444.2564** | **1.6185** | **1.5481** | **84,946.0664** |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments Mid Rise | 128.706 | 1.3880 | 11.8611 | 5.0473 | 0.0757 | | 0.9590 | 0.9590 | | 0.9590 | 0.9590 | | 15,141.8442 | 15,141.8442 | 0.2902 | 0.2776 | 15,231.8246 |
| Arena | 7.01655 | 0.0757 | 0.6879 | 0.5778 | 4.1300e-003 | | 0.0523 | 0.0523 | | 0.0523 | 0.0523 | | 825.4762 | 825.4762 | 0.0158 | 0.0151 | 830.3816 |
| Fast Food Restaurant with Drive Thru | 11.6456 | 0.1256 | 1.1417 | 0.9591 | 6.8500e-003 | | 0.0868 | 0.0868 | | 0.0868 | 0.0868 | | 1,370.0693 | 1,370.0693 | 0.0263 | 0.0251 | 1,378.2109 |
| General Office Building | 55.9385 | 0.6033 | 5.4842 | 4.6067 | 0.0329 | | 0.4168 | 0.4168 | | 0.4168 | 0.4168 | | 6,580.9960 | 6,580.9960 | 0.1261 | 0.1207 | 6,620.1035 |
| Government Office Building | 2.63156 | 0.0284 | 0.2580 | 0.2167 | 1.5500e-003 | | 0.0196 | 0.0196 | | 0.0196 | 0.0196 | | 309.5955 | 309.5955 | 5.9300e-003 | 5.6800e-003 | 311.4353 |
| Health Club | 6.33438 | 0.0683 | 0.6210 | 0.5217 | 3.7300e-003 | | 0.0472 | 0.0472 | | 0.0472 | 0.0472 | | 745.2216 | 745.2216 | 0.0143 | 0.0137 | 749.6501 |
| High School | 8.24315 | 0.0889 | 0.8082 | 0.6789 | 4.8500e-003 | | 0.0614 | 0.0614 | | 0.0614 | 0.0614 | | 969.7828 | 969.7828 | 0.0186 | 0.0178 | 975.5457 |
| High Turnover (Sit Down Restaurant) | 50.4642 | 0.5442 | 4.9475 | 4.1559 | 0.0297 | | 0.3760 | 0.3760 | | 0.3760 | 0.3760 | | 5,936.9670 | 5,936.9670 | 0.1138 | 0.1088 | 5,972.2474 |
| Hotel | 62.37 | 1.3452 | 12.2294 | 10.2727 | 0.0734 | | 0.9294 | 0.9294 | | 0.9294 | 0.9294 | | 14,675.2856 | 14,675.2856 | 0.2813 | 0.2691 | 14,762.4935 |
| Junior College (2yr) | 14.805 | 0.1597 | 1.4515 | 1.2192 | 8.7100e-003 | | 0.1103 | 0.1103 | | 0.1103 | 0.1103 | | 1,741.7695 | 1,741.7695 | 0.0334 | 0.0319 | 1,752.1200 |
| Junior High School | 14.6099 | 0.1576 | 1.4323 | 1.2032 | 8.5900e-003 | | 0.1089 | 0.1089 | | 0.1089 | 0.1089 | | 1,718.8068 | 1,718.8068 | 0.0329 | 0.0315 | 1,729.0208 |
| Medical Office Building | 1.47936 | 0.0160 | 0.1450 | 0.1218 | 8.7000e-004 | | 0.0110 | 0.0110 | | 0.0110 | 0.0110 | | 174.0429 | 174.0429 | 3.3400e-003 | 3.1900e-003 | 175.0771 |
| Regional Shopping Center | 3.60452 | 0.0389 | 0.3534 | 0.2968 | 2.1200e-003 | | 0.0269 | 0.0269 | | 0.0269 | 0.0269 | | 424.0612 | 424.0612 | 8.1300e-003 | 7.7700e-003 | 426.5812 |
| Single Family Housing | 283.063 | 3.0526 | 26.0862 | 11.1005 | 0.1665 | | 2.1091 | 2.1091 | | 2.1091 | 2.1091 | | 33,301.5385 | 33,301.5385 | 0.6383 | 0.6105 | 33,499.4329 |
| Supermarket | 4.49479 | 0.0485 | 0.4407 | 0.3702 | 2.6400e-003 | | 0.0335 | 0.0335 | | 0.0335 | 0.0335 | | 528.7994 | 528.7994 | 0.0101 | 9.6900e-003 | 531.9418 |
| **Total** | | **7.7407** | **67.9480** | **41.3484** | **0.4222** | | **5.3481** | **5.3481** | | **5.3481** | **5.3481** | | **84,444.2564** | **84,444.2564** | **1.6185** | **1.5481** | **84,946.0664** |

## 6.0 Area Detail



### 6.1 Mitigation Measures Area

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 442.9965 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | 0.0000 | 1,392.0621 | 1,392.0621 | 1.3286 | 0.0000 | 1,425.2772 |
| Unmitigated | 442.9965 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | 0.0000 | 1,392.0621 | 1,392.0621 | 1.3286 | 0.0000 | 1,425.2772 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 54.7587 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 365.1593 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 23.0785 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | | 1,392.0621 | 1,392.0621 | 1.3286 | | 1,425.2772 |
| **Total** | **442.9965** | **8.8796** | **769.5140** | **0.0408** | | **4.2841** | **4.2841** | | **4.2841** | **4.2841** | **0.0000** | **1,392.0621** | **1,392.0621** | **1.3286** | **0.0000** | **1,425.2772** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 54.7587 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 365.1593 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 23.0785 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | | 1,392.0621 | 1,392.0621 | 1.3286 | | 1,425.2772 |
| **Total** | **442.9965** | **8.8796** | **769.5140** | **0.0408** | | **4.2841** | **4.2841** | | **4.2841** | **4.2841** | **0.0000** | **1,392.0621** | **1,392.0621** | **1.3286** | **0.0000** | **1,425.2772** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

Apply Water Conservation Strategy

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# UWSP - Proposed Project

**Sacramento Metropolitan AQMD Air District, Winter**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| General Office Building | 1,573.00 | 1000sqft | 36.11 | 1,573,000.00 | 0 |
| Government Office Building | 74.00 | 1000sqft | 1.70 | 74,000.00 | 0 |
| Medical Office Building | 41.60 | 1000sqft | 0.96 | 41,600.00 | 0 |
| High School | 1,500.00 | Student | 4.57 | 198,991.47 | 0 |
| Junior College (2yr) | 2,500.00 | Student | 2.51 | 208,000.00 | 0 |
| Junior High School | 3,000.00 | Student | 8.10 | 352,685.05 | 0 |
| Arena | 72.00 | 1000sqft | 23.14 | 72,000.00 | 0 |
| Fast Food Restaurant with Drive Thru | 24.00 | 1000sqft | 0.55 | 24,000.00 | 0 |
| Health Club | 65.00 | 1000sqft | 1.49 | 65,000.00 | 0 |
| High Turnover (Sit Down Restaurant) | 104.00 | 1000sqft | 2.39 | 104,000.00 | 0 |
| Hotel | 410.00 | Room | 13.67 | 595,320.00 | 0 |
| Hotel | 410.00 | Room | 13.67 | 595,320.00 | 0 |
| Apartments Mid Rise | 4,989.00 | Dwelling Unit | 131.29 | 4,989,000.00 | 13321 |
| Single Family Housing | 4,367.00 | Dwelling Unit | 1,417.86 | 7,860,600.00 | 11660 |
| Regional Shopping Center | 245.00 | 1000sqft | 5.62 | 245,000.00 | 0 |
| Supermarket | 65.00 | 1000sqft | 1.49 | 65,000.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 3.5 | **Precipitation Freq (Days)** | 58 |
| **Climate Zone** | 6 | | | **Operational Year** | 2045 |
| **Utility Company** | Sacramento Municipal Utility District | | | | |
| | | | | | Operational Emissions - Proposed Project |
| **CO2 Intensity** | 0 | **CH4 Intensity** | 0.033 | **N2O Intensity** | 0.004 |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**(lb/MWhr) (lb/MWhr) (lb/MWhr)**

## 1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity factor adjusted to reflect SMUD's RPS projections.

Land Use - All land uses are consistent with the project-specific traffic report.

Construction Phase - construction not modeled.

Vehicle Trips - Trip rates adjusted per the project-specific traffic report from F&P.

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Area Mitigation -

Water Mitigation - Water conservation strategy applied to reflect project compliance with MWELO.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 6,000.00 | 1.00 |
| tblLandUse | LandUseSquareFeet | 109,130.59 | 208,000.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 357.98 | 0 |
| tblVehicleTrips | ST_TR | 4.91 | 3.69 |
| tblVehicleTrips | ST_TR | 10.71 | 19.54 |
| tblVehicleTrips | ST_TR | 616.12 | 319.28 |
| tblVehicleTrips | ST_TR | 2.21 | 6.75 |
| tblVehicleTrips | ST_TR | 0.00 | 15.40 |
| tblVehicleTrips | ST_TR | 20.87 | 18.04 |
| tblVehicleTrips | ST_TR | 0.58 | 1.38 |
| tblVehicleTrips | ST_TR | 122.40 | 75.90 |
| tblVehicleTrips | ST_TR | 8.19 | 4.20 |
| tblVehicleTrips | ST_TR | 0.42 | 1.92 |
| tblVehicleTrips | ST_TR | 0.00 | 1.44 |
| tblVehicleTrips | ST_TR | 8.57 | 24.62 |
| tblVehicleTrips | ST_TR | 46.12 | 37.49 |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblVehicleTrips | ST_TR | 9.54 | 6.40 |
| tblVehicleTrips | ST_TR | 177.62 | 66.32 |
| tblVehicleTrips | SU_TR | 4.09 | 3.69 |
| tblVehicleTrips | SU_TR | 10.71 | 19.54 |
| tblVehicleTrips | SU_TR | 472.58 | 319.28 |
| tblVehicleTrips | SU_TR | 0.70 | 6.75 |
| tblVehicleTrips | SU_TR | 0.00 | 15.40 |
| tblVehicleTrips | SU_TR | 26.73 | 18.04 |
| tblVehicleTrips | SU_TR | 0.25 | 1.38 |
| tblVehicleTrips | SU_TR | 142.64 | 75.90 |
| tblVehicleTrips | SU_TR | 5.95 | 4.20 |
| tblVehicleTrips | SU_TR | 0.04 | 1.92 |
| tblVehicleTrips | SU_TR | 0.00 | 1.44 |
| tblVehicleTrips | SU_TR | 1.42 | 24.62 |
| tblVehicleTrips | SU_TR | 21.10 | 37.49 |
| tblVehicleTrips | SU_TR | 8.55 | 6.40 |
| tblVehicleTrips | SU_TR | 166.47 | 66.32 |
| tblVehicleTrips | WD_TR | 5.44 | 3.69 |
| tblVehicleTrips | WD_TR | 10.71 | 19.54 |
| tblVehicleTrips | WD_TR | 470.95 | 319.28 |
| tblVehicleTrips | WD_TR | 9.74 | 6.75 |
| tblVehicleTrips | WD_TR | 22.59 | 15.40 |
| tblVehicleTrips | WD_TR | 32.93 | 18.04 |
| tblVehicleTrips | WD_TR | 2.03 | 1.38 |
| tblVehicleTrips | WD_TR | 112.18 | 75.90 |
| tblVehicleTrips | WD_TR | 8.36 | 4.20 |
| tblVehicleTrips | WD_TR | 1.15 | 1.92 |
| tblVehicleTrips | WD_TR | 2.13 | 1.44 |
| tblVehicleTrips | WD_TR | 34.80 | 24.62 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblVehicleTrips | WD_TR | 37.75 | 37.49 |
| tblVehicleTrips | WD_TR | 9.44 | 6.40 |
| tblVehicleTrips | WD_TR | 106.78 | 66.32 |

## 2.0 Emissions Summary

### 2.1 Overall Construction (Maximum Daily Emission)

**Unmitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 2.7132 | 27.5599 | 18.6716 | 0.0392 | 19.7939 | 1.2667 | 21.0607 | 10.1388 | 1.1654 | 11.3042 | 0.0000 | 3,801.2622 | 3,801.2622 | 1.1966 | 3.6100e-003 | 3,832.2524 |
| **Maximum** | **2.7132** | **27.5599** | **18.6716** | **0.0392** | **19.7939** | **1.2667** | **21.0607** | **10.1388** | **1.1654** | **11.3042** | **0.0000** | **3,801.2622** | **3,801.2622** | **1.1966** | **3.6100e-003** | **3,832.2524** |

**Mitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 2.7132 | 27.5599 | 18.6716 | 0.0392 | 19.7939 | 1.2667 | 21.0607 | 10.1388 | 1.1654 | 11.3042 | 0.0000 | 3,801.2622 | 3,801.2622 | 1.1966 | 3.6100e-003 | 3,832.2524 |
| **Maximum** | **2.7132** | **27.5599** | **18.6716** | **0.0392** | **19.7939** | **1.2667** | **21.0607** | **10.1388** | **1.1654** | **11.3042** | **0.0000** | **3,801.2622** | **3,801.2622** | **1.1966** | **3.6100e-003** | **3,832.2524** |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 442.9965 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | 0.0000 | 1,392.0621 | 1,392.0621 | 1.3286 | 0.0000 | 1,425.2772 |
| Energy | 7.7407 | 67.9480 | 41.3484 | 0.4222 | | 5.3481 | 5.3481 | | 5.3481 | 5.3481 | | 84,444.2564 | 84,444.2564 | 1.6185 | 1.5481 | 84,946.0663 |
| Mobile | 134.8725 | 175.7428 | 1,555.8063 | 2.8464 | 432.7699 | 1.4222 | 434.1921 | 115.2178 | 1.3301 | 116.5478 | | 319,788.3050 | 319,788.3050 | 22.8469 | 16.5270 | 325,284.5339 |
| **Total** | **585.6097** | **252.5705** | **2,366.6687** | **3.3095** | **432.7699** | **11.0544** | **443.8243** | **115.2178** | **10.9624** | **126.1801** | **0.0000** | **405,624.6235** | **405,624.6235** | **25.7940** | **18.0752** | **411,655.8774** |

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 442.9965 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | 0.0000 | 1,392.0621 | 1,392.0621 | 1.3286 | 0.0000 | 1,425.2772 |
| Energy | 7.7407 | 67.9480 | 41.3484 | 0.4222 | | 5.3481 | 5.3481 | | 5.3481 | 5.3481 | | 84,444.2564 | 84,444.2564 | 1.6185 | 1.5481 | 84,946.0663 |
| Mobile | 134.8725 | 175.7428 | 1,555.8063 | 2.8464 | 432.7699 | 1.4222 | 434.1921 | 115.2178 | 1.3301 | 116.5478 | | 319,788.3050 | 319,788.3050 | 22.8469 | 16.5270 | 325,284.5339 |
| **Total** | **585.6097** | **252.5705** | **2,366.6687** | **3.3095** | **432.7699** | **11.0544** | **443.8243** | **115.2178** | **10.9624** | **126.1801** | **0.0000** | **405,624.6235** | **405,624.6235** | **25.7940** | **18.0752** | **411,655.8774** |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 6/1/2023 | 6/1/2023 | 5 | 1 | |

**Acres of Grading (Site Preparation Phase): 1.5**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

### OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |

### Trips and VMT

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 7 | 18.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |



## 3.1 Mitigation Measures Construction

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.6595 | 27.5242 | 18.2443 | 0.0381 | | 1.2660 | 1.2660 | | 1.1647 | 1.1647 | | 3,687.3081 | 3,687.3081 | 1.1926 | | 3,717.1219 |
| **Total** | **2.6595** | **27.5242** | **18.2443** | **0.0381** | **19.6570** | **1.2660** | **20.9230** | **10.1025** | **1.1647** | **11.2672** | | **3,687.3081** | **3,687.3081** | **1.1926** | | **3,717.1219** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0537 | 0.0358 | 0.4272 | 1.1100e-003 | 0.1369 | 7.1000e-004 | 0.1376 | 0.0363 | 6.5000e-004 | 0.0370 | | 113.9541 | 113.9541 | 4.0500e-003 | 3.6100e-003 | 115.1305 |
| **Total** | **0.0537** | **0.0358** | **0.4272** | **1.1100e-003** | **0.1369** | **7.1000e-004** | **0.1376** | **0.0363** | **6.5000e-004** | **0.0370** | | **113.9541** | **113.9541** | **4.0500e-003** | **3.6100e-003** | **115.1305** |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.6595 | 27.5242 | 18.2443 | 0.0381 | | 1.2660 | 1.2660 | | 1.1647 | 1.1647 | 0.0000 | 3,687.3081 | 3,687.3081 | 1.1926 | | 3,717.1219 |
| **Total** | **2.6595** | **27.5242** | **18.2443** | **0.0381** | **19.6570** | **1.2660** | **20.9230** | **10.1025** | **1.1647** | **11.2672** | **0.0000** | **3,687.3081** | **3,687.3081** | **1.1926** | | **3,717.1219** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0537 | 0.0358 | 0.4272 | 1.1100e-003 | 0.1369 | 7.1000e-004 | 0.1376 | 0.0363 | 6.5000e-004 | 0.0370 | | 113.9541 | 113.9541 | 4.0500e-003 | 3.6100e-003 | 115.1305 |
| **Total** | **0.0537** | **0.0358** | **0.4272** | **1.1100e-003** | **0.1369** | **7.1000e-004** | **0.1376** | **0.0363** | **6.5000e-004** | **0.0370** | | **113.9541** | **113.9541** | **4.0500e-003** | **3.6100e-003** | **115.1305** |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 134.8725 | 175.7428 | 1,555.8063 | 2.8464 | 432.7699 | 1.4222 | 434.1921 | 115.2178 | 1.3301 | 116.5478 | | 319,788.3050 | 319,788.3050 | 22.8469 | 16.5270 | 325,284.5339 |
| Unmitigated | 134.8725 | 175.7428 | 1,555.8063 | 2.8464 | 432.7699 | 1.4222 | 434.1921 | 115.2178 | 1.3301 | 116.5478 | | 319,788.3050 | 319,788.3050 | 22.8469 | 16.5270 | 325,284.5339 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments Mid Rise | 18,409.41 | 18,409.41 | 18409.41 | 47,240,553 | 47,240,553 |
| Arena | 1,406.88 | 1,406.88 | 1406.88 | 1,978,797 | 1,978,797 |
| Fast Food Restaurant with Drive Thru | 7,662.72 | 7,662.72 | 7662.72 | 5,293,366 | 5,293,366 |
| General Office Building | 10,617.75 | 10,617.75 | 10617.75 | 21,926,757 | 21,926,757 |
| Government Office Building | 1,139.60 | 1,139.60 | 1139.60 | 1,638,569 | 1,638,569 |
| Health Club | 1,172.60 | 1,172.60 | 1172.60 | 1,619,497 | 1,619,497 |
| High School | 2,070.00 | 2,070.00 | 2070.00 | 5,391,592 | 5,391,592 |
| High Turnover (Sit Down Restaurant) | 7,893.60 | 7,893.60 | 7893.60 | 7,014,228 | 7,014,228 |
| Hotel | 1,722.00 | 1,722.00 | 1722.00 | 2,648,969 | 2,648,969 |
| Hotel | 1,722.00 | 1,722.00 | 1722.00 | 2,648,969 | 2,648,969 |
| Junior College (2yr) | 4,800.00 | 4,800.00 | 4800.00 | 8,838,757 | 8,838,757 |
| Junior High School | 4,320.00 | 4,320.00 | 4320.00 | 9,509,003 | 9,509,003 |
| Medical Office Building | 1,024.19 | 1,024.19 | 1024.19 | 1,706,100 | 1,706,100 |
| Regional Shopping Center | 9,185.05 | 9,185.05 | 9185.05 | 12,834,316 | 12,834,316 |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Single Family Housing | 27,948.80 | 27,948.80 | 27948.80 | 71,719,667 | 71,719,667 |
| Supermarket | 4,310.80 | 4,310.80 | 4310.80 | 3,709,662 | 3,709,662 |
| Total | 105,405.40 | 105,405.40 | 105,405.40 | 205,718,801 | 205,718,801 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments Mid Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Arena | 10.00 | 5.00 | 6.50 | 0.00 | 81.00 | 19.00 | 66 | 28 | 6 |
| Fast Food Restaurant with Drive | 10.00 | 5.00 | 6.50 | 2.20 | 78.80 | 19.00 | 29 | 21 | 50 |
| General Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 77 | 19 | 4 |
| Government Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 62.00 | 5.00 | 50 | 34 | 16 |
| Health Club | 10.00 | 5.00 | 6.50 | 16.90 | 64.10 | 19.00 | 52 | 39 | 9 |
| High School | 10.00 | 5.00 | 6.50 | 77.80 | 17.20 | 5.00 | 75 | 19 | 6 |
| High Turnover (Sit Down | 10.00 | 5.00 | 6.50 | 8.50 | 72.50 | 19.00 | 37 | 20 | 43 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Junior College (2yr) | 10.00 | 5.00 | 6.50 | 6.40 | 88.60 | 5.00 | 92 | 7 | 1 |
| Junior High School | 10.00 | 5.00 | 6.50 | 72.80 | 22.20 | 5.00 | 63 | 25 | 12 |
| Medical Office Building | 10.00 | 5.00 | 6.50 | 29.60 | 51.40 | 19.00 | 60 | 30 | 10 |
| Regional Shopping Center | 10.00 | 5.00 | 6.50 | 16.30 | 64.70 | 19.00 | 54 | 35 | 11 |
| Single Family Housing | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Supermarket | 10.00 | 5.00 | 6.50 | 6.50 | 74.50 | 19.00 | 34 | 30 | 36 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apartments Mid Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Arena | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Fast Food Restaurant with Drive Thru | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| General Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Government Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Health Club | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High Turnover (Sit Down Restaurant) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Hotel | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Junior College (2yr) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Junior High School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Medical Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Regional Shopping Center | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Single Family Housing | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Supermarket | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 7.7407 | 67.9480 | 41.3484 | 0.4222 | | 5.3481 | 5.3481 | | 5.3481 | 5.3481 | | 84,444.2564 | 84,444.2564 | 1.6185 | 1.5481 | 84,946.0663 |
| NaturalGas Unmitigated | 7.7407 | 67.9480 | 41.3484 | 0.4222 | | 5.3481 | 5.3481 | | 5.3481 | 5.3481 | | 84,444.2564 | 84,444.2564 | 1.6185 | 1.5481 | 84,946.0663 |

### 5.2 Energy by Land Use - NaturalGas

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments Mid Rise | 128706 | 1.3880 | 11.8611 | 5.0473 | 0.0757 | | 0.9590 | 0.9590 | | 0.9590 | 0.9590 | | 15,141.8442 | 15,141.8442 | 0.2902 | 0.2776 | 15,231.8246 |
| Arena | 7016.55 | 0.0757 | 0.6879 | 0.5778 | 4.1300e-003 | | 0.0523 | 0.0523 | | 0.0523 | 0.0523 | | 825.4762 | 825.4762 | 0.0158 | 0.0151 | 830.3816 |
| Fast Food Restaurant with Drive Thru | 11645.6 | 0.1256 | 1.1417 | 0.9591 | 6.8500e-003 | | 0.0868 | 0.0868 | | 0.0868 | 0.0868 | | 1,370.0693 | 1,370.0693 | 0.0263 | 0.0251 | 1,378.2109 |
| General Office Building | 55938.5 | 0.6033 | 5.4842 | 4.6067 | 0.0329 | | 0.4168 | 0.4168 | | 0.4168 | 0.4168 | | 6,580.9960 | 6,580.9960 | 0.1261 | 0.1207 | 6,620.1035 |
| Government Office Building | 2631.56 | 0.0284 | 0.2580 | 0.2167 | 1.5500e-003 | | 0.0196 | 0.0196 | | 0.0196 | 0.0196 | | 309.5955 | 309.5955 | 5.9300e-003 | 5.6800e-003 | 311.4353 |
| Health Club | 6334.38 | 0.0683 | 0.6210 | 0.5217 | 3.7300e-003 | | 0.0472 | 0.0472 | | 0.0472 | 0.0472 | | 745.2216 | 745.2216 | 0.0143 | 0.0137 | 749.6501 |
| High School | 8243.15 | 0.0889 | 0.8082 | 0.6789 | 4.8500e-003 | | 0.0614 | 0.0614 | | 0.0614 | 0.0614 | | 969.7828 | 969.7828 | 0.0186 | 0.0178 | 975.5457 |
| High Turnover (Sit Down Restaurant) | 50464.2 | 0.5442 | 4.9475 | 4.1559 | 0.0297 | | 0.3760 | 0.3760 | | 0.3760 | 0.3760 | | 5,936.9670 | 5,936.9670 | 0.1138 | 0.1088 | 5,972.2474 |
| Hotel | 62370 | 1.3452 | 12.2294 | 10.2727 | 0.0734 | | 0.9294 | 0.9294 | | 0.9294 | 0.9294 | | 14,675.2856 | 14,675.2856 | 0.2813 | 0.2691 | 14,762.4935 |
| Junior College (2yr) | 14805 | 0.1597 | 1.4515 | 1.2192 | 8.7100e-003 | | 0.1103 | 0.1103 | | 0.1103 | 0.1103 | | 1,741.7695 | 1,741.7695 | 0.0334 | 0.0319 | 1,752.1200 |
| Junior High School | 14609.9 | 0.1576 | 1.4323 | 1.2032 | 8.5900e-003 | | 0.1089 | 0.1089 | | 0.1089 | 0.1089 | | 1,718.8068 | 1,718.8068 | 0.0329 | 0.0315 | 1,729.0208 |
| Medical Office Building | 1479.36 | 0.0160 | 0.1450 | 0.1218 | 8.7000e-004 | | 0.0110 | 0.0110 | | 0.0110 | 0.0110 | | 174.0429 | 174.0429 | 3.3400e-003 | 3.1900e-003 | 175.0771 |
| Regional Shopping Center | 3604.52 | 0.0389 | 0.3534 | 0.2968 | 2.1200e-003 | | 0.0269 | 0.0269 | | 0.0269 | 0.0269 | | 424.0612 | 424.0612 | 8.1300e-003 | 7.7700e-003 | 426.5812 |
| Single Family Housing | 283063 | 3.0526 | 26.0862 | 11.1005 | 0.1665 | | 2.1091 | 2.1091 | | 2.1091 | 2.1091 | | 33,301.5385 | 33,301.5385 | 0.6383 | 0.6105 | 33,499.4329 |
| Supermarket | 4494.79 | 0.0485 | 0.4407 | 0.3702 | 2.6400e-003 | | 0.0335 | 0.0335 | | 0.0335 | 0.0335 | | 528.7994 | 528.7994 | 0.0101 | 9.6900e-003 | 531.9418 |
| **Total** | | **7.7407** | **67.9480** | **41.3484** | **0.4222** | | **5.3481** | **5.3481** | | **5.3481** | **5.3481** | | **84,444.2564** | **84,444.2564** | **1.6185** | **1.5481** | **84,946.0664** |

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments Mid Rise | 128.706 | 1.3880 | 11.8611 | 5.0473 | 0.0757 | | 0.9590 | 0.9590 | | 0.9590 | 0.9590 | | 15,141.8442 | 15,141.8442 | 0.2902 | 0.2776 | 15,231.8246 |
| Arena | 7.01655 | 0.0757 | 0.6879 | 0.5778 | 4.1300e-003 | | 0.0523 | 0.0523 | | 0.0523 | 0.0523 | | 825.4762 | 825.4762 | 0.0158 | 0.0151 | 830.3816 |
| Fast Food Restaurant with Drive Thru | 11.6456 | 0.1256 | 1.1417 | 0.9591 | 6.8500e-003 | | 0.0868 | 0.0868 | | 0.0868 | 0.0868 | | 1,370.0693 | 1,370.0693 | 0.0263 | 0.0251 | 1,378.2109 |
| General Office Building | 55.9385 | 0.6033 | 5.4842 | 4.6067 | 0.0329 | | 0.4168 | 0.4168 | | 0.4168 | 0.4168 | | 6,580.9960 | 6,580.9960 | 0.1261 | 0.1207 | 6,620.1035 |
| Government Office Building | 2.63156 | 0.0284 | 0.2580 | 0.2167 | 1.5500e-003 | | 0.0196 | 0.0196 | | 0.0196 | 0.0196 | | 309.5955 | 309.5955 | 5.9300e-003 | 5.6800e-003 | 311.4353 |
| Health Club | 6.33438 | 0.0683 | 0.6210 | 0.5217 | 3.7300e-003 | | 0.0472 | 0.0472 | | 0.0472 | 0.0472 | | 745.2216 | 745.2216 | 0.0143 | 0.0137 | 749.6501 |
| High School | 8.24315 | 0.0889 | 0.8082 | 0.6789 | 4.8500e-003 | | 0.0614 | 0.0614 | | 0.0614 | 0.0614 | | 969.7828 | 969.7828 | 0.0186 | 0.0178 | 975.5457 |
| High Turnover (Sit Down Restaurant) | 50.4642 | 0.5442 | 4.9475 | 4.1559 | 0.0297 | | 0.3760 | 0.3760 | | 0.3760 | 0.3760 | | 5,936.9670 | 5,936.9670 | 0.1138 | 0.1088 | 5,972.2474 |
| Hotel | 62.37 | 1.3452 | 12.2294 | 10.2727 | 0.0734 | | 0.9294 | 0.9294 | | 0.9294 | 0.9294 | | 14,675.2856 | 14,675.2856 | 0.2813 | 0.2691 | 14,762.4935 |
| Junior College (2yr) | 14.805 | 0.1597 | 1.4515 | 1.2192 | 8.7100e-003 | | 0.1103 | 0.1103 | | 0.1103 | 0.1103 | | 1,741.7695 | 1,741.7695 | 0.0334 | 0.0319 | 1,752.1200 |
| Junior High School | 14.6099 | 0.1576 | 1.4323 | 1.2032 | 8.5900e-003 | | 0.1089 | 0.1089 | | 0.1089 | 0.1089 | | 1,718.8068 | 1,718.8068 | 0.0329 | 0.0315 | 1,729.0208 |
| Medical Office Building | 1.47936 | 0.0160 | 0.1450 | 0.1218 | 8.7000e-004 | | 0.0110 | 0.0110 | | 0.0110 | 0.0110 | | 174.0429 | 174.0429 | 3.3400e-003 | 3.1900e-003 | 175.0771 |
| Regional Shopping Center | 3.60452 | 0.0389 | 0.3534 | 0.2968 | 2.1200e-003 | | 0.0269 | 0.0269 | | 0.0269 | 0.0269 | | 424.0612 | 424.0612 | 8.1300e-003 | 7.7700e-003 | 426.5812 |
| Single Family Housing | 283.063 | 3.0526 | 26.0862 | 11.1005 | 0.1665 | | 2.1091 | 2.1091 | | 2.1091 | 2.1091 | | 33,301.5385 | 33,301.5385 | 0.6383 | 0.6105 | 33,499.4329 |
| Supermarket | 4.49479 | 0.0485 | 0.4407 | 0.3702 | 2.6400e-003 | | 0.0335 | 0.0335 | | 0.0335 | 0.0335 | | 528.7994 | 528.7994 | 0.0101 | 9.6900e-003 | 531.9418 |
| **Total** | | **7.7407** | **67.9480** | **41.3484** | **0.4222** | | **5.3481** | **5.3481** | | **5.3481** | **5.3481** | | **84,444.2564** | **84,444.2564** | **1.6185** | **1.5481** | **84,946.0664** |

## 6.0 Area Detail



### 6.1 Mitigation Measures Area

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 442.9965 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | 0.0000 | 1,392.0621 | 1,392.0621 | 1.3286 | 0.0000 | 1,425.2772 |
| Unmitigated | 442.9965 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | 0.0000 | 1,392.0621 | 1,392.0621 | 1.3286 | 0.0000 | 1,425.2772 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 54.7587 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 365.1593 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 23.0785 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | | 1,392.0621 | 1,392.0621 | 1.3286 | | 1,425.2772 |
| **Total** | **442.9965** | **8.8796** | **769.5140** | **0.0408** | | **4.2841** | **4.2841** | | **4.2841** | **4.2841** | **0.0000** | **1,392.0621** | **1,392.0621** | **1.3286** | **0.0000** | **1,425.2772** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 54.7587 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 365.1593 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 23.0785 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | | 1,392.0621 | 1,392.0621 | 1.3286 | | 1,425.2772 |
| **Total** | **442.9965** | **8.8796** | **769.5140** | **0.0408** | | **4.2841** | **4.2841** | | **4.2841** | **4.2841** | **0.0000** | **1,392.0621** | **1,392.0621** | **1.3286** | **0.0000** | **1,425.2772** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

Apply Water Conservation Strategy

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

# UWSP - Proposed Project

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Sacramento Metropolitan AQMD Air District, Mitigation Report**

## Construction Mitigation Summary

| Phase | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Site Preparation | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## OFFROAD Equipment Mitigation

| Equipment Type | Fuel Type | Tier | Number Mitigated | Total Number of Equipment | DPF | Oxidation Catalyst |
|---|---|---|---|---|---|---|
| Rubber Tired Dozers | Diesel | No Change | 0 | 6 | No Change | 0.00 |
| Tractors/Loaders/Backhoes | Diesel | No Change | 0 | 8 | No Change | 0.00 |

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Unmitigated tons/yr | | | | | | Unmitigated mt/yr | | | | | |
| Rubber Tired Dozers | 1.03000E-003 | 1.06900E-002 | 4.66000E-003 | 1.00000E-005 | 4.80000E-004 | 4.40000E-004 | 0.00000E+000 | 1.12536E+000 | 1.12536E+000 | 3.60000E-004 | 0.00000E+000 | 1.13446E+000 |
| Tractors/Loaders/ Backhoes | 3.00000E-004 | 3.07000E-003 | 4.46000E-003 | 1.00000E-005 | 1.50000E-004 | 1.40000E-004 | 0.00000E+000 | 5.47170E-001 | 5.47170E-001 | 1.80000E-004 | 0.00000E+000 | 5.51600E-001 |

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mitigated tons/yr | | | | | | Mitigated mt/yr | | | | | |
| Rubber Tired Dozers | 1.03000E-003 | 1.06900E-002 | 4.66000E-003 | 1.00000E-005 | 4.80000E-004 | 4.40000E-004 | 0.00000E+000 | 1.12536E+000 | 1.12536E+000 | 3.60000E-004 | 0.00000E+000 | 1.13446E+000 |
| Tractors/Loaders/Backhoes | 3.00000E-004 | 3.07000E-003 | 4.46000E-003 | 1.00000E-005 | 1.50000E-004 | 1.40000E-004 | 0.00000E+000 | 5.47170E-001 | 5.47170E-001 | 1.80000E-004 | 0.00000E+000 | 5.51590E-001 |

# UWSP - Proposed Project

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Rubber Tired Dozers | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |
| Tractors/Loaders/Backhoes | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.81291E-005 |

## Fugitive Dust Mitigation

| Yes/No | Mitigation Measure | Mitigation Input | | Mitigation Input | | Mitigation Input | |
|---|---|---|---|---|---|---|---|
| No | Soil Stabilizer for unpaved Roads | PM10 Reduction | | PM2.5 Reduction | | | |
| No | Replace Ground Cover of Area Disturbed | PM10 Reduction | | PM2.5 Reduction | | | |
| No | Water Exposed Area | PM10 Reduction | | PM2.5 Reduction | | Frequency (per day) | |
| No | Unpaved Road Mitigation | Moisture Content % | | Vehicle Speed (mph) | 0.00 | | |
| No | Clean Paved Road | % PM Reduction | 0.00 | | | | |

| | | Unmitigated | | Mitigated | | Percent Reduction | |
|---|---|---|---|---|---|---|---|
| Phase | Source | PM10 | PM2.5 | PM10 | PM2.5 | PM10 | PM2.5 |
| Site Preparation | Fugitive Dust | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 |
| Site Preparation | Roads | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

# UWSP - Proposed Project

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## Operational Percent Reduction Summary

| Category | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Architectural Coating | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Consumer Products | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hearth | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mobile | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Natural Gas | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water Indoor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.47 | 0.10 | 0.06 |
| Water Outdoor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## Operational Mobile Mitigation

Project Setting: Suburban Center

| Mitigation | Category | Measure | % Reduction | Input Value 1 | Input Value 2 | Input Value 3 |
|---|---|---|---|---|---|---|
| No | Land Use | Increase Density | 0.00 | 0.00 | 0.00 | |
| No | Land Use | Increase Diversity | 0.30 | 0.76 | | |
| No | Land Use | Improve Walkability Design | 0.00 | 0.00 | | |
| No | Land Use | Improve Destination Accessibility | 0.00 | 5.30 | | |
| No | Land Use | Increase Transit Accessibility | 0.25 | 0.00 | | |

## UWSP - Proposed Project

### EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| | | | | | | |
|---|---|---|---|---|---|---|
| No | Land Use | Integrate Below Market Rate Housing | 0.00 | 0.00 | | |
| | Land Use | Land Use SubTotal | 0.00 | | | |
| No | Neighborhood Enhancements | Improve Pedestrian Network | 2.00 | Project Site and Connecting Off-Site | | |
| No | Neighborhood Enhancements | Provide Traffic Calming Measures | | | | |
| No | Neighborhood Enhancements | Implement NEV Network | 0.00 | | | |
| | Neighborhood Enhancements | Neighborhood Enhancements Subtotal | 0.00 | | | |
| No | Parking Policy Pricing | Limit Parking Supply | 0.00 | 0.00 | | |
| No | Parking Policy Pricing | Unbundle Parking Costs | 0.00 | 0.00 | | |
| No | Parking Policy Pricing | On-street Market Pricing | 0.00 | 0.00 | | |
| | Parking Policy Pricing | Parking Policy Pricing Subtotal | 0.00 | | | |
| No | Transit Improvements | Provide BRT System | 0.00 | 0.00 | | |
| No | Transit Improvements | Expand Transit Network | 0.00 | 0.00 | | |
| No | Transit Improvements | Increase Transit Frequency | 0.00 | | 0.00 | |
| | Transit Improvements | Transit Improvements Subtotal | 0.00 | | | |
| | | Land Use and Site Enhancement Subtotal | 0.00 | | | |
| No | Commute | Implement Trip Reduction Program | 5.40 | | Voluntary | |
| No | Commute | Transit Subsidy | 0.00 | 0.00 | | |
| No | Commute | Implement Employee Parking "Cash Out" | 4.50 | 0.00 | | |
| No | Commute | Workplace Parking Charge | 0.00 | 0.00 | | |
| No | Commute | Encourage Telecommuting and Alternative Work Schedules | 0.00 | 0.00 | 0.00 | 0.00 |

## UWSP - Proposed Project

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | |
|---|---|---|---|---|---|---|
| No | Commute | Market Commute Trip Reduction Option | 0.00 | 0.00 | | |
| No | Commute | Employee Vanpool/Shuttle | 0.00 | 0.00 | 2.00 | |
| No | Commute | Provide Ride Sharing Program | 10.00 | 0.00 | | |
| | Commute | Commute Subtotal | 0.00 | | | |
| No | School Trip | Implement School Bus Program | 0.00 | 0.00 | | |
| | | Total VMT Reduction | 0.00 | | | |

### Area Mitigation

| Measure Implemented | Mitigation Measure | Input Value |
|---|---|---|
| No | Only Natural Gas Hearth | |
| No | No Hearth | |
| No | Use Low VOC Cleaning Supplies | |
| No | Use Low VOC Paint (Residential Interior) | 100.00 |
| No | Use Low VOC Paint (Residential Exterior) | 100.00 |
| No | Use Low VOC Paint (Non-residential Interior) | 100.00 |
| No | Use Low VOC Paint (Non-residential Exterior) | 100.00 |
| No | Use Low VOC Paint (Parking) | 100.00 |
| No | % Electric Lawnmower | 0.00 |
| No | % Electric Leafblower | 0.00 |
| No | % Electric Chainsaw | 0.00 |

### Energy Mitigation Measures

## UWSP - Proposed Project

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Measure Implemented | Mitigation Measure | Input Value 1 | Input Value 2 |
|---|---|---|---|
| No | Exceed Title 24 | | |
| No | Install High Efficiency Lighting | | |
| No | On-site Renewable | | |

| Appliance Type | Land Use Subtype | % Improvement |
|---|---|---|
| ClothWasher | | 30.00 |
| DishWasher | | 15.00 |
| Fan | | 50.00 |
| Refrigerator | | 15.00 |

### Water Mitigation Measures

| Measure Implemented | Mitigation Measure | Input Value 1 | Input Value 2 |
|---|---|---|---|
| Yes | Apply Water Conservation on Strategy | | 20.00 |
| No | Use Reclaimed Water | 0.00 | 0.00 |
| No | Use Grey Water | 0.00 | |
| No | Install low-flow bathroom faucet | 32.00 | |
| No | Install low-flow Kitchen faucet | 18.00 | |
| No | Install low-flow Toilet | 20.00 | |
| No | Install low-flow Shower | 20.00 | |
| No | Turf Reduction | 0.00 | |
| No | Use Water Efficient Irrigation Systems | 6.10 | |

## UWSP - Proposed Project

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| No | Water Efficient Landscape | 0.00 | 0.00 |

### Solid Waste Mitigation

| Mitigation Measures | Input Value |
|---|---|
| Institute Recycling and Composting Services<br>Percent Reduction in Waste Disposed | |

# Appendix B

# GDF Calculations

GDF 1 - Pilot Travel Center/Truck Stop

| | | |
|---|---|---|
| GDF 1 Throughput | 23,600,000.00 | gallons/yr |

| **Standard Emission Rates** (see CAPCOA Guidance pg A-5) | | |
|---|---|---|
| Loading | 0.084 | lbs total VOC/1,000 gallons |
| Breathing | 0.025 | lbs total VOC/1,000 gallons |
| Refueling | 0.74 | lbs total VOC/1,000 gallons |
| Spillage | 0.42 | lbs total VOC/1,000 gallons |

| **Benzene Components** | | |
|---|---|---|
| Vapor | 0.3 | % |
| Liquid | 1 | % |

| **Densities** | | |
|---|---|---|
| Vapor | 0.105 | lbs/ft^3 |
| Liquid | 6 | lbs/gallon |

| **Loading** | | | |
|---|---|---|---|
| Throughput (gallons/year) | Emission Factor (lbs/gallon) | Whole Gasoline Emission Rate (grams/second) | Benzene Emission Rate (grams/second) |
| 23600000 | 0.000084 | 0.028539117 | 0.000085617352 |

| **Loading** | | | |
|---|---|---|---|
| Mass Emission Rate (grams/second) | Area of Stack (meters) | Density of Gas (grams/meter^2) | Exit Velocity (meters/second) |
| 0.028539117 | 0.00810732 | 1683.452933 | 0.00209104 |

| **Breathing** | | | |
|---|---|---|---|
| Throughput (gallons/year) | Emission Factor (lbs/gallon) | Whole Gasoline Emission Rate (grams/second) | Benzene Emission Rate (grams/second) |
| 23600000 | 0.000025 | 0.008493785 | 0.000025481355 |

| **Breathing** | | | |
|---|---|---|---|
| Mass Emission Rate (grams/second) | Area of Stack (meters) | Density of Gas (grams/meter^2) | Exit Velocity (meters/second) |
| 0.008493785 | 0.00810732 | 1683.452933 | 0.000622333 |

| **Refueling** | | | |
|---|---|---|---|
| Throughput (gallons/year) | Emission Factor (lbs/gallon) | Whole Gasoline Emission Rate (grams/second) | Benzene Emission Rate (grams/second) |
| 23600000 | 0.00074 | 0.251416032 | 0.000754248097 |

| **Spillage** | | | |
|---|---|---|---|
| Throughput (gallons/year) | Emission Factor (lbs/gallon) | Whole Gasoline Emission Rate (grams/second) | Benzene Emission Rate (grams/second) |
| 23600000 | 0.00042 | 0.142695586 | 0.001426955860 |

GDF 2 - Chevron

| | | |
|---|---|---|
| GDF 2 Throughput | 15,600,000.00 | gallons/yr |

| **Standard Emission Rates** (see CAPCOA Guidance pg A-5) | | |
|---|---|---|
| Loading | 0.084 | lbs total VOC/1,000 gallons |
| Breathing | 0.025 | lbs total VOC/1,000 gallons |
| Refueling | 0.74 | lbs total VOC/1,000 gallons |
| Spillage | 0.42 | lbs total VOC/1,000 gallons |

| **Benzene Components** | | |
|---|---|---|
| Vapor | 0.3 | % |
| Liquid | 1 | % |

| **Densities** | | |
|---|---|---|
| Vapor | 0.105 | lbs/ft^3 |
| Liquid | 6 | lbs/gallon |

| **Loading** | | | |
|---|---|---|---|
| Throughput (gallons/year) | Emission Factor (lbs/gallon) | Whole Gasoline Emission Rate (grams/second) | Benzene Emission Rate (grams/second) |
| 15600000 | 0.000084 | 0.01886484 | 0.000056594521 |

| **Loading** | | | |
|---|---|---|---|
| Mass Emission Rate (grams/second) | Area of Stack (meters) | Density of Gas (grams/meter^2) | Exit Velocity (meters/second) |
| 0.01886484 | 0.00810732 | 1683.452933 | 0.001382213 |

| **Breathing** | | | |
|---|---|---|---|
| Throughput (gallons/year) | Emission Factor (lbs/gallon) | Whole Gasoline Emission Rate (grams/second) | Benzene Emission Rate (grams/second) |
| 15600000 | 0.000025 | 0.005614536 | 0.000016843607 |

| **Breathing** | | | |
|---|---|---|---|
| Mass Emission Rate (grams/second) | Area of Stack (meters) | Density of Gas (grams/meter^2) | Exit Velocity (meters/second) |
| 0.005614536 | 0.00810732 | 1683.452933 | 0.000411373 |

| **Refueling** | | | |
|---|---|---|---|
| Throughput (gallons/year) | Emission Factor (lbs/gallon) | Whole Gasoline Emission Rate (grams/second) | Benzene Emission Rate (grams/second) |
| 15600000 | 0.00074 | 0.166190259 | 0.000498570776 |

| **Spillage** | | | |
|---|---|---|---|
| Throughput (gallons/year) | Emission Factor (lbs/gallon) | Whole Gasoline Emission Rate (grams/second) | Benzene Emission Rate (grams/second) |
| 15600000 | 0.00042 | 0.094324201 | 0.000943242009 |

# Appendix C

# AERMOD and HARP Modeling Results

# AERMOD Model Options

## Model Options

| Pathway | Keyword | Description | Value |
|---|---|---|---|
| CO | TITLEONE | Project title 1 | UWSP Construction HRA |
| CO | TITLETWO | Project title 2 | |
| CO | MODELOPT | Model options | DFAULT,CONC,NODRYDPLT,NOWETDPLT |
| CO | AVERTIME | Averaging times | 1,ANNUAL |
| CO | URBANOPT | Urban options | |
| CO | POLLUTID | Pollutant ID | PM25 H1H |
| CO | HALFLIFE | Half life | |
| CO | DCAYCOEF | Decay coefficient | |
| CO | FLAGPOLE | Flagpole receptor heights | 1.8 |
| CO | RUNORNOT | Run or Not | RUN |
| CO | EVENTFIL | Event file | F |
| CO | SAVEFILE | Save file | F |
| CO | INITFILE | Initialization file | |
| CO | MULTYEAR | Multiple year option | N/A |
| CO | DEBUGOPT | Debug options | N/A |
| CO | ERRORFIL | Error file | F |
| SO | ELEVUNIT | Elevation units | METERS |
| SO | EMISUNIT | Emission units | N/A |
| RE | ELEVUNIT | Elevation units | METERS |
| ME | SURFFILE | Surface met file | I:\Projects\Active\Sacramento County\Upper Westside\HRA\Construction HRA\April 2023 Remodel\AERMOD\SACINT~1.SFC |
| ME | PROFFILE | Profile met file | I:\Projects\Active\Sacramento County\Upper Westside\HRA\Construction HRA\April 2023 Remodel\AERMOD\SACINT~1.PFL |
| ME | SURFDATA | Surf met data info. | 93225 2014 |
| ME | UAIRDATA | U-Air met data info. | 23230 2014 |
| ME | SITEDATA | On-site met data info. | |
| ME | PROFBASE | Elev. above MSL | 8.23 |
| ME | STARTEND | Start-end met dates | |
| ME | WDROTATE | Wind dir. rot. adjust. | |
| ME | WINDCATS | Wind speed cat. max. | |
| ME | SCIMBYHR | SCIM sample params | |
| EV | DAYTABLE | Print summary opt. | N/A |
| OU | EVENTOUT | Output info. level | N/A |

| | | | |
|---|---|---|---|
| OU | DAYTABLE | Print summary opt. | |

# Source Parameter Tables

## All Sources

| Source ID / Pollutant ID | Source Type | Description | UTM | | Elev. | Emiss. Rate | Emiss. Units | Release Height |
|---|---|---|---|---|---|---|---|---|
| | | | East (m) | North (m) | (m) | | | (m) |
| 7NL8T001 | VOLUME | | 626470.7 | 4273814.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T002 | VOLUME | | 626534.3 | 4273814.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T003 | VOLUME | | 626597.9 | 4273814.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T004 | VOLUME | | 626661.5 | 4273814.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T005 | VOLUME | | 626407.1 | 4273877.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T006 | VOLUME | | 626470.7 | 4273877.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T007 | VOLUME | | 626534.3 | 4273877.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T008 | VOLUME | | 626597.9 | 4273877.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T009 | VOLUME | | 626661.5 | 4273877.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00A | VOLUME | | 626343.5 | 4273941.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00B | VOLUME | | 626407.1 | 4273941.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00C | VOLUME | | 626470.7 | 4273941.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00D | VOLUME | | 626534.3 | 4273941.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00E | VOLUME | | 626597.9 | 4273941.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00F | VOLUME | | 626661.5 | 4273941.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00G | VOLUME | | 626725.1 | 4273941.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00H | VOLUME | | 626279.8 | 4274005.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00I | VOLUME | | 626343.5 | 4274005.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00J | VOLUME | | 626407.1 | 4274005.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00K | VOLUME | | 626470.7 | 4274005.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00L | VOLUME | | 626534.3 | 4274005.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00M | VOLUME | | 626597.9 | 4274005.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00N | VOLUME | | 626661.5 | 4274005.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00O | VOLUME | | 626725.1 | 4274005.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00P | VOLUME | | 626216.2 | 4274068.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00Q | VOLUME | | 626279.8 | 4274068.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00R | VOLUME | | 626343.5 | 4274068.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00S | VOLUME | | 626407.1 | 4274068.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00T | VOLUME | | 626470.7 | 4274068.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00U | VOLUME | | 626534.3 | 4274068.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00V | VOLUME | | 626597.9 | 4274068.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00W | VOLUME | | 626661.5 | 4274068.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00X | VOLUME | | 626725.1 | 4274068.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00Y | VOLUME | | 626788.8 | 4274068.6 | 0 | 0.00002593211623 | (g/s) | 5 |

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|---|---|---|---|---|---|---|---|---|
| 7NL8T00Z | VOLUME | | 626152.6 | 4274132.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T010 | VOLUME | | 626216.2 | 4274132.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T011 | VOLUME | | 626279.8 | 4274132.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T012 | VOLUME | | 626343.5 | 4274132.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T013 | VOLUME | | 626407.1 | 4274132.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T014 | VOLUME | | 626470.7 | 4274132.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T015 | VOLUME | | 626534.3 | 4274132.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T016 | VOLUME | | 626597.9 | 4274132.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T017 | VOLUME | | 626661.5 | 4274132.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T018 | VOLUME | | 626725.1 | 4274132.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T019 | VOLUME | | 626788.8 | 4274132.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01A | VOLUME | | 626025.4 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01B | VOLUME | | 626089.0 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01C | VOLUME | | 626152.6 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01D | VOLUME | | 626216.2 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01E | VOLUME | | 626279.8 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01F | VOLUME | | 626343.5 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01G | VOLUME | | 626407.1 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01H | VOLUME | | 626470.7 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01I | VOLUME | | 626534.3 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01J | VOLUME | | 626597.9 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01K | VOLUME | | 626661.5 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01L | VOLUME | | 626725.1 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01M | VOLUME | | 626788.8 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01N | VOLUME | | 626852.4 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01O | VOLUME | | 626025.4 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01P | VOLUME | | 626089.0 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01Q | VOLUME | | 626152.6 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01R | VOLUME | | 626216.2 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01S | VOLUME | | 626279.8 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01T | VOLUME | | 626343.5 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01U | VOLUME | | 626407.1 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01V | VOLUME | | 626470.7 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01W | VOLUME | | 626534.3 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01X | VOLUME | | 626597.9 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01Y | VOLUME | | 626661.5 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01Z | VOLUME | | 626725.1 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T020 | VOLUME | | 626788.8 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T021 | VOLUME | | 626852.4 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T022 | VOLUME | | 626025.4 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T023 | VOLUME | | 626089.0 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T024 | VOLUME | | 626152.6 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T025 | VOLUME | | 626216.2 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T026 | VOLUME | | 626279.8 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T027 | VOLUME | | 626343.5 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T028 | VOLUME | | 626407.1 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |

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|---|---|---|---|---|---|---|---|---|
| 7NL8T029 | VOLUME | | 626470.7 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02A | VOLUME | | 626534.3 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02B | VOLUME | | 626597.9 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02C | VOLUME | | 626661.5 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02D | VOLUME | | 626725.1 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02E | VOLUME | | 626788.8 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02F | VOLUME | | 626852.4 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02G | VOLUME | | 626916.0 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02H | VOLUME | | 625961.8 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02I | VOLUME | | 626025.4 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02J | VOLUME | | 626089.0 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02K | VOLUME | | 626152.6 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02L | VOLUME | | 626216.2 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02M | VOLUME | | 626279.8 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02N | VOLUME | | 626343.5 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02O | VOLUME | | 626407.1 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02P | VOLUME | | 626470.7 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02Q | VOLUME | | 626534.3 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02R | VOLUME | | 626597.9 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02S | VOLUME | | 626661.5 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02T | VOLUME | | 626725.1 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02U | VOLUME | | 626788.8 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02V | VOLUME | | 626852.4 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02W | VOLUME | | 626916.0 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02X | VOLUME | | 626979.6 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02Y | VOLUME | | 625961.8 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02Z | VOLUME | | 626025.4 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T030 | VOLUME | | 626089.0 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T031 | VOLUME | | 626152.6 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T032 | VOLUME | | 626216.2 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T033 | VOLUME | | 626279.8 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T034 | VOLUME | | 626343.5 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T035 | VOLUME | | 626407.1 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T036 | VOLUME | | 626470.7 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T037 | VOLUME | | 626534.3 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T038 | VOLUME | | 626597.9 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T039 | VOLUME | | 626661.5 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03A | VOLUME | | 626725.1 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03B | VOLUME | | 626788.8 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03C | VOLUME | | 626852.4 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03D | VOLUME | | 626916.0 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03E | VOLUME | | 626979.6 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03F | VOLUME | | 625898.1 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03G | VOLUME | | 625961.8 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03H | VOLUME | | 626025.4 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |

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|---|---|---|---|---|---|---|---|---|
| 7NL8T03I | VOLUME | | 626089.0 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03J | VOLUME | | 626152.6 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03K | VOLUME | | 626216.2 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03L | VOLUME | | 626279.8 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03M | VOLUME | | 626343.5 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03N | VOLUME | | 626407.1 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03O | VOLUME | | 626470.7 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03P | VOLUME | | 626534.3 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03Q | VOLUME | | 626597.9 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03R | VOLUME | | 626661.5 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03S | VOLUME | | 626725.1 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03T | VOLUME | | 626788.8 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03U | VOLUME | | 626852.4 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03V | VOLUME | | 626916.0 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03W | VOLUME | | 626979.6 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03X | VOLUME | | 627043.2 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03Y | VOLUME | | 625898.1 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03Z | VOLUME | | 625961.8 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T040 | VOLUME | | 626025.4 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T041 | VOLUME | | 626089.0 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T042 | VOLUME | | 626152.6 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T043 | VOLUME | | 626216.2 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T044 | VOLUME | | 626279.8 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T045 | VOLUME | | 626343.5 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T046 | VOLUME | | 626407.1 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T047 | VOLUME | | 626470.7 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T048 | VOLUME | | 626534.3 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T049 | VOLUME | | 626597.9 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04A | VOLUME | | 626661.5 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04B | VOLUME | | 626725.1 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04C | VOLUME | | 626788.8 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04D | VOLUME | | 626852.4 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04E | VOLUME | | 626916.0 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04F | VOLUME | | 626979.6 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04G | VOLUME | | 627043.2 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04H | VOLUME | | 625834.5 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04I | VOLUME | | 625898.1 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04J | VOLUME | | 625961.8 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04K | VOLUME | | 626025.4 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04L | VOLUME | | 626089.0 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04M | VOLUME | | 626152.6 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04N | VOLUME | | 626216.2 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04O | VOLUME | | 626279.8 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04P | VOLUME | | 626343.5 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04Q | VOLUME | | 626407.1 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04R | VOLUME | | 626470.7 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |

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|---|---|---|---|---|---|---|---|---|
| 7NL8T04S | VOLUME | | 626534.3 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04T | VOLUME | | 626597.9 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04U | VOLUME | | 626661.5 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04V | VOLUME | | 626725.1 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04W | VOLUME | | 626788.8 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04X | VOLUME | | 626852.4 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04Y | VOLUME | | 626916.0 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04Z | VOLUME | | 626979.6 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T050 | VOLUME | | 627043.2 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T051 | VOLUME | | 627106.8 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T052 | VOLUME | | 625834.5 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T053 | VOLUME | | 625898.1 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T054 | VOLUME | | 625961.8 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T055 | VOLUME | | 626025.4 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T056 | VOLUME | | 626089.0 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T057 | VOLUME | | 626152.6 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T058 | VOLUME | | 626216.2 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T059 | VOLUME | | 626279.8 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05A | VOLUME | | 626343.5 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05B | VOLUME | | 626407.1 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05C | VOLUME | | 626470.7 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05D | VOLUME | | 626534.3 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05E | VOLUME | | 626597.9 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05F | VOLUME | | 626661.5 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05G | VOLUME | | 626725.1 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05H | VOLUME | | 626788.8 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05I | VOLUME | | 626852.4 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05J | VOLUME | | 626916.0 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05K | VOLUME | | 626979.6 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05L | VOLUME | | 627043.2 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05M | VOLUME | | 627106.8 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05N | VOLUME | | 625834.5 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05O | VOLUME | | 625898.1 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05P | VOLUME | | 625961.8 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05Q | VOLUME | | 626025.4 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05R | VOLUME | | 626089.0 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05S | VOLUME | | 626152.6 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05T | VOLUME | | 626216.2 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05U | VOLUME | | 626279.8 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05V | VOLUME | | 626343.5 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05W | VOLUME | | 626407.1 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05X | VOLUME | | 626470.7 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05Y | VOLUME | | 626534.3 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05Z | VOLUME | | 626597.9 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T060 | VOLUME | | 626661.5 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |

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|---|---|---|---|---|---|---|---|---|
| 7NL8T061 | VOLUME | | 626725.1 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T062 | VOLUME | | 626788.8 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T063 | VOLUME | | 626852.4 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T064 | VOLUME | | 626916.0 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T065 | VOLUME | | 626979.6 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T066 | VOLUME | | 627043.2 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T067 | VOLUME | | 627106.8 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T068 | VOLUME | | 627170.4 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T069 | VOLUME | | 625770.9 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06A | VOLUME | | 625834.5 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06B | VOLUME | | 625898.1 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06C | VOLUME | | 625961.8 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06D | VOLUME | | 626025.4 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06E | VOLUME | | 626089.0 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06F | VOLUME | | 626152.6 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06G | VOLUME | | 626216.2 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06H | VOLUME | | 626279.8 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06I | VOLUME | | 626343.5 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06J | VOLUME | | 626407.1 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06K | VOLUME | | 626470.7 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06L | VOLUME | | 626534.3 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06M | VOLUME | | 626597.9 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06N | VOLUME | | 626661.5 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06O | VOLUME | | 626725.1 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06P | VOLUME | | 626788.8 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06Q | VOLUME | | 626852.4 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06R | VOLUME | | 626916.0 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06S | VOLUME | | 626979.6 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06T | VOLUME | | 627043.2 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06U | VOLUME | | 627106.8 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06V | VOLUME | | 627170.4 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06W | VOLUME | | 625770.9 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06X | VOLUME | | 625834.5 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06Y | VOLUME | | 625898.1 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06Z | VOLUME | | 625961.8 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T070 | VOLUME | | 626025.4 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T071 | VOLUME | | 626089.0 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T072 | VOLUME | | 626152.6 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T073 | VOLUME | | 626216.2 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T074 | VOLUME | | 626279.8 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T075 | VOLUME | | 626343.5 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T076 | VOLUME | | 626407.1 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T077 | VOLUME | | 626470.7 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T078 | VOLUME | | 626534.3 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T079 | VOLUME | | 626597.9 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07A | VOLUME | | 626661.5 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |

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|---|---|---|---|---|---|---|---|---|
| 7NL8T07B | VOLUME | | 626725.1 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07C | VOLUME | | 626788.8 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07D | VOLUME | | 626852.4 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07E | VOLUME | | 626916.0 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07F | VOLUME | | 626979.6 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07G | VOLUME | | 627043.2 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07H | VOLUME | | 627106.8 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07I | VOLUME | | 627170.4 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07J | VOLUME | | 625770.9 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07K | VOLUME | | 625834.5 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07L | VOLUME | | 625898.1 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07M | VOLUME | | 625961.8 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07N | VOLUME | | 626025.4 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07O | VOLUME | | 626089.0 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07P | VOLUME | | 626152.6 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07Q | VOLUME | | 626216.2 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07R | VOLUME | | 626279.8 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07S | VOLUME | | 626343.5 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07T | VOLUME | | 626407.1 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07U | VOLUME | | 626470.7 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07V | VOLUME | | 626534.3 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07W | VOLUME | | 626597.9 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07X | VOLUME | | 626661.5 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07Y | VOLUME | | 626725.1 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07Z | VOLUME | | 626788.8 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T080 | VOLUME | | 626852.4 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T081 | VOLUME | | 626916.0 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T082 | VOLUME | | 626979.6 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T083 | VOLUME | | 627043.2 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T084 | VOLUME | | 627106.8 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T085 | VOLUME | | 627170.4 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T086 | VOLUME | | 625770.9 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T087 | VOLUME | | 625834.5 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T088 | VOLUME | | 625898.1 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T089 | VOLUME | | 625961.8 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08A | VOLUME | | 626025.4 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08B | VOLUME | | 626089.0 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08C | VOLUME | | 626152.6 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08D | VOLUME | | 626216.2 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08E | VOLUME | | 626279.8 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08F | VOLUME | | 626343.5 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08G | VOLUME | | 626407.1 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08H | VOLUME | | 626470.7 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08I | VOLUME | | 626534.3 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08J | VOLUME | | 626597.9 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |

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|---|---|---|---|---|---|---|---|---|
| 7NL8T08K | VOLUME | | 626661.5 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08L | VOLUME | | 626725.1 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08M | VOLUME | | 626788.8 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08N | VOLUME | | 626852.4 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08O | VOLUME | | 626916.0 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08P | VOLUME | | 626979.6 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08Q | VOLUME | | 627043.2 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08R | VOLUME | | 627106.8 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08S | VOLUME | | 627170.4 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08T | VOLUME | | 625770.9 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08U | VOLUME | | 625834.5 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08V | VOLUME | | 625898.1 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08W | VOLUME | | 625961.8 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08X | VOLUME | | 626025.4 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08Y | VOLUME | | 626089.0 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08Z | VOLUME | | 626152.6 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T090 | VOLUME | | 626216.2 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T091 | VOLUME | | 626279.8 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T092 | VOLUME | | 626343.5 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T093 | VOLUME | | 626407.1 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T094 | VOLUME | | 626470.7 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T095 | VOLUME | | 626534.3 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T096 | VOLUME | | 626597.9 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T097 | VOLUME | | 626661.5 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T098 | VOLUME | | 626725.1 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T099 | VOLUME | | 626788.8 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09A | VOLUME | | 626852.4 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09B | VOLUME | | 626916.0 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09C | VOLUME | | 626979.6 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09D | VOLUME | | 627043.2 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09E | VOLUME | | 627106.8 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09F | VOLUME | | 627170.4 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09G | VOLUME | | 625770.9 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09H | VOLUME | | 625834.5 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09I | VOLUME | | 625898.1 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09J | VOLUME | | 625961.8 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09K | VOLUME | | 626025.4 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09L | VOLUME | | 626089.0 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09M | VOLUME | | 626152.6 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09N | VOLUME | | 626216.2 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09O | VOLUME | | 626279.8 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09P | VOLUME | | 626343.5 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09Q | VOLUME | | 626407.1 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09R | VOLUME | | 626470.7 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09S | VOLUME | | 626534.3 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09T | VOLUME | | 626597.9 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |

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|---|---|---|---|---|---|---|---|---|
| 7NL8T09U | VOLUME | | 626661.5 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09V | VOLUME | | 626725.1 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09W | VOLUME | | 626788.8 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09X | VOLUME | | 626852.4 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09Y | VOLUME | | 626916.0 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09Z | VOLUME | | 626979.6 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0A0 | VOLUME | | 627043.2 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0A1 | VOLUME | | 627106.8 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0A2 | VOLUME | | 627170.4 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0A3 | VOLUME | | 625770.9 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0A4 | VOLUME | | 625834.5 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0A5 | VOLUME | | 625898.1 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0A6 | VOLUME | | 625961.8 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0A7 | VOLUME | | 626025.4 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0A8 | VOLUME | | 626089.0 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0A9 | VOLUME | | 626152.6 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AA | VOLUME | | 626216.2 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AB | VOLUME | | 626279.8 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AC | VOLUME | | 626343.5 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AD | VOLUME | | 626407.1 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AE | VOLUME | | 626470.7 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AF | VOLUME | | 626534.3 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AG | VOLUME | | 626597.9 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AH | VOLUME | | 626661.5 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AI | VOLUME | | 626725.1 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AJ | VOLUME | | 626788.8 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AK | VOLUME | | 626852.4 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AL | VOLUME | | 626916.0 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AM | VOLUME | | 626979.6 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AN | VOLUME | | 627043.2 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AO | VOLUME | | 627106.8 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AP | VOLUME | | 627170.4 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AQ | VOLUME | | 626025.4 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AR | VOLUME | | 626089.0 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AS | VOLUME | | 626152.6 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AT | VOLUME | | 626216.2 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AU | VOLUME | | 626279.8 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AV | VOLUME | | 626343.5 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AW | VOLUME | | 626407.1 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AX | VOLUME | | 626470.7 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AY | VOLUME | | 626534.3 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AZ | VOLUME | | 626597.9 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0B0 | VOLUME | | 626661.5 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0B1 | VOLUME | | 626725.1 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0B2 | VOLUME | | 626788.8 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T0B3 | VOLUME | | 626852.4 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0B4 | VOLUME | | 626916.0 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0B5 | VOLUME | | 626979.6 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0B6 | VOLUME | | 627043.2 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0B7 | VOLUME | | 627106.8 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0B8 | VOLUME | | 626089.0 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0B9 | VOLUME | | 626152.6 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BA | VOLUME | | 626216.2 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BB | VOLUME | | 626279.8 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BC | VOLUME | | 626343.5 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BD | VOLUME | | 626407.1 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BE | VOLUME | | 626470.7 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BF | VOLUME | | 626534.3 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BG | VOLUME | | 626597.9 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BH | VOLUME | | 626661.5 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BI | VOLUME | | 626725.1 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BJ | VOLUME | | 626788.8 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BK | VOLUME | | 626852.4 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BL | VOLUME | | 626916.0 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BM | VOLUME | | 626979.6 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BN | VOLUME | | 627043.2 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BO | VOLUME | | 627106.8 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BP | VOLUME | | 626089.0 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BQ | VOLUME | | 626152.6 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BR | VOLUME | | 626216.2 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BS | VOLUME | | 626279.8 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BT | VOLUME | | 626343.5 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BU | VOLUME | | 626407.1 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BV | VOLUME | | 626470.7 | 4275404.5 | 0 | 2.593212E-05 | (g/s) | 5 |
| 7NL8T0BW | VOLUME | | 626534.3 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BX | VOLUME | | 626597.9 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BY | VOLUME | | 626661.5 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BZ | VOLUME | | 626725.1 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0C0 | VOLUME | | 626788.8 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0C1 | VOLUME | | 626852.4 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0C2 | VOLUME | | 626916.0 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0C3 | VOLUME | | 626979.6 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0C4 | VOLUME | | 627043.2 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0C5 | VOLUME | | 627106.8 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0C6 | VOLUME | | 626089.0 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0C7 | VOLUME | | 626152.6 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0C8 | VOLUME | | 626216.2 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0C9 | VOLUME | | 626279.8 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CA | VOLUME | | 626343.5 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CB | VOLUME | | 626407.1 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CC | VOLUME | | 626470.7 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T0CD | VOLUME | | 626534.3 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CE | VOLUME | | 626597.9 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CF | VOLUME | | 626661.5 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CG | VOLUME | | 626725.1 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CH | VOLUME | | 626788.8 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CI | VOLUME | | 626852.4 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CJ | VOLUME | | 626916.0 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CK | VOLUME | | 626979.6 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CL | VOLUME | | 627043.2 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CM | VOLUME | | 627106.8 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CN | VOLUME | | 626152.6 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CO | VOLUME | | 626216.2 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CP | VOLUME | | 626279.8 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CQ | VOLUME | | 626343.5 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CR | VOLUME | | 626407.1 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CS | VOLUME | | 626470.7 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CT | VOLUME | | 626534.3 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CU | VOLUME | | 626597.9 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CV | VOLUME | | 626661.5 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CW | VOLUME | | 626725.1 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CX | VOLUME | | 626788.8 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CY | VOLUME | | 626852.4 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CZ | VOLUME | | 626916.0 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0D0 | VOLUME | | 626979.6 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0D1 | VOLUME | | 627043.2 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0D2 | VOLUME | | 627106.8 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0D3 | VOLUME | | 626152.6 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0D4 | VOLUME | | 626216.2 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0D5 | VOLUME | | 626279.8 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0D6 | VOLUME | | 626343.5 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0D7 | VOLUME | | 626407.1 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0D8 | VOLUME | | 626470.7 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0D9 | VOLUME | | 626534.3 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0DA | VOLUME | | 626597.9 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0DB | VOLUME | | 626661.5 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0DC | VOLUME | | 626725.1 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0DD | VOLUME | | 626788.8 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0DE | VOLUME | | 626852.4 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0DF | VOLUME | | 626916.0 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0DG | VOLUME | | 626979.6 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0DH | VOLUME | | 627043.2 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0DI | VOLUME | | 627106.8 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |

## Volume Sources

| | | | | | | | |
|---|---|---|---|---|---|---|---|

| Source ID / Pollutant ID | Description | UTM | | Elev. | Emiss. Rate | Release Height | Init. Lat. Dim. | Init. Vert. Dim. |
|---|---|---|---|---|---|---|---|---|
| | | East (m) | North (m) | (m) | (g/s) | (m) | (m) | (m) |
| 7NL8T001 | | 626470.7 | 4273814.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T002 | | 626534.3 | 4273814.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T003 | | 626597.9 | 4273814.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T004 | | 626661.5 | 4273814.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T005 | | 626407.1 | 4273877.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T006 | | 626470.7 | 4273877.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T007 | | 626534.3 | 4273877.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T008 | | 626597.9 | 4273877.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T009 | | 626661.5 | 4273877.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00A | | 626343.5 | 4273941.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00B | | 626407.1 | 4273941.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00C | | 626470.7 | 4273941.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00D | | 626534.3 | 4273941.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00E | | 626597.9 | 4273941.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00F | | 626661.5 | 4273941.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00G | | 626725.1 | 4273941.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00H | | 626279.8 | 4274005.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00I | | 626343.5 | 4274005.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00J | | 626407.1 | 4274005.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00K | | 626470.7 | 4274005.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00L | | 626534.3 | 4274005.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00M | | 626597.9 | 4274005.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00N | | 626661.5 | 4274005.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00O | | 626725.1 | 4274005.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00P | | 626216.2 | 4274068.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00Q | | 626279.8 | 4274068.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00R | | 626343.5 | 4274068.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00S | | 626407.1 | 4274068.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00T | | 626470.7 | 4274068.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00U | | 626534.3 | 4274068.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00V | | 626597.9 | 4274068.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00W | | 626661.5 | 4274068.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00X | | 626725.1 | 4274068.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00Y | | 626788.8 | 4274068.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00Z | | 626152.6 | 4274132.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T010 | | 626216.2 | 4274132.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T011 | | 626279.8 | 4274132.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T012 | | 626343.5 | 4274132.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T013 | | 626407.1 | 4274132.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T014 | | 626470.7 | 4274132.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T015 | | 626534.3 | 4274132.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T016 | | 626597.9 | 4274132.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T017 | | 626661.5 | 4274132.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |

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|---|---|---|---|---|---|---|---|---|
| 7NL8T018 | | 626725.1 | 4274132.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T019 | | 626788.8 | 4274132.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01A | | 626025.4 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01B | | 626089.0 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01C | | 626152.6 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01D | | 626216.2 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01E | | 626279.8 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01F | | 626343.5 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01G | | 626407.1 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01H | | 626470.7 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01I | | 626534.3 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01J | | 626597.9 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01K | | 626661.5 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01L | | 626725.1 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01M | | 626788.8 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01N | | 626852.4 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01O | | 626025.4 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01P | | 626089.0 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01Q | | 626152.6 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01R | | 626216.2 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01S | | 626279.8 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01T | | 626343.5 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01U | | 626407.1 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01V | | 626470.7 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01W | | 626534.3 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01X | | 626597.9 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01Y | | 626661.5 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01Z | | 626725.1 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T020 | | 626788.8 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T021 | | 626852.4 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T022 | | 626025.4 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T023 | | 626089.0 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T024 | | 626152.6 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T025 | | 626216.2 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T026 | | 626279.8 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T027 | | 626343.5 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T028 | | 626407.1 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T029 | | 626470.7 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02A | | 626534.3 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02B | | 626597.9 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02C | | 626661.5 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02D | | 626725.1 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02E | | 626788.8 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02F | | 626852.4 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02G | | 626916.0 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
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| 7NL8T02H | | 625961.8 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
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| 7NL8T02J | | 626089.0 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02K | | 626152.6 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02L | | 626216.2 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02M | | 626279.8 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02N | | 626343.5 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02O | | 626407.1 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02P | | 626470.7 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02Q | | 626534.3 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02R | | 626597.9 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02S | | 626661.5 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02T | | 626725.1 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02U | | 626788.8 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02V | | 626852.4 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02W | | 626916.0 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02X | | 626979.6 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02Y | | 625961.8 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02Z | | 626025.4 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T030 | | 626089.0 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T031 | | 626152.6 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T032 | | 626216.2 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T033 | | 626279.8 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T034 | | 626343.5 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T035 | | 626407.1 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T036 | | 626470.7 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T037 | | 626534.3 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T038 | | 626597.9 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T039 | | 626661.5 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03A | | 626725.1 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03B | | 626788.8 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03C | | 626852.4 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03D | | 626916.0 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03E | | 626979.6 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03F | | 625898.1 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03G | | 625961.8 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03H | | 626025.4 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03I | | 626089.0 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03J | | 626152.6 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03K | | 626216.2 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03L | | 626279.8 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03M | | 626343.5 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03N | | 626407.1 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03O | | 626470.7 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03P | | 626534.3 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03Q | | 626597.9 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |

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|---|---|---|---|---|---|---|---|---|
| 7NL8T03R | | 626661.5 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03S | | 626725.1 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03T | | 626788.8 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03U | | 626852.4 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03V | | 626916.0 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03W | | 626979.6 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03X | | 627043.2 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03Y | | 625898.1 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03Z | | 625961.8 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T040 | | 626025.4 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T041 | | 626089.0 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T042 | | 626152.6 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T043 | | 626216.2 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T044 | | 626279.8 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T045 | | 626343.5 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T046 | | 626407.1 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T047 | | 626470.7 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T048 | | 626534.3 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T049 | | 626597.9 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04A | | 626661.5 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04B | | 626725.1 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04C | | 626788.8 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04D | | 626852.4 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04E | | 626916.0 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04F | | 626979.6 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04G | | 627043.2 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04H | | 625834.5 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04I | | 625898.1 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04J | | 625961.8 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04K | | 626025.4 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04L | | 626089.0 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04M | | 626152.6 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04N | | 626216.2 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04O | | 626279.8 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04P | | 626343.5 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04Q | | 626407.1 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04R | | 626470.7 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04S | | 626534.3 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04T | | 626597.9 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04U | | 626661.5 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04V | | 626725.1 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04W | | 626788.8 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04X | | 626852.4 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04Y | | 626916.0 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04Z | | 626979.6 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |

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|---|---|---|---|---|---|---|---|---|
| 7NL8T050 | | 627043.2 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T051 | | 627106.8 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T052 | | 625834.5 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T053 | | 625898.1 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T054 | | 625961.8 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T055 | | 626025.4 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T056 | | 626089.0 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T057 | | 626152.6 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T058 | | 626216.2 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T059 | | 626279.8 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05A | | 626343.5 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05B | | 626407.1 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05C | | 626470.7 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05D | | 626534.3 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05E | | 626597.9 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05F | | 626661.5 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05G | | 626725.1 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05H | | 626788.8 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05I | | 626852.4 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05J | | 626916.0 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05K | | 626979.6 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05L | | 627043.2 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05M | | 627106.8 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05N | | 625834.5 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05O | | 625898.1 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05P | | 625961.8 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05Q | | 626025.4 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05R | | 626089.0 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05S | | 626152.6 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05T | | 626216.2 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05U | | 626279.8 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05V | | 626343.5 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05W | | 626407.1 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05X | | 626470.7 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05Y | | 626534.3 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05Z | | 626597.9 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T060 | | 626661.5 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T061 | | 626725.1 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T062 | | 626788.8 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T063 | | 626852.4 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T064 | | 626916.0 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T065 | | 626979.6 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T066 | | 627043.2 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T067 | | 627106.8 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T068 | | 627170.4 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T069 | | 625770.9 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |

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|---|---|---|---|---|---|---|---|---|
| 7NL8T06A | | 625834.5 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06B | | 625898.1 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06C | | 625961.8 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06D | | 626025.4 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06E | | 626089.0 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06F | | 626152.6 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06G | | 626216.2 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06H | | 626279.8 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06I | | 626343.5 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06J | | 626407.1 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06K | | 626470.7 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06L | | 626534.3 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06M | | 626597.9 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06N | | 626661.5 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06O | | 626725.1 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06P | | 626788.8 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06Q | | 626852.4 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06R | | 626916.0 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06S | | 626979.6 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06T | | 627043.2 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06U | | 627106.8 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06V | | 627170.4 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06W | | 625770.9 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06X | | 625834.5 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06Y | | 625898.1 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06Z | | 625961.8 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T070 | | 626025.4 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T071 | | 626089.0 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T072 | | 626152.6 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T073 | | 626216.2 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T074 | | 626279.8 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T075 | | 626343.5 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T076 | | 626407.1 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T077 | | 626470.7 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T078 | | 626534.3 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T079 | | 626597.9 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07A | | 626661.5 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07B | | 626725.1 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07C | | 626788.8 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07D | | 626852.4 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07E | | 626916.0 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07F | | 626979.6 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07G | | 627043.2 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07H | | 627106.8 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07I | | 627170.4 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |

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| 7NL8T07J | | 625770.9 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07K | | 625834.5 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07L | | 625898.1 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07M | | 625961.8 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07N | | 626025.4 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07O | | 626089.0 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07P | | 626152.6 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07Q | | 626216.2 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07R | | 626279.8 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07S | | 626343.5 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07T | | 626407.1 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07U | | 626470.7 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07V | | 626534.3 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07W | | 626597.9 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
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| 7NL8T07Z | | 626788.8 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T080 | | 626852.4 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T081 | | 626916.0 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T082 | | 626979.6 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T083 | | 627043.2 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T084 | | 627106.8 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T085 | | 627170.4 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T086 | | 625770.9 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
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| 7NL8T08A | | 626025.4 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08B | | 626089.0 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08C | | 626152.6 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08D | | 626216.2 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08E | | 626279.8 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08F | | 626343.5 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08G | | 626407.1 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08H | | 626470.7 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08I | | 626534.3 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08J | | 626597.9 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08K | | 626661.5 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08L | | 626725.1 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08M | | 626788.8 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08N | | 626852.4 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08O | | 626916.0 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08P | | 626979.6 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08Q | | 627043.2 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08R | | 627106.8 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08S | | 627170.4 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |

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| 7NL8T08T | | 625770.9 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08U | | 625834.5 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08V | | 625898.1 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08W | | 625961.8 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08X | | 626025.4 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08Y | | 626089.0 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08Z | | 626152.6 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T090 | | 626216.2 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T091 | | 626279.8 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T092 | | 626343.5 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T093 | | 626407.1 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T094 | | 626470.7 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T095 | | 626534.3 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T096 | | 626597.9 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
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| 7NL8T098 | | 626725.1 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
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| 7NL8T09A | | 626852.4 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09B | | 626916.0 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09C | | 626979.6 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09D | | 627043.2 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09E | | 627106.8 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09F | | 627170.4 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09G | | 625770.9 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09H | | 625834.5 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09I | | 625898.1 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09J | | 625961.8 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09K | | 626025.4 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09L | | 626089.0 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09M | | 626152.6 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09N | | 626216.2 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09O | | 626279.8 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09P | | 626343.5 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09Q | | 626407.1 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09R | | 626470.7 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09S | | 626534.3 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09T | | 626597.9 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09U | | 626661.5 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09V | | 626725.1 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09W | | 626788.8 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09X | | 626852.4 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09Y | | 626916.0 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
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| 7NL8T0A0 | | 627043.2 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0A1 | | 627106.8 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |

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| 7NL8T0A2 | | 627170.4 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0A3 | | 625770.9 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0A4 | | 625834.5 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0A5 | | 625898.1 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0A6 | | 625961.8 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0A7 | | 626025.4 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0A8 | | 626089.0 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0A9 | | 626152.6 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AA | | 626216.2 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AB | | 626279.8 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AC | | 626343.5 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AD | | 626407.1 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AE | | 626470.7 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AF | | 626534.3 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AG | | 626597.9 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AH | | 626661.5 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AI | | 626725.1 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AJ | | 626788.8 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AK | | 626852.4 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AL | | 626916.0 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AM | | 626979.6 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AN | | 627043.2 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AO | | 627106.8 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AP | | 627170.4 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AQ | | 626025.4 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AR | | 626089.0 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AS | | 626152.6 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AT | | 626216.2 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AU | | 626279.8 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
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| 7NL8T0AW | | 626407.1 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AX | | 626470.7 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AY | | 626534.3 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AZ | | 626597.9 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0B0 | | 626661.5 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0B1 | | 626725.1 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0B2 | | 626788.8 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0B3 | | 626852.4 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
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| 7NL8T0B5 | | 626979.6 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
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| 7NL8T0B7 | | 627106.8 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0B8 | | 626089.0 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0B9 | | 626152.6 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BA | | 626216.2 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BB | | 626279.8 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |

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| 7NL8T0BC | | 626343.5 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BD | | 626407.1 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BE | | 626470.7 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BF | | 626534.3 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BG | | 626597.9 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BH | | 626661.5 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BI | | 626725.1 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BJ | | 626788.8 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BK | | 626852.4 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
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| 7NL8T0BM | | 626979.6 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
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| 7NL8T0BO | | 627106.8 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BP | | 626089.0 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
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| 7NL8T0BS | | 626279.8 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BT | | 626343.5 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BU | | 626407.1 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BV | | 626470.7 | 4275404.5 | 0 | 2.593212E-05 | 5 | 29.59 | 1 |
| 7NL8T0BW | | 626534.3 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BX | | 626597.9 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BY | | 626661.5 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BZ | | 626725.1 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0C0 | | 626788.8 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0C1 | | 626852.4 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0C2 | | 626916.0 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0C3 | | 626979.6 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0C4 | | 627043.2 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0C5 | | 627106.8 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0C6 | | 626089.0 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0C7 | | 626152.6 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0C8 | | 626216.2 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0C9 | | 626279.8 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CA | | 626343.5 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CB | | 626407.1 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CC | | 626470.7 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CD | | 626534.3 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CE | | 626597.9 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CF | | 626661.5 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CG | | 626725.1 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CH | | 626788.8 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CI | | 626852.4 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CJ | | 626916.0 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CK | | 626979.6 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T0CL | | 627043.2 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CM | | 627106.8 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CN | | 626152.6 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CO | | 626216.2 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CP | | 626279.8 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CQ | | 626343.5 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CR | | 626407.1 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CS | | 626470.7 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CT | | 626534.3 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CU | | 626597.9 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CV | | 626661.5 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CW | | 626725.1 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CX | | 626788.8 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CY | | 626852.4 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CZ | | 626916.0 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0D0 | | 626979.6 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0D1 | | 627043.2 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0D2 | | 627106.8 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0D3 | | 626152.6 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0D4 | | 626216.2 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0D5 | | 626279.8 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0D6 | | 626343.5 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0D7 | | 626407.1 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0D8 | | 626470.7 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0D9 | | 626534.3 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0DA | | 626597.9 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0DB | | 626661.5 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0DC | | 626725.1 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0DD | | 626788.8 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0DE | | 626852.4 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0DF | | 626916.0 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0DG | | 626979.6 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0DH | | 627043.2 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0DI | | 627106.8 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |

# BREEZE AERMOD Model Results

## Max. Annual ( 4 YEARS) Results of Pollutant: PM25 (ug/m**3)

| Group ID | High | Avg. Conc. | UTM | | Elev. | Hill Ht. | Flag Ht. | Rec. Type | Grid ID |
|---|---|---|---|---|---|---|---|---|---|
| | | | East (m) | North (m) | (m) | (m) | (m) | | |
| ALL | 1ST | 0.01272 | 625918.60 | 4275280.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 2ND | 0.01215 | 625888.60 | 4275280.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 3RD | 0.01210 | 627178.60 | 4275280.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 4TH | 0.01171 | 626518.60 | 4275670.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 5TH | 0.01171 | 626488.60 | 4275670.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 6TH | 0.01170 | 626458.60 | 4275670.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 7TH | 0.01170 | 626548.60 | 4275670.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 8TH | 0.01168 | 625948.60 | 4275310.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 9TH | 0.01168 | 626578.60 | 4275670.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 10TH | 0.01167 | 626428.60 | 4275670.50 | 0.00 | 0.00 | 1.80 | DC | |

## Highest Results of Pollutant: PM25

| Avg. Per. | Grp ID | High | Type | Val | Units | Date | UTM | | Elev. | Hill Ht. | Flag Ht. | Rec. Type | Grid ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | YYMMDDHH | East (m) | North (m) | (m) | (m) | (m) | | |
| 1-HR | ALL | 1ST | Avg. Conc. | 0.76669 | ug/m**3 | 15011709 | 627178.60 | 4275280.50 | 0.00 | 0.00 | 1.80 | DC | |

## Summary of Total Messages

| # | Message Type |
|---|---|
| 0 | Fatal Error Message(s) |
| 6 | Warning Message(s) |
| 996 | Informational Message(s) |
| 43680 | Hours Were Processed |
| 452 | Calm Hours Identified |
| 544 | Missing Hours Identified ( 1.25 Percent) |

## Error & Warning Messages

| Msg. Type | Pathway | Ref. # | Description |
|---|---|---|---|
| WARNING | CO | W276 | Special proc for 1h-NO2/SO2 24hPM25 NAAQS disabled PM25 H1H |
| WARNING | CO | W363 | Multiyr 24h/Ann PM25 processing not applicable for PM25 H1H |

| | | | |
|---|---|---|---|
| WARNING | ME | W186 | THRESH_1MIN 1-min ASOS wind speed threshold used 0.50 |

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*HARP - HRACalc v21081 4/7/2023 9:51:08 AM - Cancer Risk - Input File: C:\Users\jfahrney\Desktop\HA

| INDEX | GRP1 | GRP2 | POLID | POLABBRE\ | CONC | RISK_SUM | SCENARIO | DETAILS |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 9901 | DieselExhP | 0.01272 | 7.32E-06 | 8YrCancerH | * |

ARP\Upper Westside_HRAInput.hra

| INH_RISK | SOIL_RISK | DERMAL_R | MMILK_RIS | WATER_RIS | FISH_RISK | CROP_RISK | BEEF_RISK | DAIRY_RISK |
|---|---|---|---|---|---|---|---|---|
| 7.32E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| PIG_RISK | CHICKEN_R | EGG_RISK | 1ST_DRIVE | 2ND_DRIVE | PASTURE_C | FISH_CONC | WATER_CONC |
|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | NA | NA | 0.00E+00 | 0.00E+00 | 0.00E+00 |

*HARP - HRACalc v21081 4/7/2023 9:51:08 AM - Chronic Risk - Input File: C:\Users\jfahrney\Desktop\H

| INDEX | GRP1 | GRP2 | POLID | POLABBRE\ | CONC | SCENARIO | CV | CNS |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 9901 | DieselExhP | 0.01272 | NonCancer | 0.00E+00 | 0.00E+00 |

ARP\Upper Westside_HRAInput.hra

| IMMUN | KIDNEY | GILV | REPRO/DE\ | RESP | SKIN | EYE | BONE/TEET | ENDO |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.54E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| BLOOD | ODOR | GENERAL | DETAILS | INH_CONC | SOIL_DOSE | DERMAL_D | MMILK_DC | WATER_DC |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | * | 1.27E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| FISH_DOSE | CROP_DOS | BEEF_DOSE | DAIRY_DOS | PIG_DOSE | CHICKEN_D | EGG_DOSE | 1ST_DRIVE | 2ND_DRIVE |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | INHALATIO | NA |

| 3RD_DRIVE | PASTURE_( | FISH_CONC | WATER_CONC |
|---|---|---|---|
| NA | 0.00E+00 | 0.00E+00 | 0.00E+00 |

*HARP - HRACalc v21081 4/7/2023 9:51:08 AM - Acute Risk - Input File: C:\Users\jfahrney\Desktop\HAI

| INDEX | GRP1 | GRP2 | POLID | POLABBRE\ | CONC | SCENARIO | CV | CNS |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 9901 | DieselExhP | 0.76669 | NonCancer | 0.00E+00 | 0.00E+00 |

RP\Upper Westside_HRAInput.hra

| IMMUN | KIDNEY | GILV | REPRO/DE\ | RESP | SKIN | EYE | BONE/TEET | ENDO |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| BLOOD | ODOR | GENERAL |
| --- | --- | --- |
| 0.00E+00 | 0.00E+00 | 0.00E+00 |

On-Site Receptor

# AERMOD Model Options

## Model Options

| Pathway | Keyword | Description | Value |
|---|---|---|---|
| CO | TITLEONE | Project title 1 | UWSP Construction HRA |
| CO | TITLETWO | Project title 2 | |
| CO | MODELOPT | Model options | DFAULT,CONC,NODRYDPLT,NOWETDPLT |
| CO | AVERTIME | Averaging times | 1,ANNUAL |
| CO | URBANOPT | Urban options | |
| CO | POLLUTID | Pollutant ID | PM25 H1H |
| CO | HALFLIFE | Half life | |
| CO | DCAYCOEF | Decay coefficient | |
| CO | FLAGPOLE | Flagpole receptor heights | 1.8 |
| CO | RUNORNOT | Run or Not | RUN |
| CO | EVENTFIL | Event file | F |
| CO | SAVEFILE | Save file | F |
| CO | INITFILE | Initialization file | |
| CO | MULTYEAR | Multiple year option | N/A |
| CO | DEBUGOPT | Debug options | N/A |
| CO | ERRORFIL | Error file | F |
| SO | ELEVUNIT | Elevation units | METERS |
| SO | EMISUNIT | Emission units | N/A |
| RE | ELEVUNIT | Elevation units | METERS |
| ME | SURFFILE | Surface met file | I:\Projects\Active\Sacramento County\Upper Westside\HRA\Construction HRA\April 2023 Remodel\AERMOD\SACINT~1.SFC |
| ME | PROFFILE | Profile met file | I:\Projects\Active\Sacramento County\Upper Westside\HRA\Construction HRA\April 2023 Remodel\AERMOD\SACINT~1.PFL |
| ME | SURFDATA | Surf met data info. | 93225 2014 |
| ME | UAIRDATA | U-Air met data info. | 23230 2014 |
| ME | SITEDATA | On-site met data info. | |
| ME | PROFBASE | Elev. above MSL | 8.23 |
| ME | STARTEND | Start-end met dates | |
| ME | WDROTATE | Wind dir. rot. adjust. | |
| ME | WINDCATS | Wind speed cat. max. | |
| ME | SCIMBYHR | SCIM sample params | |
| EV | DAYTABLE | Print summary opt. | N/A |
| OU | EVENTOUT | Output info. level | N/A |

On-Site Receptor

| | | | |
|---|---|---|---|
| OU | DAYTABLE | Print summary opt. | |

# Source Parameter Tables

## All Sources

| Source ID / Pollutant ID | Source Type | Description | UTM | | Elev. | Emiss. Rate | Emiss. Units | Release Height |
|---|---|---|---|---|---|---|---|---|
| | | | East (m) | North (m) | (m) | | | (m) |
| 7NL8T001 | VOLUME | | 626470.7 | 4273814.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T002 | VOLUME | | 626534.3 | 4273814.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T003 | VOLUME | | 626597.9 | 4273814.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T004 | VOLUME | | 626661.5 | 4273814.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T005 | VOLUME | | 626407.1 | 4273877.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T006 | VOLUME | | 626470.7 | 4273877.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T007 | VOLUME | | 626534.3 | 4273877.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T008 | VOLUME | | 626597.9 | 4273877.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T009 | VOLUME | | 626661.5 | 4273877.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00A | VOLUME | | 626343.5 | 4273941.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00B | VOLUME | | 626407.1 | 4273941.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00C | VOLUME | | 626470.7 | 4273941.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00D | VOLUME | | 626534.3 | 4273941.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00E | VOLUME | | 626597.9 | 4273941.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00F | VOLUME | | 626661.5 | 4273941.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00G | VOLUME | | 626725.1 | 4273941.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00H | VOLUME | | 626279.8 | 4274005.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00I | VOLUME | | 626343.5 | 4274005.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00J | VOLUME | | 626407.1 | 4274005.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00K | VOLUME | | 626470.7 | 4274005.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00L | VOLUME | | 626534.3 | 4274005.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00M | VOLUME | | 626597.9 | 4274005.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00N | VOLUME | | 626661.5 | 4274005.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00O | VOLUME | | 626725.1 | 4274005.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00P | VOLUME | | 626216.2 | 4274068.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00Q | VOLUME | | 626279.8 | 4274068.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00R | VOLUME | | 626343.5 | 4274068.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00S | VOLUME | | 626407.1 | 4274068.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00T | VOLUME | | 626470.7 | 4274068.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00U | VOLUME | | 626534.3 | 4274068.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00V | VOLUME | | 626597.9 | 4274068.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00W | VOLUME | | 626661.5 | 4274068.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00X | VOLUME | | 626725.1 | 4274068.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T00Y | VOLUME | | 626788.8 | 4274068.6 | 0 | 0.00002593211623 | (g/s) | 5 |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T00Z | VOLUME | | 626152.6 | 4274132.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T010 | VOLUME | | 626216.2 | 4274132.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T011 | VOLUME | | 626279.8 | 4274132.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T012 | VOLUME | | 626343.5 | 4274132.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T013 | VOLUME | | 626407.1 | 4274132.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T014 | VOLUME | | 626470.7 | 4274132.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T015 | VOLUME | | 626534.3 | 4274132.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T016 | VOLUME | | 626597.9 | 4274132.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T017 | VOLUME | | 626661.5 | 4274132.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T018 | VOLUME | | 626725.1 | 4274132.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T019 | VOLUME | | 626788.8 | 4274132.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01A | VOLUME | | 626025.4 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01B | VOLUME | | 626089.0 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01C | VOLUME | | 626152.6 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01D | VOLUME | | 626216.2 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01E | VOLUME | | 626279.8 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01F | VOLUME | | 626343.5 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01G | VOLUME | | 626407.1 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01H | VOLUME | | 626470.7 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01I | VOLUME | | 626534.3 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01J | VOLUME | | 626597.9 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01K | VOLUME | | 626661.5 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01L | VOLUME | | 626725.1 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01M | VOLUME | | 626788.8 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01N | VOLUME | | 626852.4 | 4274195.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01O | VOLUME | | 626025.4 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01P | VOLUME | | 626089.0 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01Q | VOLUME | | 626152.6 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01R | VOLUME | | 626216.2 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01S | VOLUME | | 626279.8 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01T | VOLUME | | 626343.5 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01U | VOLUME | | 626407.1 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01V | VOLUME | | 626470.7 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01W | VOLUME | | 626534.3 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01X | VOLUME | | 626597.9 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01Y | VOLUME | | 626661.5 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T01Z | VOLUME | | 626725.1 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T020 | VOLUME | | 626788.8 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T021 | VOLUME | | 626852.4 | 4274259.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T022 | VOLUME | | 626025.4 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T023 | VOLUME | | 626089.0 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T024 | VOLUME | | 626152.6 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T025 | VOLUME | | 626216.2 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T026 | VOLUME | | 626279.8 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T027 | VOLUME | | 626343.5 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T028 | VOLUME | | 626407.1 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |

On-Site Receptor

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|---|---|---|---|---|---|---|---|---|
| 7NL8T029 | VOLUME | | 626470.7 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02A | VOLUME | | 626534.3 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02B | VOLUME | | 626597.9 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02C | VOLUME | | 626661.5 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02D | VOLUME | | 626725.1 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02E | VOLUME | | 626788.8 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02F | VOLUME | | 626852.4 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02G | VOLUME | | 626916.0 | 4274323.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02H | VOLUME | | 625961.8 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02I | VOLUME | | 626025.4 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02J | VOLUME | | 626089.0 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02K | VOLUME | | 626152.6 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02L | VOLUME | | 626216.2 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02M | VOLUME | | 626279.8 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02N | VOLUME | | 626343.5 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02O | VOLUME | | 626407.1 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02P | VOLUME | | 626470.7 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02Q | VOLUME | | 626534.3 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02R | VOLUME | | 626597.9 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02S | VOLUME | | 626661.5 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02T | VOLUME | | 626725.1 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02U | VOLUME | | 626788.8 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02V | VOLUME | | 626852.4 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02W | VOLUME | | 626916.0 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02X | VOLUME | | 626979.6 | 4274386.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02Y | VOLUME | | 625961.8 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T02Z | VOLUME | | 626025.4 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T030 | VOLUME | | 626089.0 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T031 | VOLUME | | 626152.6 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T032 | VOLUME | | 626216.2 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T033 | VOLUME | | 626279.8 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T034 | VOLUME | | 626343.5 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T035 | VOLUME | | 626407.1 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T036 | VOLUME | | 626470.7 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T037 | VOLUME | | 626534.3 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T038 | VOLUME | | 626597.9 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T039 | VOLUME | | 626661.5 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03A | VOLUME | | 626725.1 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03B | VOLUME | | 626788.8 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03C | VOLUME | | 626852.4 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03D | VOLUME | | 626916.0 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03E | VOLUME | | 626979.6 | 4274450.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03F | VOLUME | | 625898.1 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03G | VOLUME | | 625961.8 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03H | VOLUME | | 626025.4 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |

On-Site Receptor

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|---|---|---|---|---|---|---|---|---|
| 7NL8T03I | VOLUME | | 626089.0 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03J | VOLUME | | 626152.6 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03K | VOLUME | | 626216.2 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03L | VOLUME | | 626279.8 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03M | VOLUME | | 626343.5 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03N | VOLUME | | 626407.1 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03O | VOLUME | | 626470.7 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03P | VOLUME | | 626534.3 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03Q | VOLUME | | 626597.9 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03R | VOLUME | | 626661.5 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03S | VOLUME | | 626725.1 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03T | VOLUME | | 626788.8 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03U | VOLUME | | 626852.4 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03V | VOLUME | | 626916.0 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03W | VOLUME | | 626979.6 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03X | VOLUME | | 627043.2 | 4274513.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03Y | VOLUME | | 625898.1 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T03Z | VOLUME | | 625961.8 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T040 | VOLUME | | 626025.4 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T041 | VOLUME | | 626089.0 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T042 | VOLUME | | 626152.6 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T043 | VOLUME | | 626216.2 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T044 | VOLUME | | 626279.8 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T045 | VOLUME | | 626343.5 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T046 | VOLUME | | 626407.1 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T047 | VOLUME | | 626470.7 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T048 | VOLUME | | 626534.3 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T049 | VOLUME | | 626597.9 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04A | VOLUME | | 626661.5 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04B | VOLUME | | 626725.1 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04C | VOLUME | | 626788.8 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04D | VOLUME | | 626852.4 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04E | VOLUME | | 626916.0 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04F | VOLUME | | 626979.6 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04G | VOLUME | | 627043.2 | 4274577.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04H | VOLUME | | 625834.5 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04I | VOLUME | | 625898.1 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04J | VOLUME | | 625961.8 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04K | VOLUME | | 626025.4 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04L | VOLUME | | 626089.0 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04M | VOLUME | | 626152.6 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04N | VOLUME | | 626216.2 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04O | VOLUME | | 626279.8 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04P | VOLUME | | 626343.5 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04Q | VOLUME | | 626407.1 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04R | VOLUME | | 626470.7 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |

On-Site Receptor

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|---|---|---|---|---|---|---|---|---|
| 7NL8T04S | VOLUME | | 626534.3 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04T | VOLUME | | 626597.9 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04U | VOLUME | | 626661.5 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04V | VOLUME | | 626725.1 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04W | VOLUME | | 626788.8 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04X | VOLUME | | 626852.4 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04Y | VOLUME | | 626916.0 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T04Z | VOLUME | | 626979.6 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T050 | VOLUME | | 627043.2 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T051 | VOLUME | | 627106.8 | 4274641.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T052 | VOLUME | | 625834.5 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T053 | VOLUME | | 625898.1 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T054 | VOLUME | | 625961.8 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T055 | VOLUME | | 626025.4 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T056 | VOLUME | | 626089.0 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T057 | VOLUME | | 626152.6 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T058 | VOLUME | | 626216.2 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T059 | VOLUME | | 626279.8 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05A | VOLUME | | 626343.5 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05B | VOLUME | | 626407.1 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05C | VOLUME | | 626470.7 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05D | VOLUME | | 626534.3 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05E | VOLUME | | 626597.9 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05F | VOLUME | | 626661.5 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05G | VOLUME | | 626725.1 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05H | VOLUME | | 626788.8 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05I | VOLUME | | 626852.4 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05J | VOLUME | | 626916.0 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05K | VOLUME | | 626979.6 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05L | VOLUME | | 627043.2 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05M | VOLUME | | 627106.8 | 4274704.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05N | VOLUME | | 625834.5 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05O | VOLUME | | 625898.1 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05P | VOLUME | | 625961.8 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05Q | VOLUME | | 626025.4 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05R | VOLUME | | 626089.0 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05S | VOLUME | | 626152.6 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05T | VOLUME | | 626216.2 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05U | VOLUME | | 626279.8 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05V | VOLUME | | 626343.5 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05W | VOLUME | | 626407.1 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05X | VOLUME | | 626470.7 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05Y | VOLUME | | 626534.3 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T05Z | VOLUME | | 626597.9 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T060 | VOLUME | | 626661.5 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |

On-Site Receptor

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|---|---|---|---|---|---|---|---|---|
| 7NL8T061 | VOLUME | | 626725.1 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T062 | VOLUME | | 626788.8 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T063 | VOLUME | | 626852.4 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T064 | VOLUME | | 626916.0 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T065 | VOLUME | | 626979.6 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T066 | VOLUME | | 627043.2 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T067 | VOLUME | | 627106.8 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T068 | VOLUME | | 627170.4 | 4274768.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T069 | VOLUME | | 625770.9 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06A | VOLUME | | 625834.5 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06B | VOLUME | | 625898.1 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06C | VOLUME | | 625961.8 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06D | VOLUME | | 626025.4 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06E | VOLUME | | 626089.0 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06F | VOLUME | | 626152.6 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06G | VOLUME | | 626216.2 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06H | VOLUME | | 626279.8 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06I | VOLUME | | 626343.5 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06J | VOLUME | | 626407.1 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06K | VOLUME | | 626470.7 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06L | VOLUME | | 626534.3 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06M | VOLUME | | 626597.9 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06N | VOLUME | | 626661.5 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06O | VOLUME | | 626725.1 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06P | VOLUME | | 626788.8 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06Q | VOLUME | | 626852.4 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06R | VOLUME | | 626916.0 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06S | VOLUME | | 626979.6 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06T | VOLUME | | 627043.2 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06U | VOLUME | | 627106.8 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06V | VOLUME | | 627170.4 | 4274832.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06W | VOLUME | | 625770.9 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06X | VOLUME | | 625834.5 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06Y | VOLUME | | 625898.1 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T06Z | VOLUME | | 625961.8 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T070 | VOLUME | | 626025.4 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T071 | VOLUME | | 626089.0 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T072 | VOLUME | | 626152.6 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T073 | VOLUME | | 626216.2 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T074 | VOLUME | | 626279.8 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T075 | VOLUME | | 626343.5 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T076 | VOLUME | | 626407.1 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T077 | VOLUME | | 626470.7 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T078 | VOLUME | | 626534.3 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T079 | VOLUME | | 626597.9 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07A | VOLUME | | 626661.5 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |

On-Site Receptor

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|---|---|---|---|---|---|---|---|---|
| 7NL8T07B | VOLUME | | 626725.1 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07C | VOLUME | | 626788.8 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07D | VOLUME | | 626852.4 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07E | VOLUME | | 626916.0 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07F | VOLUME | | 626979.6 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07G | VOLUME | | 627043.2 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07H | VOLUME | | 627106.8 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07I | VOLUME | | 627170.4 | 4274895.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07J | VOLUME | | 625770.9 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07K | VOLUME | | 625834.5 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07L | VOLUME | | 625898.1 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07M | VOLUME | | 625961.8 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07N | VOLUME | | 626025.4 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07O | VOLUME | | 626089.0 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07P | VOLUME | | 626152.6 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07Q | VOLUME | | 626216.2 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07R | VOLUME | | 626279.8 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07S | VOLUME | | 626343.5 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07T | VOLUME | | 626407.1 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07U | VOLUME | | 626470.7 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07V | VOLUME | | 626534.3 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07W | VOLUME | | 626597.9 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07X | VOLUME | | 626661.5 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07Y | VOLUME | | 626725.1 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T07Z | VOLUME | | 626788.8 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T080 | VOLUME | | 626852.4 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T081 | VOLUME | | 626916.0 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T082 | VOLUME | | 626979.6 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T083 | VOLUME | | 627043.2 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T084 | VOLUME | | 627106.8 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T085 | VOLUME | | 627170.4 | 4274959.2 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T086 | VOLUME | | 625770.9 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T087 | VOLUME | | 625834.5 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T088 | VOLUME | | 625898.1 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T089 | VOLUME | | 625961.8 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08A | VOLUME | | 626025.4 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08B | VOLUME | | 626089.0 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08C | VOLUME | | 626152.6 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08D | VOLUME | | 626216.2 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08E | VOLUME | | 626279.8 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08F | VOLUME | | 626343.5 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08G | VOLUME | | 626407.1 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08H | VOLUME | | 626470.7 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08I | VOLUME | | 626534.3 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08J | VOLUME | | 626597.9 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |

On-Site Receptor

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|---|---|---|---|---|---|---|---|---|
| 7NL8T08K | VOLUME | | 626661.5 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08L | VOLUME | | 626725.1 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08M | VOLUME | | 626788.8 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08N | VOLUME | | 626852.4 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08O | VOLUME | | 626916.0 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08P | VOLUME | | 626979.6 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08Q | VOLUME | | 627043.2 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08R | VOLUME | | 627106.8 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08S | VOLUME | | 627170.4 | 4275022.8 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08T | VOLUME | | 625770.9 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08U | VOLUME | | 625834.5 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08V | VOLUME | | 625898.1 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08W | VOLUME | | 625961.8 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08X | VOLUME | | 626025.4 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08Y | VOLUME | | 626089.0 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T08Z | VOLUME | | 626152.6 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T090 | VOLUME | | 626216.2 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T091 | VOLUME | | 626279.8 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T092 | VOLUME | | 626343.5 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T093 | VOLUME | | 626407.1 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T094 | VOLUME | | 626470.7 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T095 | VOLUME | | 626534.3 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T096 | VOLUME | | 626597.9 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T097 | VOLUME | | 626661.5 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T098 | VOLUME | | 626725.1 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T099 | VOLUME | | 626788.8 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09A | VOLUME | | 626852.4 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09B | VOLUME | | 626916.0 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09C | VOLUME | | 626979.6 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09D | VOLUME | | 627043.2 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09E | VOLUME | | 627106.8 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09F | VOLUME | | 627170.4 | 4275086.4 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09G | VOLUME | | 625770.9 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09H | VOLUME | | 625834.5 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09I | VOLUME | | 625898.1 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09J | VOLUME | | 625961.8 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09K | VOLUME | | 626025.4 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09L | VOLUME | | 626089.0 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09M | VOLUME | | 626152.6 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09N | VOLUME | | 626216.2 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09O | VOLUME | | 626279.8 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09P | VOLUME | | 626343.5 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09Q | VOLUME | | 626407.1 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09R | VOLUME | | 626470.7 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09S | VOLUME | | 626534.3 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09T | VOLUME | | 626597.9 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |

On-Site Receptor

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|---|---|---|---|---|---|---|---|---|
| 7NL8T09U | VOLUME | | 626661.5 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09V | VOLUME | | 626725.1 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09W | VOLUME | | 626788.8 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09X | VOLUME | | 626852.4 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09Y | VOLUME | | 626916.0 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T09Z | VOLUME | | 626979.6 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0A0 | VOLUME | | 627043.2 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0A1 | VOLUME | | 627106.8 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0A2 | VOLUME | | 627170.4 | 4275150.0 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0A3 | VOLUME | | 625770.9 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0A4 | VOLUME | | 625834.5 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0A5 | VOLUME | | 625898.1 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0A6 | VOLUME | | 625961.8 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0A7 | VOLUME | | 626025.4 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0A8 | VOLUME | | 626089.0 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0A9 | VOLUME | | 626152.6 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AA | VOLUME | | 626216.2 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AB | VOLUME | | 626279.8 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AC | VOLUME | | 626343.5 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AD | VOLUME | | 626407.1 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AE | VOLUME | | 626470.7 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AF | VOLUME | | 626534.3 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AG | VOLUME | | 626597.9 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AH | VOLUME | | 626661.5 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AI | VOLUME | | 626725.1 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AJ | VOLUME | | 626788.8 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AK | VOLUME | | 626852.4 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AL | VOLUME | | 626916.0 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AM | VOLUME | | 626979.6 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AN | VOLUME | | 627043.2 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AO | VOLUME | | 627106.8 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AP | VOLUME | | 627170.4 | 4275213.6 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AQ | VOLUME | | 626025.4 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AR | VOLUME | | 626089.0 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AS | VOLUME | | 626152.6 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AT | VOLUME | | 626216.2 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AU | VOLUME | | 626279.8 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AV | VOLUME | | 626343.5 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AW | VOLUME | | 626407.1 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AX | VOLUME | | 626470.7 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AY | VOLUME | | 626534.3 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0AZ | VOLUME | | 626597.9 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0B0 | VOLUME | | 626661.5 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0B1 | VOLUME | | 626725.1 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0B2 | VOLUME | | 626788.8 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |

On-Site Receptor

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|---|---|---|---|---|---|---|---|---|
| 7NL8T0B3 | VOLUME | | 626852.4 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0B4 | VOLUME | | 626916.0 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0B5 | VOLUME | | 626979.6 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0B6 | VOLUME | | 627043.2 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0B7 | VOLUME | | 627106.8 | 4275277.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0B8 | VOLUME | | 626089.0 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0B9 | VOLUME | | 626152.6 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BA | VOLUME | | 626216.2 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BB | VOLUME | | 626279.8 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BC | VOLUME | | 626343.5 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BD | VOLUME | | 626407.1 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BE | VOLUME | | 626470.7 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BF | VOLUME | | 626534.3 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BG | VOLUME | | 626597.9 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BH | VOLUME | | 626661.5 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BI | VOLUME | | 626725.1 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BJ | VOLUME | | 626788.8 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BK | VOLUME | | 626852.4 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BL | VOLUME | | 626916.0 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BM | VOLUME | | 626979.6 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BN | VOLUME | | 627043.2 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BO | VOLUME | | 627106.8 | 4275340.9 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BP | VOLUME | | 626089.0 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BQ | VOLUME | | 626152.6 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BR | VOLUME | | 626216.2 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BS | VOLUME | | 626279.8 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BT | VOLUME | | 626343.5 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BU | VOLUME | | 626407.1 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BV | VOLUME | | 626470.7 | 4275404.5 | 0 | 2.593212E-05 | (g/s) | 5 |
| 7NL8T0BW | VOLUME | | 626534.3 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BX | VOLUME | | 626597.9 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BY | VOLUME | | 626661.5 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0BZ | VOLUME | | 626725.1 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0C0 | VOLUME | | 626788.8 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0C1 | VOLUME | | 626852.4 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0C2 | VOLUME | | 626916.0 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0C3 | VOLUME | | 626979.6 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0C4 | VOLUME | | 627043.2 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0C5 | VOLUME | | 627106.8 | 4275404.5 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0C6 | VOLUME | | 626089.0 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0C7 | VOLUME | | 626152.6 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0C8 | VOLUME | | 626216.2 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0C9 | VOLUME | | 626279.8 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CA | VOLUME | | 626343.5 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CB | VOLUME | | 626407.1 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CC | VOLUME | | 626470.7 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |

On-Site Receptor

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T0CD | VOLUME | | 626534.3 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CE | VOLUME | | 626597.9 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CF | VOLUME | | 626661.5 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CG | VOLUME | | 626725.1 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CH | VOLUME | | 626788.8 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CI | VOLUME | | 626852.4 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CJ | VOLUME | | 626916.0 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CK | VOLUME | | 626979.6 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CL | VOLUME | | 627043.2 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CM | VOLUME | | 627106.8 | 4275468.1 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CN | VOLUME | | 626152.6 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CO | VOLUME | | 626216.2 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CP | VOLUME | | 626279.8 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CQ | VOLUME | | 626343.5 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CR | VOLUME | | 626407.1 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CS | VOLUME | | 626470.7 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CT | VOLUME | | 626534.3 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CU | VOLUME | | 626597.9 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CV | VOLUME | | 626661.5 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CW | VOLUME | | 626725.1 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CX | VOLUME | | 626788.8 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CY | VOLUME | | 626852.4 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0CZ | VOLUME | | 626916.0 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0D0 | VOLUME | | 626979.6 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0D1 | VOLUME | | 627043.2 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0D2 | VOLUME | | 627106.8 | 4275531.7 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0D3 | VOLUME | | 626152.6 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0D4 | VOLUME | | 626216.2 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0D5 | VOLUME | | 626279.8 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0D6 | VOLUME | | 626343.5 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0D7 | VOLUME | | 626407.1 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0D8 | VOLUME | | 626470.7 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0D9 | VOLUME | | 626534.3 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0DA | VOLUME | | 626597.9 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0DB | VOLUME | | 626661.5 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0DC | VOLUME | | 626725.1 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0DD | VOLUME | | 626788.8 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0DE | VOLUME | | 626852.4 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0DF | VOLUME | | 626916.0 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0DG | VOLUME | | 626979.6 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0DH | VOLUME | | 627043.2 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |
| 7NL8T0DI | VOLUME | | 627106.8 | 4275595.3 | 0 | 0.00002593211623 | (g/s) | 5 |

## Volume Sources

On-Site Receptor

| Source ID / Pollutant ID | Description | UTM | | Elev. | Emiss. Rate | Release Height | Init. Lat. Dim. | Init. Vert. Dim. |
|---|---|---|---|---|---|---|---|---|
| | | East (m) | North (m) | (m) | (g/s) | (m) | (m) | (m) |
| 7NL8T001 | | 626470.7 | 4273814.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T002 | | 626534.3 | 4273814.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T003 | | 626597.9 | 4273814.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T004 | | 626661.5 | 4273814.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T005 | | 626407.1 | 4273877.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T006 | | 626470.7 | 4273877.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T007 | | 626534.3 | 4273877.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T008 | | 626597.9 | 4273877.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T009 | | 626661.5 | 4273877.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00A | | 626343.5 | 4273941.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00B | | 626407.1 | 4273941.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00C | | 626470.7 | 4273941.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00D | | 626534.3 | 4273941.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00E | | 626597.9 | 4273941.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00F | | 626661.5 | 4273941.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00G | | 626725.1 | 4273941.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00H | | 626279.8 | 4274005.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00I | | 626343.5 | 4274005.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00J | | 626407.1 | 4274005.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00K | | 626470.7 | 4274005.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00L | | 626534.3 | 4274005.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00M | | 626597.9 | 4274005.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00N | | 626661.5 | 4274005.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00O | | 626725.1 | 4274005.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00P | | 626216.2 | 4274068.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00Q | | 626279.8 | 4274068.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00R | | 626343.5 | 4274068.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00S | | 626407.1 | 4274068.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00T | | 626470.7 | 4274068.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00U | | 626534.3 | 4274068.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00V | | 626597.9 | 4274068.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00W | | 626661.5 | 4274068.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00X | | 626725.1 | 4274068.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00Y | | 626788.8 | 4274068.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T00Z | | 626152.6 | 4274132.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T010 | | 626216.2 | 4274132.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T011 | | 626279.8 | 4274132.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T012 | | 626343.5 | 4274132.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T013 | | 626407.1 | 4274132.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T014 | | 626470.7 | 4274132.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T015 | | 626534.3 | 4274132.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T016 | | 626597.9 | 4274132.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T017 | | 626661.5 | 4274132.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |

On-Site Receptor

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|---|---|---|---|---|---|---|---|---|
| 7NL8T018 | | 626725.1 | 4274132.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T019 | | 626788.8 | 4274132.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01A | | 626025.4 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01B | | 626089.0 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01C | | 626152.6 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01D | | 626216.2 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01E | | 626279.8 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01F | | 626343.5 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01G | | 626407.1 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01H | | 626470.7 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01I | | 626534.3 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01J | | 626597.9 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01K | | 626661.5 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01L | | 626725.1 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01M | | 626788.8 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01N | | 626852.4 | 4274195.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01O | | 626025.4 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01P | | 626089.0 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01Q | | 626152.6 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01R | | 626216.2 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01S | | 626279.8 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01T | | 626343.5 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01U | | 626407.1 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01V | | 626470.7 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01W | | 626534.3 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01X | | 626597.9 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01Y | | 626661.5 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T01Z | | 626725.1 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T020 | | 626788.8 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T021 | | 626852.4 | 4274259.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T022 | | 626025.4 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T023 | | 626089.0 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T024 | | 626152.6 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T025 | | 626216.2 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T026 | | 626279.8 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T027 | | 626343.5 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T028 | | 626407.1 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T029 | | 626470.7 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02A | | 626534.3 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02B | | 626597.9 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02C | | 626661.5 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02D | | 626725.1 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02E | | 626788.8 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02F | | 626852.4 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02G | | 626916.0 | 4274323.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| | | | | | | | | |

On-Site Receptor

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|---|---|---|---|---|---|---|---|---|
| 7NL8T02H | | 625961.8 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02I | | 626025.4 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02J | | 626089.0 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02K | | 626152.6 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02L | | 626216.2 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02M | | 626279.8 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02N | | 626343.5 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02O | | 626407.1 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02P | | 626470.7 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02Q | | 626534.3 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02R | | 626597.9 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02S | | 626661.5 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02T | | 626725.1 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02U | | 626788.8 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02V | | 626852.4 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02W | | 626916.0 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02X | | 626979.6 | 4274386.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02Y | | 625961.8 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T02Z | | 626025.4 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T030 | | 626089.0 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T031 | | 626152.6 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T032 | | 626216.2 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T033 | | 626279.8 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T034 | | 626343.5 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T035 | | 626407.1 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T036 | | 626470.7 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T037 | | 626534.3 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T038 | | 626597.9 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T039 | | 626661.5 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03A | | 626725.1 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03B | | 626788.8 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03C | | 626852.4 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03D | | 626916.0 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03E | | 626979.6 | 4274450.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03F | | 625898.1 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03G | | 625961.8 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03H | | 626025.4 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03I | | 626089.0 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03J | | 626152.6 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03K | | 626216.2 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03L | | 626279.8 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03M | | 626343.5 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03N | | 626407.1 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03O | | 626470.7 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03P | | 626534.3 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03Q | | 626597.9 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |

On-Site Receptor

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T03R | | 626661.5 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03S | | 626725.1 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03T | | 626788.8 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03U | | 626852.4 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03V | | 626916.0 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03W | | 626979.6 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03X | | 627043.2 | 4274513.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03Y | | 625898.1 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T03Z | | 625961.8 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T040 | | 626025.4 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T041 | | 626089.0 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T042 | | 626152.6 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T043 | | 626216.2 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T044 | | 626279.8 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T045 | | 626343.5 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T046 | | 626407.1 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T047 | | 626470.7 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T048 | | 626534.3 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T049 | | 626597.9 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04A | | 626661.5 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04B | | 626725.1 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04C | | 626788.8 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04D | | 626852.4 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04E | | 626916.0 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04F | | 626979.6 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04G | | 627043.2 | 4274577.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04H | | 625834.5 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04I | | 625898.1 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04J | | 625961.8 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04K | | 626025.4 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04L | | 626089.0 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04M | | 626152.6 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04N | | 626216.2 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04O | | 626279.8 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04P | | 626343.5 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04Q | | 626407.1 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04R | | 626470.7 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04S | | 626534.3 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04T | | 626597.9 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04U | | 626661.5 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04V | | 626725.1 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04W | | 626788.8 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04X | | 626852.4 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04Y | | 626916.0 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T04Z | | 626979.6 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |

On-Site Receptor

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T050 | | 627043.2 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T051 | | 627106.8 | 4274641.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T052 | | 625834.5 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T053 | | 625898.1 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T054 | | 625961.8 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T055 | | 626025.4 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T056 | | 626089.0 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T057 | | 626152.6 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T058 | | 626216.2 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T059 | | 626279.8 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05A | | 626343.5 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05B | | 626407.1 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05C | | 626470.7 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05D | | 626534.3 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05E | | 626597.9 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05F | | 626661.5 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05G | | 626725.1 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05H | | 626788.8 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05I | | 626852.4 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05J | | 626916.0 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05K | | 626979.6 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05L | | 627043.2 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05M | | 627106.8 | 4274704.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05N | | 625834.5 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05O | | 625898.1 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05P | | 625961.8 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05Q | | 626025.4 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05R | | 626089.0 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05S | | 626152.6 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05T | | 626216.2 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05U | | 626279.8 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05V | | 626343.5 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05W | | 626407.1 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05X | | 626470.7 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05Y | | 626534.3 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T05Z | | 626597.9 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T060 | | 626661.5 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T061 | | 626725.1 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T062 | | 626788.8 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T063 | | 626852.4 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T064 | | 626916.0 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T065 | | 626979.6 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T066 | | 627043.2 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T067 | | 627106.8 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T068 | | 627170.4 | 4274768.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T069 | | 625770.9 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |

On-Site Receptor

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|---|---|---|---|---|---|---|---|---|
| 7NL8T06A | | 625834.5 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06B | | 625898.1 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06C | | 625961.8 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06D | | 626025.4 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06E | | 626089.0 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06F | | 626152.6 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06G | | 626216.2 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06H | | 626279.8 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06I | | 626343.5 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06J | | 626407.1 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06K | | 626470.7 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06L | | 626534.3 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06M | | 626597.9 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06N | | 626661.5 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06O | | 626725.1 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06P | | 626788.8 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06Q | | 626852.4 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06R | | 626916.0 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06S | | 626979.6 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06T | | 627043.2 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06U | | 627106.8 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06V | | 627170.4 | 4274832.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06W | | 625770.9 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06X | | 625834.5 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06Y | | 625898.1 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T06Z | | 625961.8 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T070 | | 626025.4 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T071 | | 626089.0 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T072 | | 626152.6 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T073 | | 626216.2 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T074 | | 626279.8 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T075 | | 626343.5 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T076 | | 626407.1 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T077 | | 626470.7 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T078 | | 626534.3 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T079 | | 626597.9 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07A | | 626661.5 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07B | | 626725.1 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07C | | 626788.8 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07D | | 626852.4 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07E | | 626916.0 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07F | | 626979.6 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07G | | 627043.2 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07H | | 627106.8 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07I | | 627170.4 | 4274895.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |

On-Site Receptor

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|---|---|---|---|---|---|---|---|---|
| 7NL8T07J | | 625770.9 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07K | | 625834.5 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07L | | 625898.1 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07M | | 625961.8 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07N | | 626025.4 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07O | | 626089.0 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07P | | 626152.6 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07Q | | 626216.2 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07R | | 626279.8 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07S | | 626343.5 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07T | | 626407.1 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07U | | 626470.7 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07V | | 626534.3 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07W | | 626597.9 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07X | | 626661.5 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07Y | | 626725.1 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T07Z | | 626788.8 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T080 | | 626852.4 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T081 | | 626916.0 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T082 | | 626979.6 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T083 | | 627043.2 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T084 | | 627106.8 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T085 | | 627170.4 | 4274959.2 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T086 | | 625770.9 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T087 | | 625834.5 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T088 | | 625898.1 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T089 | | 625961.8 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08A | | 626025.4 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08B | | 626089.0 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08C | | 626152.6 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08D | | 626216.2 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08E | | 626279.8 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08F | | 626343.5 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08G | | 626407.1 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08H | | 626470.7 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08I | | 626534.3 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08J | | 626597.9 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08K | | 626661.5 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08L | | 626725.1 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08M | | 626788.8 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08N | | 626852.4 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08O | | 626916.0 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08P | | 626979.6 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08Q | | 627043.2 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08R | | 627106.8 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08S | | 627170.4 | 4275022.8 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |

On-Site Receptor

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T08T | | 625770.9 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08U | | 625834.5 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08V | | 625898.1 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08W | | 625961.8 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08X | | 626025.4 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08Y | | 626089.0 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T08Z | | 626152.6 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T090 | | 626216.2 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T091 | | 626279.8 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T092 | | 626343.5 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T093 | | 626407.1 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T094 | | 626470.7 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T095 | | 626534.3 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T096 | | 626597.9 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T097 | | 626661.5 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T098 | | 626725.1 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T099 | | 626788.8 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09A | | 626852.4 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09B | | 626916.0 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09C | | 626979.6 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09D | | 627043.2 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09E | | 627106.8 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09F | | 627170.4 | 4275086.4 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09G | | 625770.9 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09H | | 625834.5 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09I | | 625898.1 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09J | | 625961.8 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09K | | 626025.4 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09L | | 626089.0 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09M | | 626152.6 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09N | | 626216.2 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09O | | 626279.8 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09P | | 626343.5 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09Q | | 626407.1 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09R | | 626470.7 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09S | | 626534.3 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09T | | 626597.9 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09U | | 626661.5 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09V | | 626725.1 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09W | | 626788.8 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09X | | 626852.4 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09Y | | 626916.0 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T09Z | | 626979.6 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0A0 | | 627043.2 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0A1 | | 627106.8 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |

On-Site Receptor

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T0A2 | | 627170.4 | 4275150.0 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0A3 | | 625770.9 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0A4 | | 625834.5 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0A5 | | 625898.1 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0A6 | | 625961.8 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0A7 | | 626025.4 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0A8 | | 626089.0 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0A9 | | 626152.6 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AA | | 626216.2 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AB | | 626279.8 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AC | | 626343.5 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AD | | 626407.1 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AE | | 626470.7 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AF | | 626534.3 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AG | | 626597.9 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AH | | 626661.5 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AI | | 626725.1 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AJ | | 626788.8 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AK | | 626852.4 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AL | | 626916.0 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AM | | 626979.6 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AN | | 627043.2 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AO | | 627106.8 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AP | | 627170.4 | 4275213.6 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AQ | | 626025.4 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AR | | 626089.0 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AS | | 626152.6 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AT | | 626216.2 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AU | | 626279.8 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AV | | 626343.5 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AW | | 626407.1 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AX | | 626470.7 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AY | | 626534.3 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0AZ | | 626597.9 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0B0 | | 626661.5 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0B1 | | 626725.1 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0B2 | | 626788.8 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0B3 | | 626852.4 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0B4 | | 626916.0 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0B5 | | 626979.6 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0B6 | | 627043.2 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0B7 | | 627106.8 | 4275277.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0B8 | | 626089.0 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0B9 | | 626152.6 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BA | | 626216.2 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BB | | 626279.8 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |

On-Site Receptor

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T0BC | | 626343.5 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BD | | 626407.1 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BE | | 626470.7 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BF | | 626534.3 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BG | | 626597.9 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BH | | 626661.5 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BI | | 626725.1 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BJ | | 626788.8 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BK | | 626852.4 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BL | | 626916.0 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BM | | 626979.6 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BN | | 627043.2 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BO | | 627106.8 | 4275340.9 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BP | | 626089.0 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BQ | | 626152.6 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BR | | 626216.2 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BS | | 626279.8 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BT | | 626343.5 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BU | | 626407.1 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BV | | 626470.7 | 4275404.5 | 0 | 2.593212E-05 | 5 | 29.59 | 1 |
| 7NL8T0BW | | 626534.3 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BX | | 626597.9 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BY | | 626661.5 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0BZ | | 626725.1 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0C0 | | 626788.8 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0C1 | | 626852.4 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0C2 | | 626916.0 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0C3 | | 626979.6 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0C4 | | 627043.2 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0C5 | | 627106.8 | 4275404.5 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0C6 | | 626089.0 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0C7 | | 626152.6 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0C8 | | 626216.2 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0C9 | | 626279.8 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CA | | 626343.5 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CB | | 626407.1 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CC | | 626470.7 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CD | | 626534.3 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CE | | 626597.9 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CF | | 626661.5 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CG | | 626725.1 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CH | | 626788.8 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CI | | 626852.4 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CJ | | 626916.0 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CK | | 626979.6 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |

On-Site Receptor

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T0CL | | 627043.2 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CM | | 627106.8 | 4275468.1 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CN | | 626152.6 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CO | | 626216.2 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CP | | 626279.8 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CQ | | 626343.5 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CR | | 626407.1 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CS | | 626470.7 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CT | | 626534.3 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CU | | 626597.9 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CV | | 626661.5 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CW | | 626725.1 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CX | | 626788.8 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CY | | 626852.4 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0CZ | | 626916.0 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0D0 | | 626979.6 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0D1 | | 627043.2 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0D2 | | 627106.8 | 4275531.7 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0D3 | | 626152.6 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0D4 | | 626216.2 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0D5 | | 626279.8 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0D6 | | 626343.5 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0D7 | | 626407.1 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0D8 | | 626470.7 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0D9 | | 626534.3 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0DA | | 626597.9 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0DB | | 626661.5 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0DC | | 626725.1 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0DD | | 626788.8 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0DE | | 626852.4 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0DF | | 626916.0 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0DG | | 626979.6 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0DH | | 627043.2 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |
| 7NL8T0DI | | 627106.8 | 4275595.3 | 0 | 0.00002593211623 | 5 | 29.59 | 1 |

On-Site Receptor

# BREEZE AERMOD Model Results

## Max. Annual ( 4 YEARS) Results of Pollutant: PM25 (ug/m**3)

| Group ID | High | Avg. Conc. | UTM | | Elev. | Hill Ht. | Flag Ht. | Rec. Type | Grid ID |
|---|---|---|---|---|---|---|---|---|---|
| | | | East (m) | North (m) | (m) | (m) | (m) | | |
| ALL | 1ST | 0.02078 | 626496.90 | 4274799.00 | 0.00 | 0.00 | 1.80 | DC | |
| | 2ND | 0.02075 | 626496.90 | 4274804.00 | 0.00 | 0.00 | 1.80 | DC | |
| | 3RD | 0.02073 | 626501.90 | 4274799.00 | 0.00 | 0.00 | 1.80 | DC | |
| | 4TH | 0.02072 | 626506.90 | 4274799.00 | 0.00 | 0.00 | 1.80 | DC | |
| | 5TH | 0.02071 | 626501.90 | 4274804.00 | 0.00 | 0.00 | 1.80 | DC | |
| | 6TH | 0.02069 | 626506.90 | 4274804.00 | 0.00 | 0.00 | 1.80 | DC | |
| | 7TH | 0.00000 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | 8TH | 0.00000 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | 9TH | 0.00000 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | 10TH | 0.00000 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |

## Highest Results of Pollutant: PM25

| Avg. Per. | Grp ID | High | Type | Val | Units | Date | UTM | | Elev. | Hill Ht. | Flag Ht. | Rec. Type | Grid ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | YYMMDDHH | East (m) | North (m) | (m) | (m) | (m) | | |
| 1-HR | ALL | 1ST | Avg. Conc. | 0.80814 | ug/m**3 | 15040807 | 626496.90 | 4274804.00 | 0.00 | 0.00 | 1.80 | DC | |

## Summary of Total Messages

| # | Message Type |
|---|---|
| 0 | Fatal Error Message(s) |
| 6 | Warning Message(s) |
| 996 | Informational Message(s) |
| 43680 | Hours Were Processed |
| 452 | Calm Hours Identified |
| 544 | Missing Hours Identified ( 1.25 Percent) |

## Error & Warning Messages

| Msg. Type | Pathway | Ref. # | Description |
|---|---|---|---|
| WARNING | CO | W276 | Special proc for 1h-NO2/SO2 24hPM25 NAAQS disabled PM25 H1H |
| | | | |

On-Site Receptor

| | | | |
|---|---|---|---|
| WARNING | CO | W363 | Multiyr 24h/Ann PM25 processing not applicable for PM25 H1H |
| WARNING | ME | W186 | THRESH_1MIN 1-min ASOS wind speed threshold used 0.50 |

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*HARP - HRACalc v22118 2/2/2024 3:43:41 PM - Cancer Risk - Input File: C:\Users\jfahrney\Desktop\HARP

| INDEX | GRP1 | GRP2 | POLID | POLABBRE' | CONC | RISK_SUM | SCENARIO | DETAILS |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 9901 | DieselExhP | 0.02078 | 1.20E-05 | 8YrCancerH | * |

On-Site Receptor

Results\UWSP_1000 foot buffer test_HRAInput.hra

| INH_RISK | SOIL_RISK | DERMAL_RI | MMILK_RIS | WATER_RIS | FISH_RISK | CROP_RISK | BEEF_RISK | DAIRY_RISK |
|---|---|---|---|---|---|---|---|---|
| 1.20E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| PIG_RISK | CHICKEN_F | EGG_RISK | 1ST_DRIVE | 2ND_DRIVE | PASTURE_C | FISH_CONC | WATER_CONC |
|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | NA | NA | 0.00E+00 | 0.00E+00 | 0.00E+00 |

*HARP - HRACalc v22118 2/2/2024 3:43:41 PM - Chronic Risk - Input File: C:\Users\jfahrney\Desktop\HAR

| INDEX | GRP1 | GRP2 | POLID | POLABBRE' | CONC | SCENARIO | CV | CNS |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 9901 | DieselExhP | 0.02078 | NonCancer | 0.00E+00 | 0.00E+00 |

P Results\UWSP_1000 foot buffer test_HRAInput.hra

| IMMUN | KIDNEY | GILV | REPRO/DE\ | RESP | SKIN | EYE | BONE/TEET | ENDO |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.16E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| BLOOD | ODOR | GENERAL | DETAILS | INH_CONC | SOIL_DOSE | DERMAL_D | MMILK_DO | WATER_DO |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | * | 2.08E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| FISH_DOSE | CROP_DOS | BEEF_DOSE | DAIRY_DOS | PIG_DOSE | CHICKEN_D | EGG_DOSE | 1ST_DRIVEI | 2ND_DRIVE |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | INHALATIO | NA |

| 3RD_DRIVE | PASTURE_C | FISH_CON( | WATER_CONC |
|---|---|---|---|
| NA | 0.00E+00 | 0.00E+00 | 0.00E+00 |

*HARP - HRACalc v22118 2/2/2024 3:43:41 PM - Acute Risk - Input File: C:\Users\jfahrney\Desktop\HARP I

| INDEX | GRP1 | GRP2 | POLID | POLABBRE' | CONC | SCENARIO | CV | CNS |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 9901 | DieselExhP | 0.80814 | NonCancer | 0.00E+00 | 0.00E+00 |

Results\UWSP_1000 foot buffer test_HRAInput.hra

| IMMUN | KIDNEY | GILV | REPRO/DE\ | RESP | SKIN | EYE | BONE/TEET | ENDO |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| BLOOD | ODOR | GENERAL |
|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 |

Tier 4 Mitigated

# AERMOD Model Options

## Model Options

| Pathway | Keyword | Description | Value |
|---|---|---|---|
| CO | TITLEONE | Project title 1 | UWSP Construction HRA |
| CO | TITLETWO | Project title 2 | |
| CO | MODELOPT | Model options | DFAULT,CONC,NODRYDPLT,NOWETDPLT |
| CO | AVERTIME | Averaging times | 1,ANNUAL |
| CO | URBANOPT | Urban options | |
| CO | POLLUTID | Pollutant ID | PM25 H1H |
| CO | HALFLIFE | Half life | |
| CO | DCAYCOEF | Decay coefficient | |
| CO | FLAGPOLE | Flagpole receptor heights | 1.8 |
| CO | RUNORNOT | Run or Not | RUN |
| CO | EVENTFIL | Event file | F |
| CO | SAVEFILE | Save file | F |
| CO | INITFILE | Initialization file | |
| CO | MULTYEAR | Multiple year option | N/A |
| CO | DEBUGOPT | Debug options | N/A |
| CO | ERRORFIL | Error file | F |
| SO | ELEVUNIT | Elevation units | METERS |
| SO | EMISUNIT | Emission units | N/A |
| RE | ELEVUNIT | Elevation units | METERS |
| ME | SURFFILE | Surface met file | I:\Projects\Active\Sacramento County\Upper Westside\HRA\Construction HRA\April 2023 Remodel\AERMOD\SACINT~1.SFC |
| ME | PROFFILE | Profile met file | I:\Projects\Active\Sacramento County\Upper Westside\HRA\Construction HRA\April 2023 Remodel\AERMOD\SACINT~1.PFL |
| ME | SURFDATA | Surf met data info. | 93225 2014 |
| ME | UAIRDATA | U-Air met data info. | 23230 2014 |
| ME | SITEDATA | On-site met data info. | |
| ME | PROFBASE | Elev. above MSL | 8.23 |
| ME | STARTEND | Start-end met dates | |
| ME | WDROTATE | Wind dir. rot. adjust. | |
| ME | WINDCATS | Wind speed cat. max. | |
| ME | SCIMBYHR | SCIM sample params | |
| EV | DAYTABLE | Print summary opt. | N/A |
| OU | EVENTOUT | Output info. level | N/A |

Tier 4 Mitigated

| | | | |
|---|---|---|---|
| OU | DAYTABLE | Print summary opt. | |

# Source Parameter Tables

## All Sources

| Source ID / Pollutant ID | Source Type | Description | UTM | | Elev. | Emiss. Rate | Emiss. Units | Release Height |
|---|---|---|---|---|---|---|---|---|
| | | | East (m) | North (m) | (m) | | | (m) |
| 7NL8T001 | VOLUME | | 626470.7 | 4273814.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T002 | VOLUME | | 626534.3 | 4273814.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T003 | VOLUME | | 626597.9 | 4273814.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T004 | VOLUME | | 626661.5 | 4273814.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T005 | VOLUME | | 626407.1 | 4273877.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T006 | VOLUME | | 626470.7 | 4273877.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T007 | VOLUME | | 626534.3 | 4273877.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T008 | VOLUME | | 626597.9 | 4273877.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T009 | VOLUME | | 626661.5 | 4273877.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00A | VOLUME | | 626343.5 | 4273941.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00B | VOLUME | | 626407.1 | 4273941.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00C | VOLUME | | 626470.7 | 4273941.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00D | VOLUME | | 626534.3 | 4273941.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00E | VOLUME | | 626597.9 | 4273941.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00F | VOLUME | | 626661.5 | 4273941.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00G | VOLUME | | 626725.1 | 4273941.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00H | VOLUME | | 626279.8 | 4274005.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00I | VOLUME | | 626343.5 | 4274005.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00J | VOLUME | | 626407.1 | 4274005.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00K | VOLUME | | 626470.7 | 4274005.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00L | VOLUME | | 626534.3 | 4274005.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00M | VOLUME | | 626597.9 | 4274005.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00N | VOLUME | | 626661.5 | 4274005.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00O | VOLUME | | 626725.1 | 4274005.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00P | VOLUME | | 626216.2 | 4274068.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00Q | VOLUME | | 626279.8 | 4274068.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00R | VOLUME | | 626343.5 | 4274068.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00S | VOLUME | | 626407.1 | 4274068.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00T | VOLUME | | 626470.7 | 4274068.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00U | VOLUME | | 626534.3 | 4274068.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00V | VOLUME | | 626597.9 | 4274068.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00W | VOLUME | | 626661.5 | 4274068.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00X | VOLUME | | 626725.1 | 4274068.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00Y | VOLUME | | 626788.8 | 4274068.6 | 0 | 0.00000598612424 | (g/s) | 5 |

Tier 4 Mitigated

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T00Z | VOLUME | | 626152.6 | 4274132.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T010 | VOLUME | | 626216.2 | 4274132.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T011 | VOLUME | | 626279.8 | 4274132.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T012 | VOLUME | | 626343.5 | 4274132.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T013 | VOLUME | | 626407.1 | 4274132.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T014 | VOLUME | | 626470.7 | 4274132.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T015 | VOLUME | | 626534.3 | 4274132.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T016 | VOLUME | | 626597.9 | 4274132.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T017 | VOLUME | | 626661.5 | 4274132.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T018 | VOLUME | | 626725.1 | 4274132.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T019 | VOLUME | | 626788.8 | 4274132.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01A | VOLUME | | 626025.4 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01B | VOLUME | | 626089.0 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01C | VOLUME | | 626152.6 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01D | VOLUME | | 626216.2 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01E | VOLUME | | 626279.8 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01F | VOLUME | | 626343.5 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01G | VOLUME | | 626407.1 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01H | VOLUME | | 626470.7 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01I | VOLUME | | 626534.3 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01J | VOLUME | | 626597.9 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01K | VOLUME | | 626661.5 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01L | VOLUME | | 626725.1 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01M | VOLUME | | 626788.8 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01N | VOLUME | | 626852.4 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01O | VOLUME | | 626025.4 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01P | VOLUME | | 626089.0 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01Q | VOLUME | | 626152.6 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01R | VOLUME | | 626216.2 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01S | VOLUME | | 626279.8 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01T | VOLUME | | 626343.5 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01U | VOLUME | | 626407.1 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01V | VOLUME | | 626470.7 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01W | VOLUME | | 626534.3 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01X | VOLUME | | 626597.9 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01Y | VOLUME | | 626661.5 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01Z | VOLUME | | 626725.1 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T020 | VOLUME | | 626788.8 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T021 | VOLUME | | 626852.4 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T022 | VOLUME | | 626025.4 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T023 | VOLUME | | 626089.0 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T024 | VOLUME | | 626152.6 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T025 | VOLUME | | 626216.2 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T026 | VOLUME | | 626279.8 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T027 | VOLUME | | 626343.5 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T028 | VOLUME | | 626407.1 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |

Tier 4 Mitigated

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T029 | VOLUME | | 626470.7 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02A | VOLUME | | 626534.3 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02B | VOLUME | | 626597.9 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02C | VOLUME | | 626661.5 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02D | VOLUME | | 626725.1 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02E | VOLUME | | 626788.8 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02F | VOLUME | | 626852.4 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02G | VOLUME | | 626916.0 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02H | VOLUME | | 625961.8 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02I | VOLUME | | 626025.4 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02J | VOLUME | | 626089.0 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02K | VOLUME | | 626152.6 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02L | VOLUME | | 626216.2 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02M | VOLUME | | 626279.8 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02N | VOLUME | | 626343.5 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02O | VOLUME | | 626407.1 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02P | VOLUME | | 626470.7 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02Q | VOLUME | | 626534.3 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02R | VOLUME | | 626597.9 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02S | VOLUME | | 626661.5 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02T | VOLUME | | 626725.1 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02U | VOLUME | | 626788.8 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02V | VOLUME | | 626852.4 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02W | VOLUME | | 626916.0 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02X | VOLUME | | 626979.6 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02Y | VOLUME | | 625961.8 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02Z | VOLUME | | 626025.4 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T030 | VOLUME | | 626089.0 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T031 | VOLUME | | 626152.6 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T032 | VOLUME | | 626216.2 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T033 | VOLUME | | 626279.8 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T034 | VOLUME | | 626343.5 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T035 | VOLUME | | 626407.1 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T036 | VOLUME | | 626470.7 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T037 | VOLUME | | 626534.3 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T038 | VOLUME | | 626597.9 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T039 | VOLUME | | 626661.5 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03A | VOLUME | | 626725.1 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03B | VOLUME | | 626788.8 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03C | VOLUME | | 626852.4 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03D | VOLUME | | 626916.0 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03E | VOLUME | | 626979.6 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03F | VOLUME | | 625898.1 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03G | VOLUME | | 625961.8 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03H | VOLUME | | 626025.4 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |

Tier 4 Mitigated

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T03I | VOLUME | | 626089.0 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03J | VOLUME | | 626152.6 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03K | VOLUME | | 626216.2 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03L | VOLUME | | 626279.8 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03M | VOLUME | | 626343.5 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03N | VOLUME | | 626407.1 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03O | VOLUME | | 626470.7 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03P | VOLUME | | 626534.3 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03Q | VOLUME | | 626597.9 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03R | VOLUME | | 626661.5 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03S | VOLUME | | 626725.1 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03T | VOLUME | | 626788.8 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03U | VOLUME | | 626852.4 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03V | VOLUME | | 626916.0 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03W | VOLUME | | 626979.6 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03X | VOLUME | | 627043.2 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03Y | VOLUME | | 625898.1 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03Z | VOLUME | | 625961.8 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T040 | VOLUME | | 626025.4 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T041 | VOLUME | | 626089.0 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T042 | VOLUME | | 626152.6 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T043 | VOLUME | | 626216.2 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T044 | VOLUME | | 626279.8 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T045 | VOLUME | | 626343.5 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T046 | VOLUME | | 626407.1 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T047 | VOLUME | | 626470.7 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T048 | VOLUME | | 626534.3 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T049 | VOLUME | | 626597.9 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04A | VOLUME | | 626661.5 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04B | VOLUME | | 626725.1 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04C | VOLUME | | 626788.8 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04D | VOLUME | | 626852.4 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04E | VOLUME | | 626916.0 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04F | VOLUME | | 626979.6 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04G | VOLUME | | 627043.2 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04H | VOLUME | | 625834.5 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04I | VOLUME | | 625898.1 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04J | VOLUME | | 625961.8 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04K | VOLUME | | 626025.4 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04L | VOLUME | | 626089.0 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04M | VOLUME | | 626152.6 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04N | VOLUME | | 626216.2 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04O | VOLUME | | 626279.8 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04P | VOLUME | | 626343.5 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04Q | VOLUME | | 626407.1 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04R | VOLUME | | 626470.7 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |

Tier 4 Mitigated

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T04S | VOLUME | | 626534.3 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04T | VOLUME | | 626597.9 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04U | VOLUME | | 626661.5 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04V | VOLUME | | 626725.1 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04W | VOLUME | | 626788.8 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04X | VOLUME | | 626852.4 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04Y | VOLUME | | 626916.0 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04Z | VOLUME | | 626979.6 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T050 | VOLUME | | 627043.2 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T051 | VOLUME | | 627106.8 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T052 | VOLUME | | 625834.5 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T053 | VOLUME | | 625898.1 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T054 | VOLUME | | 625961.8 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T055 | VOLUME | | 626025.4 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T056 | VOLUME | | 626089.0 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T057 | VOLUME | | 626152.6 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T058 | VOLUME | | 626216.2 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T059 | VOLUME | | 626279.8 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05A | VOLUME | | 626343.5 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05B | VOLUME | | 626407.1 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05C | VOLUME | | 626470.7 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05D | VOLUME | | 626534.3 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05E | VOLUME | | 626597.9 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05F | VOLUME | | 626661.5 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05G | VOLUME | | 626725.1 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05H | VOLUME | | 626788.8 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05I | VOLUME | | 626852.4 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05J | VOLUME | | 626916.0 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05K | VOLUME | | 626979.6 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05L | VOLUME | | 627043.2 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05M | VOLUME | | 627106.8 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05N | VOLUME | | 625834.5 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05O | VOLUME | | 625898.1 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05P | VOLUME | | 625961.8 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05Q | VOLUME | | 626025.4 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05R | VOLUME | | 626089.0 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05S | VOLUME | | 626152.6 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05T | VOLUME | | 626216.2 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05U | VOLUME | | 626279.8 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05V | VOLUME | | 626343.5 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05W | VOLUME | | 626407.1 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05X | VOLUME | | 626470.7 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05Y | VOLUME | | 626534.3 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05Z | VOLUME | | 626597.9 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T060 | VOLUME | | 626661.5 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |

Tier 4 Mitigated

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T061 | VOLUME | | 626725.1 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T062 | VOLUME | | 626788.8 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T063 | VOLUME | | 626852.4 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T064 | VOLUME | | 626916.0 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T065 | VOLUME | | 626979.6 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T066 | VOLUME | | 627043.2 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T067 | VOLUME | | 627106.8 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T068 | VOLUME | | 627170.4 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T069 | VOLUME | | 625770.9 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06A | VOLUME | | 625834.5 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06B | VOLUME | | 625898.1 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06C | VOLUME | | 625961.8 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06D | VOLUME | | 626025.4 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06E | VOLUME | | 626089.0 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06F | VOLUME | | 626152.6 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06G | VOLUME | | 626216.2 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06H | VOLUME | | 626279.8 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06I | VOLUME | | 626343.5 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06J | VOLUME | | 626407.1 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06K | VOLUME | | 626470.7 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06L | VOLUME | | 626534.3 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06M | VOLUME | | 626597.9 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06N | VOLUME | | 626661.5 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06O | VOLUME | | 626725.1 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06P | VOLUME | | 626788.8 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06Q | VOLUME | | 626852.4 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06R | VOLUME | | 626916.0 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06S | VOLUME | | 626979.6 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06T | VOLUME | | 627043.2 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06U | VOLUME | | 627106.8 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06V | VOLUME | | 627170.4 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06W | VOLUME | | 625770.9 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06X | VOLUME | | 625834.5 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06Y | VOLUME | | 625898.1 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06Z | VOLUME | | 625961.8 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T070 | VOLUME | | 626025.4 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T071 | VOLUME | | 626089.0 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T072 | VOLUME | | 626152.6 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T073 | VOLUME | | 626216.2 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T074 | VOLUME | | 626279.8 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T075 | VOLUME | | 626343.5 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T076 | VOLUME | | 626407.1 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T077 | VOLUME | | 626470.7 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T078 | VOLUME | | 626534.3 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T079 | VOLUME | | 626597.9 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07A | VOLUME | | 626661.5 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |

Tier 4 Mitigated

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T07B | VOLUME | | 626725.1 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07C | VOLUME | | 626788.8 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07D | VOLUME | | 626852.4 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07E | VOLUME | | 626916.0 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07F | VOLUME | | 626979.6 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07G | VOLUME | | 627043.2 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07H | VOLUME | | 627106.8 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07I | VOLUME | | 627170.4 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07J | VOLUME | | 625770.9 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07K | VOLUME | | 625834.5 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07L | VOLUME | | 625898.1 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07M | VOLUME | | 625961.8 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07N | VOLUME | | 626025.4 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07O | VOLUME | | 626089.0 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07P | VOLUME | | 626152.6 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07Q | VOLUME | | 626216.2 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07R | VOLUME | | 626279.8 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07S | VOLUME | | 626343.5 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07T | VOLUME | | 626407.1 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07U | VOLUME | | 626470.7 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07V | VOLUME | | 626534.3 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07W | VOLUME | | 626597.9 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07X | VOLUME | | 626661.5 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07Y | VOLUME | | 626725.1 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07Z | VOLUME | | 626788.8 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T080 | VOLUME | | 626852.4 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T081 | VOLUME | | 626916.0 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T082 | VOLUME | | 626979.6 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T083 | VOLUME | | 627043.2 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T084 | VOLUME | | 627106.8 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T085 | VOLUME | | 627170.4 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T086 | VOLUME | | 625770.9 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T087 | VOLUME | | 625834.5 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T088 | VOLUME | | 625898.1 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T089 | VOLUME | | 625961.8 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08A | VOLUME | | 626025.4 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08B | VOLUME | | 626089.0 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08C | VOLUME | | 626152.6 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08D | VOLUME | | 626216.2 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08E | VOLUME | | 626279.8 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08F | VOLUME | | 626343.5 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08G | VOLUME | | 626407.1 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08H | VOLUME | | 626470.7 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08I | VOLUME | | 626534.3 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08J | VOLUME | | 626597.9 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |

Tier 4 Mitigated

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T08K | VOLUME | | 626661.5 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08L | VOLUME | | 626725.1 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08M | VOLUME | | 626788.8 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08N | VOLUME | | 626852.4 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08O | VOLUME | | 626916.0 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08P | VOLUME | | 626979.6 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08Q | VOLUME | | 627043.2 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08R | VOLUME | | 627106.8 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08S | VOLUME | | 627170.4 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08T | VOLUME | | 625770.9 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08U | VOLUME | | 625834.5 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08V | VOLUME | | 625898.1 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08W | VOLUME | | 625961.8 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08X | VOLUME | | 626025.4 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08Y | VOLUME | | 626089.0 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08Z | VOLUME | | 626152.6 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T090 | VOLUME | | 626216.2 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T091 | VOLUME | | 626279.8 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T092 | VOLUME | | 626343.5 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T093 | VOLUME | | 626407.1 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T094 | VOLUME | | 626470.7 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T095 | VOLUME | | 626534.3 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T096 | VOLUME | | 626597.9 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T097 | VOLUME | | 626661.5 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T098 | VOLUME | | 626725.1 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T099 | VOLUME | | 626788.8 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09A | VOLUME | | 626852.4 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09B | VOLUME | | 626916.0 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09C | VOLUME | | 626979.6 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09D | VOLUME | | 627043.2 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09E | VOLUME | | 627106.8 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09F | VOLUME | | 627170.4 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09G | VOLUME | | 625770.9 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09H | VOLUME | | 625834.5 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09I | VOLUME | | 625898.1 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09J | VOLUME | | 625961.8 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09K | VOLUME | | 626025.4 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09L | VOLUME | | 626089.0 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09M | VOLUME | | 626152.6 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09N | VOLUME | | 626216.2 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09O | VOLUME | | 626279.8 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09P | VOLUME | | 626343.5 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09Q | VOLUME | | 626407.1 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09R | VOLUME | | 626470.7 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09S | VOLUME | | 626534.3 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09T | VOLUME | | 626597.9 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |

Tier 4 Mitigated

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T09U | VOLUME | | 626661.5 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09V | VOLUME | | 626725.1 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09W | VOLUME | | 626788.8 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09X | VOLUME | | 626852.4 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09Y | VOLUME | | 626916.0 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09Z | VOLUME | | 626979.6 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0A0 | VOLUME | | 627043.2 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0A1 | VOLUME | | 627106.8 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0A2 | VOLUME | | 627170.4 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0A3 | VOLUME | | 625770.9 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0A4 | VOLUME | | 625834.5 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0A5 | VOLUME | | 625898.1 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0A6 | VOLUME | | 625961.8 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0A7 | VOLUME | | 626025.4 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0A8 | VOLUME | | 626089.0 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0A9 | VOLUME | | 626152.6 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AA | VOLUME | | 626216.2 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AB | VOLUME | | 626279.8 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AC | VOLUME | | 626343.5 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AD | VOLUME | | 626407.1 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AE | VOLUME | | 626470.7 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AF | VOLUME | | 626534.3 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AG | VOLUME | | 626597.9 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AH | VOLUME | | 626661.5 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AI | VOLUME | | 626725.1 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AJ | VOLUME | | 626788.8 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AK | VOLUME | | 626852.4 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AL | VOLUME | | 626916.0 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AM | VOLUME | | 626979.6 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AN | VOLUME | | 627043.2 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AO | VOLUME | | 627106.8 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AP | VOLUME | | 627170.4 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AQ | VOLUME | | 626025.4 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AR | VOLUME | | 626089.0 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AS | VOLUME | | 626152.6 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AT | VOLUME | | 626216.2 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AU | VOLUME | | 626279.8 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AV | VOLUME | | 626343.5 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AW | VOLUME | | 626407.1 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AX | VOLUME | | 626470.7 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AY | VOLUME | | 626534.3 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AZ | VOLUME | | 626597.9 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0B0 | VOLUME | | 626661.5 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0B1 | VOLUME | | 626725.1 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0B2 | VOLUME | | 626788.8 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |

Tier 4 Mitigated

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T0B3 | VOLUME | | 626852.4 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0B4 | VOLUME | | 626916.0 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0B5 | VOLUME | | 626979.6 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0B6 | VOLUME | | 627043.2 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0B7 | VOLUME | | 627106.8 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0B8 | VOLUME | | 626089.0 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0B9 | VOLUME | | 626152.6 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BA | VOLUME | | 626216.2 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BB | VOLUME | | 626279.8 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BC | VOLUME | | 626343.5 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BD | VOLUME | | 626407.1 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BE | VOLUME | | 626470.7 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BF | VOLUME | | 626534.3 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BG | VOLUME | | 626597.9 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BH | VOLUME | | 626661.5 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BI | VOLUME | | 626725.1 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BJ | VOLUME | | 626788.8 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BK | VOLUME | | 626852.4 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BL | VOLUME | | 626916.0 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BM | VOLUME | | 626979.6 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BN | VOLUME | | 627043.2 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BO | VOLUME | | 627106.8 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BP | VOLUME | | 626089.0 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BQ | VOLUME | | 626152.6 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BR | VOLUME | | 626216.2 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BS | VOLUME | | 626279.8 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BT | VOLUME | | 626343.5 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BU | VOLUME | | 626407.1 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BV | VOLUME | | 626470.7 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BW | VOLUME | | 626534.3 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BX | VOLUME | | 626597.9 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BY | VOLUME | | 626661.5 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BZ | VOLUME | | 626725.1 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0C0 | VOLUME | | 626788.8 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0C1 | VOLUME | | 626852.4 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0C2 | VOLUME | | 626916.0 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0C3 | VOLUME | | 626979.6 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0C4 | VOLUME | | 627043.2 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0C5 | VOLUME | | 627106.8 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0C6 | VOLUME | | 626089.0 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0C7 | VOLUME | | 626152.6 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0C8 | VOLUME | | 626216.2 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0C9 | VOLUME | | 626279.8 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CA | VOLUME | | 626343.5 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CB | VOLUME | | 626407.1 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CC | VOLUME | | 626470.7 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |

Tier 4 Mitigated

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T0CD | VOLUME | | 626534.3 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CE | VOLUME | | 626597.9 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CF | VOLUME | | 626661.5 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CG | VOLUME | | 626725.1 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CH | VOLUME | | 626788.8 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CI | VOLUME | | 626852.4 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CJ | VOLUME | | 626916.0 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CK | VOLUME | | 626979.6 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CL | VOLUME | | 627043.2 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CM | VOLUME | | 627106.8 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CN | VOLUME | | 626152.6 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CO | VOLUME | | 626216.2 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CP | VOLUME | | 626279.8 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CQ | VOLUME | | 626343.5 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CR | VOLUME | | 626407.1 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CS | VOLUME | | 626470.7 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CT | VOLUME | | 626534.3 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CU | VOLUME | | 626597.9 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CV | VOLUME | | 626661.5 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CW | VOLUME | | 626725.1 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CX | VOLUME | | 626788.8 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CY | VOLUME | | 626852.4 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CZ | VOLUME | | 626916.0 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0D0 | VOLUME | | 626979.6 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0D1 | VOLUME | | 627043.2 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0D2 | VOLUME | | 627106.8 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0D3 | VOLUME | | 626152.6 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0D4 | VOLUME | | 626216.2 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0D5 | VOLUME | | 626279.8 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0D6 | VOLUME | | 626343.5 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0D7 | VOLUME | | 626407.1 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0D8 | VOLUME | | 626470.7 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0D9 | VOLUME | | 626534.3 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0DA | VOLUME | | 626597.9 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0DB | VOLUME | | 626661.5 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0DC | VOLUME | | 626725.1 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0DD | VOLUME | | 626788.8 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0DE | VOLUME | | 626852.4 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0DF | VOLUME | | 626916.0 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0DG | VOLUME | | 626979.6 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0DH | VOLUME | | 627043.2 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0DI | VOLUME | | 627106.8 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |

## Volume Sources

| | | | | | | | |
|---|---|---|---|---|---|---|---|

Tier 4 Mitigated

| Source ID / Pollutant ID | Description | UTM | | Elev. | Emiss. Rate | Release Height | Init. Lat. Dim. | Init. Vert. Dim. |
|---|---|---|---|---|---|---|---|---|
| | | East (m) | North (m) | (m) | (g/s) | (m) | (m) | (m) |
| 7NL8T001 | | 626470.7 | 4273814.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T002 | | 626534.3 | 4273814.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T003 | | 626597.9 | 4273814.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T004 | | 626661.5 | 4273814.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T005 | | 626407.1 | 4273877.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T006 | | 626470.7 | 4273877.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T007 | | 626534.3 | 4273877.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T008 | | 626597.9 | 4273877.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T009 | | 626661.5 | 4273877.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00A | | 626343.5 | 4273941.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00B | | 626407.1 | 4273941.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00C | | 626470.7 | 4273941.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00D | | 626534.3 | 4273941.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00E | | 626597.9 | 4273941.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00F | | 626661.5 | 4273941.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00G | | 626725.1 | 4273941.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00H | | 626279.8 | 4274005.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00I | | 626343.5 | 4274005.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00J | | 626407.1 | 4274005.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00K | | 626470.7 | 4274005.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00L | | 626534.3 | 4274005.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00M | | 626597.9 | 4274005.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00N | | 626661.5 | 4274005.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00O | | 626725.1 | 4274005.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00P | | 626216.2 | 4274068.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00Q | | 626279.8 | 4274068.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00R | | 626343.5 | 4274068.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00S | | 626407.1 | 4274068.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00T | | 626470.7 | 4274068.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00U | | 626534.3 | 4274068.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00V | | 626597.9 | 4274068.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00W | | 626661.5 | 4274068.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00X | | 626725.1 | 4274068.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00Y | | 626788.8 | 4274068.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00Z | | 626152.6 | 4274132.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T010 | | 626216.2 | 4274132.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T011 | | 626279.8 | 4274132.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T012 | | 626343.5 | 4274132.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T013 | | 626407.1 | 4274132.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T014 | | 626470.7 | 4274132.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T015 | | 626534.3 | 4274132.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T016 | | 626597.9 | 4274132.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T017 | | 626661.5 | 4274132.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |

Tier 4 Mitigated

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T018 | | 626725.1 | 4274132.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T019 | | 626788.8 | 4274132.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01A | | 626025.4 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01B | | 626089.0 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01C | | 626152.6 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01D | | 626216.2 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01E | | 626279.8 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01F | | 626343.5 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01G | | 626407.1 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01H | | 626470.7 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01I | | 626534.3 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01J | | 626597.9 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01K | | 626661.5 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01L | | 626725.1 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01M | | 626788.8 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01N | | 626852.4 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01O | | 626025.4 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01P | | 626089.0 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01Q | | 626152.6 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01R | | 626216.2 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01S | | 626279.8 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01T | | 626343.5 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01U | | 626407.1 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01V | | 626470.7 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01W | | 626534.3 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01X | | 626597.9 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01Y | | 626661.5 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01Z | | 626725.1 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T020 | | 626788.8 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T021 | | 626852.4 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T022 | | 626025.4 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T023 | | 626089.0 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T024 | | 626152.6 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T025 | | 626216.2 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T026 | | 626279.8 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T027 | | 626343.5 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T028 | | 626407.1 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T029 | | 626470.7 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02A | | 626534.3 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02B | | 626597.9 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02C | | 626661.5 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02D | | 626725.1 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02E | | 626788.8 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02F | | 626852.4 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02G | | 626916.0 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| | | | | | | | | |

Tier 4 Mitigated

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T02H | | 625961.8 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02I | | 626025.4 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02J | | 626089.0 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02K | | 626152.6 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02L | | 626216.2 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02M | | 626279.8 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02N | | 626343.5 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02O | | 626407.1 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02P | | 626470.7 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02Q | | 626534.3 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02R | | 626597.9 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02S | | 626661.5 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02T | | 626725.1 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02U | | 626788.8 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02V | | 626852.4 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02W | | 626916.0 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02X | | 626979.6 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02Y | | 625961.8 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02Z | | 626025.4 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T030 | | 626089.0 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T031 | | 626152.6 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T032 | | 626216.2 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T033 | | 626279.8 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T034 | | 626343.5 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T035 | | 626407.1 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T036 | | 626470.7 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T037 | | 626534.3 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T038 | | 626597.9 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T039 | | 626661.5 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03A | | 626725.1 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03B | | 626788.8 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03C | | 626852.4 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03D | | 626916.0 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03E | | 626979.6 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03F | | 625898.1 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03G | | 625961.8 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03H | | 626025.4 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03I | | 626089.0 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03J | | 626152.6 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03K | | 626216.2 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03L | | 626279.8 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03M | | 626343.5 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03N | | 626407.1 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03O | | 626470.7 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03P | | 626534.3 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03Q | | 626597.9 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |

Tier 4 Mitigated

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T03R | | 626661.5 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03S | | 626725.1 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03T | | 626788.8 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03U | | 626852.4 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03V | | 626916.0 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03W | | 626979.6 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03X | | 627043.2 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03Y | | 625898.1 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03Z | | 625961.8 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T040 | | 626025.4 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T041 | | 626089.0 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T042 | | 626152.6 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T043 | | 626216.2 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T044 | | 626279.8 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T045 | | 626343.5 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T046 | | 626407.1 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T047 | | 626470.7 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T048 | | 626534.3 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T049 | | 626597.9 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04A | | 626661.5 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04B | | 626725.1 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04C | | 626788.8 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04D | | 626852.4 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04E | | 626916.0 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04F | | 626979.6 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04G | | 627043.2 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04H | | 625834.5 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04I | | 625898.1 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04J | | 625961.8 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04K | | 626025.4 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04L | | 626089.0 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04M | | 626152.6 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04N | | 626216.2 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04O | | 626279.8 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04P | | 626343.5 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04Q | | 626407.1 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04R | | 626470.7 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04S | | 626534.3 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04T | | 626597.9 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04U | | 626661.5 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04V | | 626725.1 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04W | | 626788.8 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04X | | 626852.4 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04Y | | 626916.0 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04Z | | 626979.6 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |

Tier 4 Mitigated

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T050 | | 627043.2 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T051 | | 627106.8 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T052 | | 625834.5 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T053 | | 625898.1 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T054 | | 625961.8 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T055 | | 626025.4 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T056 | | 626089.0 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T057 | | 626152.6 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T058 | | 626216.2 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T059 | | 626279.8 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05A | | 626343.5 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05B | | 626407.1 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05C | | 626470.7 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05D | | 626534.3 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05E | | 626597.9 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05F | | 626661.5 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05G | | 626725.1 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05H | | 626788.8 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05I | | 626852.4 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05J | | 626916.0 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05K | | 626979.6 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05L | | 627043.2 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05M | | 627106.8 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05N | | 625834.5 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05O | | 625898.1 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05P | | 625961.8 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05Q | | 626025.4 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05R | | 626089.0 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05S | | 626152.6 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05T | | 626216.2 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05U | | 626279.8 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05V | | 626343.5 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05W | | 626407.1 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05X | | 626470.7 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05Y | | 626534.3 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05Z | | 626597.9 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T060 | | 626661.5 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T061 | | 626725.1 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T062 | | 626788.8 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T063 | | 626852.4 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T064 | | 626916.0 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T065 | | 626979.6 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T066 | | 627043.2 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T067 | | 627106.8 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T068 | | 627170.4 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T069 | | 625770.9 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |

Tier 4 Mitigated

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T06A | | 625834.5 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06B | | 625898.1 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06C | | 625961.8 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06D | | 626025.4 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06E | | 626089.0 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06F | | 626152.6 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06G | | 626216.2 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06H | | 626279.8 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06I | | 626343.5 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06J | | 626407.1 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06K | | 626470.7 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06L | | 626534.3 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06M | | 626597.9 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06N | | 626661.5 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06O | | 626725.1 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06P | | 626788.8 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06Q | | 626852.4 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06R | | 626916.0 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06S | | 626979.6 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06T | | 627043.2 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06U | | 627106.8 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06V | | 627170.4 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06W | | 625770.9 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06X | | 625834.5 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06Y | | 625898.1 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06Z | | 625961.8 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T070 | | 626025.4 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T071 | | 626089.0 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T072 | | 626152.6 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T073 | | 626216.2 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T074 | | 626279.8 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T075 | | 626343.5 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T076 | | 626407.1 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T077 | | 626470.7 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T078 | | 626534.3 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T079 | | 626597.9 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07A | | 626661.5 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07B | | 626725.1 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07C | | 626788.8 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07D | | 626852.4 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07E | | 626916.0 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07F | | 626979.6 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07G | | 627043.2 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07H | | 627106.8 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07I | | 627170.4 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |

Tier 4 Mitigated

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T07J | | 625770.9 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07K | | 625834.5 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07L | | 625898.1 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07M | | 625961.8 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07N | | 626025.4 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07O | | 626089.0 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07P | | 626152.6 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07Q | | 626216.2 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07R | | 626279.8 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07S | | 626343.5 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07T | | 626407.1 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07U | | 626470.7 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07V | | 626534.3 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07W | | 626597.9 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07X | | 626661.5 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07Y | | 626725.1 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07Z | | 626788.8 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T080 | | 626852.4 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T081 | | 626916.0 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T082 | | 626979.6 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T083 | | 627043.2 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T084 | | 627106.8 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T085 | | 627170.4 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T086 | | 625770.9 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T087 | | 625834.5 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T088 | | 625898.1 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T089 | | 625961.8 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08A | | 626025.4 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08B | | 626089.0 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08C | | 626152.6 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08D | | 626216.2 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08E | | 626279.8 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08F | | 626343.5 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08G | | 626407.1 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08H | | 626470.7 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08I | | 626534.3 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08J | | 626597.9 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08K | | 626661.5 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08L | | 626725.1 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08M | | 626788.8 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08N | | 626852.4 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08O | | 626916.0 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08P | | 626979.6 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08Q | | 627043.2 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08R | | 627106.8 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08S | | 627170.4 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |

Tier 4 Mitigated

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T08T | | 625770.9 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08U | | 625834.5 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08V | | 625898.1 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08W | | 625961.8 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08X | | 626025.4 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08Y | | 626089.0 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08Z | | 626152.6 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T090 | | 626216.2 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T091 | | 626279.8 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T092 | | 626343.5 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T093 | | 626407.1 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T094 | | 626470.7 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T095 | | 626534.3 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T096 | | 626597.9 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T097 | | 626661.5 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T098 | | 626725.1 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T099 | | 626788.8 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09A | | 626852.4 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09B | | 626916.0 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09C | | 626979.6 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09D | | 627043.2 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09E | | 627106.8 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09F | | 627170.4 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09G | | 625770.9 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09H | | 625834.5 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09I | | 625898.1 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09J | | 625961.8 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09K | | 626025.4 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09L | | 626089.0 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09M | | 626152.6 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09N | | 626216.2 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09O | | 626279.8 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09P | | 626343.5 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09Q | | 626407.1 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09R | | 626470.7 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09S | | 626534.3 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09T | | 626597.9 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09U | | 626661.5 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09V | | 626725.1 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09W | | 626788.8 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09X | | 626852.4 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09Y | | 626916.0 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09Z | | 626979.6 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0A0 | | 627043.2 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0A1 | | 627106.8 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |

Tier 4 Mitigated

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T0A2 | | 627170.4 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0A3 | | 625770.9 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0A4 | | 625834.5 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0A5 | | 625898.1 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0A6 | | 625961.8 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0A7 | | 626025.4 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0A8 | | 626089.0 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0A9 | | 626152.6 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AA | | 626216.2 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AB | | 626279.8 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AC | | 626343.5 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AD | | 626407.1 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AE | | 626470.7 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AF | | 626534.3 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AG | | 626597.9 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AH | | 626661.5 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AI | | 626725.1 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AJ | | 626788.8 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AK | | 626852.4 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AL | | 626916.0 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AM | | 626979.6 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AN | | 627043.2 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AO | | 627106.8 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AP | | 627170.4 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AQ | | 626025.4 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AR | | 626089.0 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AS | | 626152.6 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AT | | 626216.2 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AU | | 626279.8 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AV | | 626343.5 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AW | | 626407.1 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AX | | 626470.7 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AY | | 626534.3 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AZ | | 626597.9 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0B0 | | 626661.5 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0B1 | | 626725.1 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0B2 | | 626788.8 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0B3 | | 626852.4 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0B4 | | 626916.0 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0B5 | | 626979.6 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0B6 | | 627043.2 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0B7 | | 627106.8 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0B8 | | 626089.0 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0B9 | | 626152.6 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BA | | 626216.2 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BB | | 626279.8 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |

Tier 4 Mitigated

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T0BC | | 626343.5 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BD | | 626407.1 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BE | | 626470.7 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BF | | 626534.3 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BG | | 626597.9 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BH | | 626661.5 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BI | | 626725.1 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BJ | | 626788.8 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BK | | 626852.4 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BL | | 626916.0 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BM | | 626979.6 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BN | | 627043.2 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BO | | 627106.8 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BP | | 626089.0 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BQ | | 626152.6 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BR | | 626216.2 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BS | | 626279.8 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BT | | 626343.5 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BU | | 626407.1 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BV | | 626470.7 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BW | | 626534.3 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BX | | 626597.9 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BY | | 626661.5 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BZ | | 626725.1 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0C0 | | 626788.8 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0C1 | | 626852.4 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0C2 | | 626916.0 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0C3 | | 626979.6 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0C4 | | 627043.2 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0C5 | | 627106.8 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0C6 | | 626089.0 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0C7 | | 626152.6 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0C8 | | 626216.2 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0C9 | | 626279.8 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CA | | 626343.5 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CB | | 626407.1 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CC | | 626470.7 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CD | | 626534.3 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CE | | 626597.9 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CF | | 626661.5 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CG | | 626725.1 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CH | | 626788.8 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CI | | 626852.4 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CJ | | 626916.0 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CK | | 626979.6 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |

Tier 4 Mitigated

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T0CL | | 627043.2 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CM | | 627106.8 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CN | | 626152.6 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CO | | 626216.2 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CP | | 626279.8 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CQ | | 626343.5 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CR | | 626407.1 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CS | | 626470.7 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CT | | 626534.3 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CU | | 626597.9 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CV | | 626661.5 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CW | | 626725.1 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CX | | 626788.8 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CY | | 626852.4 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CZ | | 626916.0 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0D0 | | 626979.6 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0D1 | | 627043.2 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0D2 | | 627106.8 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0D3 | | 626152.6 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0D4 | | 626216.2 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0D5 | | 626279.8 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0D6 | | 626343.5 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0D7 | | 626407.1 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0D8 | | 626470.7 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0D9 | | 626534.3 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0DA | | 626597.9 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0DB | | 626661.5 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0DC | | 626725.1 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0DD | | 626788.8 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0DE | | 626852.4 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0DF | | 626916.0 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0DG | | 626979.6 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0DH | | 627043.2 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0DI | | 627106.8 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |

Tier 4 Mitigated

# BREEZE AERMOD Model Results

## Max. Annual ( 4 YEARS) Results of Pollutant: PM25 (ug/m**3)

| Group ID | High | Avg. Conc. | UTM | | Elev. | Hill Ht. | Flag Ht. | Rec. Type | Grid ID |
|---|---|---|---|---|---|---|---|---|---|
| | | | East (m) | North (m) | (m) | (m) | (m) | | |
| ALL | 1ST | 0.00294 | 625918.60 | 4275280.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 2ND | 0.00280 | 625888.60 | 4275280.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 3RD | 0.00279 | 627178.60 | 4275280.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 4TH | 0.00270 | 626518.60 | 4275670.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 5TH | 0.00270 | 626488.60 | 4275670.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 6TH | 0.00270 | 626458.60 | 4275670.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 7TH | 0.00270 | 626548.60 | 4275670.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 8TH | 0.00270 | 625948.60 | 4275310.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 9TH | 0.00270 | 626578.60 | 4275670.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 10TH | 0.00269 | 626428.60 | 4275670.50 | 0.00 | 0.00 | 1.80 | DC | |

## Highest Results of Pollutant: PM25

| Avg. Per. | Grp ID | High | Type | Val | Units | Date | UTM | | Elev. | Hill Ht. | Flag Ht. | Rec. Type | Grid ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | YYMMDDHH | East (m) | North (m) | (m) | (m) | (m) | | |
| 1-HR | ALL | 1ST | Avg. Conc. | 0.17698 | ug/m**3 | 15011709 | 627178.60 | 4275280.50 | 0.00 | 0.00 | 1.80 | DC | |

## Summary of Total Messages

| # | Message Type |
|---|---|
| 0 | Fatal Error Message(s) |
| 6 | Warning Message(s) |
| 996 | Informational Message(s) |
| 43680 | Hours Were Processed |
| 452 | Calm Hours Identified |
| 544 | Missing Hours Identified ( 1.25 Percent) |

## Error & Warning Messages

| Msg. Type | Pathway | Ref. # | Description |
|---|---|---|---|
| WARNING | CO | W276 | Special proc for 1h-NO2/SO2 24hPM25 NAAQS disabled PM25 H1H |
| | | | |

Tier 4 Mitigated

| | | | |
|---|---|---|---|
| WARNING | CO | W363 | Multiyr 24h/Ann PM25 processing not applicable for PM25 H1H |
| WARNING | ME | W186 | THRESH_1MIN 1-min ASOS wind speed threshold used 0.50 |

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*HARP - HRACalc v22118 2/7/2024 2:28:59 PM - Cancer Risk - Input File: C:\Users\Jfahrney\Desktop\HARI

| INDEX | GRP1 | GRP2 | POLID | POLABBRE' | CONC | RISK_SUM | SCENARIO | DETAILS |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 9901 | DieselExhP | 0.00294 | 1.69E-06 | 8YrCancerI | * |

P\UWSP_Tier 4_Max Receptor_HRAInput.hra

| INH_RISK | SOIL_RISK | DERMAL_RI | MMILK_RIS | WATER_RIS | FISH_RISK | CROP_RISK | BEEF_RISK | DAIRY_RISK |
|---|---|---|---|---|---|---|---|---|
| 1.69E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| PIG_RISK | CHICKEN_F | EGG_RISK | 1ST_DRIVE | 2ND_DRIVE | PASTURE_C | FISH_CONC | WATER_CONC |
|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | NA | NA | 0.00E+00 | 0.00E+00 | 0.00E+00 |

*HARP - HRACalc v22118 2/7/2024 2:28:59 PM - Chronic Risk - Input File: C:\Users\Jfahrney\Desktop\HAR

| INDEX | GRP1 | GRP2 | POLID | POLABBRE' | CONC | SCENARIO | CV | CNS |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 9901 | DieselExhP | 0.00294 | NonCancer | 0.00E+00 | 0.00E+00 |

:P\UWSP_Tier 4_Max Receptor_HRAInput.hra

| IMMUN | KIDNEY | GILV | REPRO/DE\ | RESP | SKIN | EYE | BONE/TEET | ENDO |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.88E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| BLOOD | ODOR | GENERAL | DETAILS | INH_CONC | SOIL_DOSE | DERMAL_D | MMILK_DO | WATER_DO |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | * | 2.94E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| FISH_DOSE | CROP_DOS | BEEF_DOSE | DAIRY_DOS | PIG_DOSE | CHICKEN_D | EGG_DOSE | 1ST_DRIVEI | 2ND_DRIVE |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | INHALATIO | NA |

| 3RD_DRIVE | PASTURE_C | FISH_CONC | WATER_CONC |
|---|---|---|---|
| NA | 0.00E+00 | 0.00E+00 | 0.00E+00 |

*HARP - HRACalc v22118 2/7/2024 2:28:59 PM - Acute Risk - Input File: C:\Users\Jfahrney\Desktop\HARP\

| INDEX | GRP1 | GRP2 | POLID | POLABBRE\ | CONC | SCENARIO | CV | CNS |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 9901 | DieselExhP | 0.17698 | NonCancer | 0.00E+00 | 0.00E+00 |

\UWSP_Tier 4_Max Receptor_HRAInput.hra

| IMMUN | KIDNEY | GILV | REPRO/DE\ | RESP | SKIN | EYE | BONE/TEET | ENDO |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| BLOOD | ODOR | GENERAL |
|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 |

# AERMOD Model Options

## Model Options

| Pathway | Keyword | Description | Value |
|---|---|---|---|
| CO | TITLEONE | Project title 1 | UWSP Operational HRA |
| CO | TITLETWO | Project title 2 | |
| CO | MODELOPT | Model options | DFAULT,CONC,NODRYDPLT,NOWETDPLT |
| CO | AVERTIME | Averaging times | 1,ANNUAL |
| CO | URBANOPT | Urban options | |
| CO | POLLUTID | Pollutant ID | OTHER |
| CO | HALFLIFE | Half life | |
| CO | DCAYCOEF | Decay coefficient | |
| CO | FLAGPOLE | Flagpole receptor heights | 1.8 |
| CO | RUNORNOT | Run or Not | RUN |
| CO | EVENTFIL | Event file | F |
| CO | SAVEFILE | Save file | F |
| CO | INITFILE | Initialization file | |
| CO | MULTYEAR | Multiple year option | N/A |
| CO | DEBUGOPT | Debug options | N/A |
| CO | ERRORFIL | Error file | F |
| SO | ELEVUNIT | Elevation units | METERS |
| SO | EMISUNIT | Emission units | N/A |
| RE | ELEVUNIT | Elevation units | METERS |
| ME | SURFFILE | Surface met file | C:\Users\bshea\Desktop\METEOR~1\SACINT~1.SFC |
| ME | PROFFILE | Profile met file | C:\Users\bshea\Desktop\METEOR~1\SACINT~1.PFL |
| ME | SURFDATA | Surf met data info. | 93225 2014 |
| ME | UAIRDATA | U-Air met data info. | 23230 2014 |
| ME | SITEDATA | On-site met data info. | |
| ME | PROFBASE | Elev. above MSL | 8.23 |
| ME | STARTEND | Start-end met dates | |
| ME | WDROTATE | Wind dir. rot. adjust. | |
| ME | WINDCATS | Wind speed cat. max. | |
| ME | SCIMBYHR | SCIM sample params | |
| EV | DAYTABLE | Print summary opt. | N/A |
| OU | EVENTOUT | Output info. level | N/A |

Tier 4 Mitigation - On-site Receptor

# AERMOD Model Options

## Model Options

| Pathway | Keyword | Description | Value |
|---|---|---|---|
| CO | TITLEONE | Project title 1 | UWSP Construction HRA |
| CO | TITLETWO | Project title 2 | |
| CO | MODELOPT | Model options | DFAULT,CONC,NODRYDPLT,NOWETDPLT |
| CO | AVERTIME | Averaging times | 1,ANNUAL |
| CO | URBANOPT | Urban options | |
| CO | POLLUTID | Pollutant ID | PM25 H1H |
| CO | HALFLIFE | Half life | |
| CO | DCAYCOEF | Decay coefficient | |
| CO | FLAGPOLE | Flagpole receptor heights | 1.8 |
| CO | RUNORNOT | Run or Not | RUN |
| CO | EVENTFIL | Event file | F |
| CO | SAVEFILE | Save file | F |
| CO | INITFILE | Initialization file | |
| CO | MULTYEAR | Multiple year option | N/A |
| CO | DEBUGOPT | Debug options | N/A |
| CO | ERRORFIL | Error file | F |
| SO | ELEVUNIT | Elevation units | METERS |
| SO | EMISUNIT | Emission units | N/A |
| RE | ELEVUNIT | Elevation units | METERS |
| ME | SURFFILE | Surface met file | I:\Projects\Active\Sacramento County\Upper Westside\HRA\Construction HRA\April 2023 Remodel\AERMOD\SACINT~1.SFC |
| ME | PROFFILE | Profile met file | I:\Projects\Active\Sacramento County\Upper Westside\HRA\Construction HRA\April 2023 Remodel\AERMOD\SACINT~1.PFL |
| ME | SURFDATA | Surf met data info. | 93225 2014 |
| ME | UAIRDATA | U-Air met data info. | 23230 2014 |
| ME | SITEDATA | On-site met data info. | |
| ME | PROFBASE | Elev. above MSL | 8.23 |
| ME | STARTEND | Start-end met dates | |
| ME | WDROTATE | Wind dir. rot. adjust. | |
| ME | WINDCATS | Wind speed cat. max. | |
| ME | SCIMBYHR | SCIM sample params | |
| EV | DAYTABLE | Print summary opt. | N/A |
| OU | EVENTOUT | Output info. level | N/A |

Tier 4 Mitigation - On-site Receptor

| | | | |
|---|---|---|---|
| OU | DAYTABLE | Print summary opt. | |

# Source Parameter Tables

## All Sources

| Source ID / Pollutant ID | Source Type | Description | UTM | | Elev. | Emiss. Rate | Emiss. Units | Release Height |
|---|---|---|---|---|---|---|---|---|
| | | | East (m) | North (m) | (m) | | | (m) |
| 7NL8T001 | VOLUME | | 626470.7 | 4273814.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T002 | VOLUME | | 626534.3 | 4273814.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T003 | VOLUME | | 626597.9 | 4273814.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T004 | VOLUME | | 626661.5 | 4273814.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T005 | VOLUME | | 626407.1 | 4273877.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T006 | VOLUME | | 626470.7 | 4273877.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T007 | VOLUME | | 626534.3 | 4273877.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T008 | VOLUME | | 626597.9 | 4273877.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T009 | VOLUME | | 626661.5 | 4273877.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00A | VOLUME | | 626343.5 | 4273941.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00B | VOLUME | | 626407.1 | 4273941.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00C | VOLUME | | 626470.7 | 4273941.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00D | VOLUME | | 626534.3 | 4273941.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00E | VOLUME | | 626597.9 | 4273941.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00F | VOLUME | | 626661.5 | 4273941.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00G | VOLUME | | 626725.1 | 4273941.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00H | VOLUME | | 626279.8 | 4274005.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00I | VOLUME | | 626343.5 | 4274005.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00J | VOLUME | | 626407.1 | 4274005.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00K | VOLUME | | 626470.7 | 4274005.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00L | VOLUME | | 626534.3 | 4274005.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00M | VOLUME | | 626597.9 | 4274005.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00N | VOLUME | | 626661.5 | 4274005.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00O | VOLUME | | 626725.1 | 4274005.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00P | VOLUME | | 626216.2 | 4274068.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00Q | VOLUME | | 626279.8 | 4274068.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00R | VOLUME | | 626343.5 | 4274068.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00S | VOLUME | | 626407.1 | 4274068.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00T | VOLUME | | 626470.7 | 4274068.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00U | VOLUME | | 626534.3 | 4274068.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00V | VOLUME | | 626597.9 | 4274068.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00W | VOLUME | | 626661.5 | 4274068.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00X | VOLUME | | 626725.1 | 4274068.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T00Y | VOLUME | | 626788.8 | 4274068.6 | 0 | 0.00000598612424 | (g/s) | 5 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T00Z | VOLUME | | 626152.6 | 4274132.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T010 | VOLUME | | 626216.2 | 4274132.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T011 | VOLUME | | 626279.8 | 4274132.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T012 | VOLUME | | 626343.5 | 4274132.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T013 | VOLUME | | 626407.1 | 4274132.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T014 | VOLUME | | 626470.7 | 4274132.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T015 | VOLUME | | 626534.3 | 4274132.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T016 | VOLUME | | 626597.9 | 4274132.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T017 | VOLUME | | 626661.5 | 4274132.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T018 | VOLUME | | 626725.1 | 4274132.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T019 | VOLUME | | 626788.8 | 4274132.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01A | VOLUME | | 626025.4 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01B | VOLUME | | 626089.0 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01C | VOLUME | | 626152.6 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01D | VOLUME | | 626216.2 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01E | VOLUME | | 626279.8 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01F | VOLUME | | 626343.5 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01G | VOLUME | | 626407.1 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01H | VOLUME | | 626470.7 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01I | VOLUME | | 626534.3 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01J | VOLUME | | 626597.9 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01K | VOLUME | | 626661.5 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01L | VOLUME | | 626725.1 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01M | VOLUME | | 626788.8 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01N | VOLUME | | 626852.4 | 4274195.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01O | VOLUME | | 626025.4 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01P | VOLUME | | 626089.0 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01Q | VOLUME | | 626152.6 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01R | VOLUME | | 626216.2 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01S | VOLUME | | 626279.8 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01T | VOLUME | | 626343.5 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01U | VOLUME | | 626407.1 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01V | VOLUME | | 626470.7 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01W | VOLUME | | 626534.3 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01X | VOLUME | | 626597.9 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01Y | VOLUME | | 626661.5 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T01Z | VOLUME | | 626725.1 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T020 | VOLUME | | 626788.8 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T021 | VOLUME | | 626852.4 | 4274259.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T022 | VOLUME | | 626025.4 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T023 | VOLUME | | 626089.0 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T024 | VOLUME | | 626152.6 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T025 | VOLUME | | 626216.2 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T026 | VOLUME | | 626279.8 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T027 | VOLUME | | 626343.5 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T028 | VOLUME | | 626407.1 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T029 | VOLUME | | 626470.7 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02A | VOLUME | | 626534.3 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02B | VOLUME | | 626597.9 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02C | VOLUME | | 626661.5 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02D | VOLUME | | 626725.1 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02E | VOLUME | | 626788.8 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02F | VOLUME | | 626852.4 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02G | VOLUME | | 626916.0 | 4274323.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02H | VOLUME | | 625961.8 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02I | VOLUME | | 626025.4 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02J | VOLUME | | 626089.0 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02K | VOLUME | | 626152.6 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02L | VOLUME | | 626216.2 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02M | VOLUME | | 626279.8 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02N | VOLUME | | 626343.5 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02O | VOLUME | | 626407.1 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02P | VOLUME | | 626470.7 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02Q | VOLUME | | 626534.3 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02R | VOLUME | | 626597.9 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02S | VOLUME | | 626661.5 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02T | VOLUME | | 626725.1 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02U | VOLUME | | 626788.8 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02V | VOLUME | | 626852.4 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02W | VOLUME | | 626916.0 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02X | VOLUME | | 626979.6 | 4274386.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02Y | VOLUME | | 625961.8 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T02Z | VOLUME | | 626025.4 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T030 | VOLUME | | 626089.0 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T031 | VOLUME | | 626152.6 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T032 | VOLUME | | 626216.2 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T033 | VOLUME | | 626279.8 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T034 | VOLUME | | 626343.5 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T035 | VOLUME | | 626407.1 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T036 | VOLUME | | 626470.7 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T037 | VOLUME | | 626534.3 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T038 | VOLUME | | 626597.9 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T039 | VOLUME | | 626661.5 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03A | VOLUME | | 626725.1 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03B | VOLUME | | 626788.8 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03C | VOLUME | | 626852.4 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03D | VOLUME | | 626916.0 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03E | VOLUME | | 626979.6 | 4274450.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03F | VOLUME | | 625898.1 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03G | VOLUME | | 625961.8 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03H | VOLUME | | 626025.4 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T03I | VOLUME | | 626089.0 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03J | VOLUME | | 626152.6 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03K | VOLUME | | 626216.2 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03L | VOLUME | | 626279.8 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03M | VOLUME | | 626343.5 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03N | VOLUME | | 626407.1 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03O | VOLUME | | 626470.7 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03P | VOLUME | | 626534.3 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03Q | VOLUME | | 626597.9 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03R | VOLUME | | 626661.5 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03S | VOLUME | | 626725.1 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03T | VOLUME | | 626788.8 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03U | VOLUME | | 626852.4 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03V | VOLUME | | 626916.0 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03W | VOLUME | | 626979.6 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03X | VOLUME | | 627043.2 | 4274513.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03Y | VOLUME | | 625898.1 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T03Z | VOLUME | | 625961.8 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T040 | VOLUME | | 626025.4 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T041 | VOLUME | | 626089.0 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T042 | VOLUME | | 626152.6 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T043 | VOLUME | | 626216.2 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T044 | VOLUME | | 626279.8 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T045 | VOLUME | | 626343.5 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T046 | VOLUME | | 626407.1 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T047 | VOLUME | | 626470.7 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T048 | VOLUME | | 626534.3 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T049 | VOLUME | | 626597.9 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04A | VOLUME | | 626661.5 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04B | VOLUME | | 626725.1 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04C | VOLUME | | 626788.8 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04D | VOLUME | | 626852.4 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04E | VOLUME | | 626916.0 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04F | VOLUME | | 626979.6 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04G | VOLUME | | 627043.2 | 4274577.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04H | VOLUME | | 625834.5 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04I | VOLUME | | 625898.1 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04J | VOLUME | | 625961.8 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04K | VOLUME | | 626025.4 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04L | VOLUME | | 626089.0 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04M | VOLUME | | 626152.6 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04N | VOLUME | | 626216.2 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04O | VOLUME | | 626279.8 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04P | VOLUME | | 626343.5 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04Q | VOLUME | | 626407.1 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04R | VOLUME | | 626470.7 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T04S | VOLUME | | 626534.3 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04T | VOLUME | | 626597.9 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04U | VOLUME | | 626661.5 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04V | VOLUME | | 626725.1 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04W | VOLUME | | 626788.8 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04X | VOLUME | | 626852.4 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04Y | VOLUME | | 626916.0 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T04Z | VOLUME | | 626979.6 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T050 | VOLUME | | 627043.2 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T051 | VOLUME | | 627106.8 | 4274641.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T052 | VOLUME | | 625834.5 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T053 | VOLUME | | 625898.1 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T054 | VOLUME | | 625961.8 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T055 | VOLUME | | 626025.4 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T056 | VOLUME | | 626089.0 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T057 | VOLUME | | 626152.6 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T058 | VOLUME | | 626216.2 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T059 | VOLUME | | 626279.8 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05A | VOLUME | | 626343.5 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05B | VOLUME | | 626407.1 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05C | VOLUME | | 626470.7 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05D | VOLUME | | 626534.3 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05E | VOLUME | | 626597.9 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05F | VOLUME | | 626661.5 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05G | VOLUME | | 626725.1 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05H | VOLUME | | 626788.8 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05I | VOLUME | | 626852.4 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05J | VOLUME | | 626916.0 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05K | VOLUME | | 626979.6 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05L | VOLUME | | 627043.2 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05M | VOLUME | | 627106.8 | 4274704.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05N | VOLUME | | 625834.5 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05O | VOLUME | | 625898.1 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05P | VOLUME | | 625961.8 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05Q | VOLUME | | 626025.4 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05R | VOLUME | | 626089.0 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05S | VOLUME | | 626152.6 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05T | VOLUME | | 626216.2 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05U | VOLUME | | 626279.8 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05V | VOLUME | | 626343.5 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05W | VOLUME | | 626407.1 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05X | VOLUME | | 626470.7 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05Y | VOLUME | | 626534.3 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T05Z | VOLUME | | 626597.9 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T060 | VOLUME | | 626661.5 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |

Tier 4 Mitigation - On-site Receptor

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T061 | VOLUME | | 626725.1 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T062 | VOLUME | | 626788.8 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T063 | VOLUME | | 626852.4 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T064 | VOLUME | | 626916.0 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T065 | VOLUME | | 626979.6 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T066 | VOLUME | | 627043.2 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T067 | VOLUME | | 627106.8 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T068 | VOLUME | | 627170.4 | 4274768.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T069 | VOLUME | | 625770.9 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06A | VOLUME | | 625834.5 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06B | VOLUME | | 625898.1 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06C | VOLUME | | 625961.8 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06D | VOLUME | | 626025.4 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06E | VOLUME | | 626089.0 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06F | VOLUME | | 626152.6 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06G | VOLUME | | 626216.2 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06H | VOLUME | | 626279.8 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06I | VOLUME | | 626343.5 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06J | VOLUME | | 626407.1 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06K | VOLUME | | 626470.7 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06L | VOLUME | | 626534.3 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06M | VOLUME | | 626597.9 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06N | VOLUME | | 626661.5 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06O | VOLUME | | 626725.1 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06P | VOLUME | | 626788.8 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06Q | VOLUME | | 626852.4 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06R | VOLUME | | 626916.0 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06S | VOLUME | | 626979.6 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06T | VOLUME | | 627043.2 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06U | VOLUME | | 627106.8 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06V | VOLUME | | 627170.4 | 4274832.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06W | VOLUME | | 625770.9 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06X | VOLUME | | 625834.5 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06Y | VOLUME | | 625898.1 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T06Z | VOLUME | | 625961.8 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T070 | VOLUME | | 626025.4 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T071 | VOLUME | | 626089.0 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T072 | VOLUME | | 626152.6 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T073 | VOLUME | | 626216.2 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T074 | VOLUME | | 626279.8 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T075 | VOLUME | | 626343.5 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T076 | VOLUME | | 626407.1 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T077 | VOLUME | | 626470.7 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T078 | VOLUME | | 626534.3 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T079 | VOLUME | | 626597.9 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07A | VOLUME | | 626661.5 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |

Tier 4 Mitigation - On-site Receptor

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T07B | VOLUME | | 626725.1 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07C | VOLUME | | 626788.8 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07D | VOLUME | | 626852.4 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07E | VOLUME | | 626916.0 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07F | VOLUME | | 626979.6 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07G | VOLUME | | 627043.2 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07H | VOLUME | | 627106.8 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07I | VOLUME | | 627170.4 | 4274895.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07J | VOLUME | | 625770.9 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07K | VOLUME | | 625834.5 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07L | VOLUME | | 625898.1 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07M | VOLUME | | 625961.8 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07N | VOLUME | | 626025.4 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07O | VOLUME | | 626089.0 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07P | VOLUME | | 626152.6 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07Q | VOLUME | | 626216.2 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07R | VOLUME | | 626279.8 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07S | VOLUME | | 626343.5 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07T | VOLUME | | 626407.1 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07U | VOLUME | | 626470.7 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07V | VOLUME | | 626534.3 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07W | VOLUME | | 626597.9 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07X | VOLUME | | 626661.5 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07Y | VOLUME | | 626725.1 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T07Z | VOLUME | | 626788.8 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T080 | VOLUME | | 626852.4 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T081 | VOLUME | | 626916.0 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T082 | VOLUME | | 626979.6 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T083 | VOLUME | | 627043.2 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T084 | VOLUME | | 627106.8 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T085 | VOLUME | | 627170.4 | 4274959.2 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T086 | VOLUME | | 625770.9 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T087 | VOLUME | | 625834.5 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T088 | VOLUME | | 625898.1 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T089 | VOLUME | | 625961.8 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08A | VOLUME | | 626025.4 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08B | VOLUME | | 626089.0 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08C | VOLUME | | 626152.6 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08D | VOLUME | | 626216.2 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08E | VOLUME | | 626279.8 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08F | VOLUME | | 626343.5 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08G | VOLUME | | 626407.1 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08H | VOLUME | | 626470.7 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08I | VOLUME | | 626534.3 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08J | VOLUME | | 626597.9 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T08K | VOLUME | | 626661.5 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08L | VOLUME | | 626725.1 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08M | VOLUME | | 626788.8 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08N | VOLUME | | 626852.4 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08O | VOLUME | | 626916.0 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08P | VOLUME | | 626979.6 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08Q | VOLUME | | 627043.2 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08R | VOLUME | | 627106.8 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08S | VOLUME | | 627170.4 | 4275022.8 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08T | VOLUME | | 625770.9 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08U | VOLUME | | 625834.5 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08V | VOLUME | | 625898.1 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08W | VOLUME | | 625961.8 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08X | VOLUME | | 626025.4 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08Y | VOLUME | | 626089.0 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T08Z | VOLUME | | 626152.6 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T090 | VOLUME | | 626216.2 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T091 | VOLUME | | 626279.8 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T092 | VOLUME | | 626343.5 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T093 | VOLUME | | 626407.1 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T094 | VOLUME | | 626470.7 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T095 | VOLUME | | 626534.3 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T096 | VOLUME | | 626597.9 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T097 | VOLUME | | 626661.5 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T098 | VOLUME | | 626725.1 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T099 | VOLUME | | 626788.8 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09A | VOLUME | | 626852.4 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09B | VOLUME | | 626916.0 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09C | VOLUME | | 626979.6 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09D | VOLUME | | 627043.2 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09E | VOLUME | | 627106.8 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09F | VOLUME | | 627170.4 | 4275086.4 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09G | VOLUME | | 625770.9 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09H | VOLUME | | 625834.5 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09I | VOLUME | | 625898.1 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09J | VOLUME | | 625961.8 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09K | VOLUME | | 626025.4 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09L | VOLUME | | 626089.0 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09M | VOLUME | | 626152.6 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09N | VOLUME | | 626216.2 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09O | VOLUME | | 626279.8 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09P | VOLUME | | 626343.5 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09Q | VOLUME | | 626407.1 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09R | VOLUME | | 626470.7 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09S | VOLUME | | 626534.3 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09T | VOLUME | | 626597.9 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |

Tier 4 Mitigation - On-site Receptor

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T09U | VOLUME | | 626661.5 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09V | VOLUME | | 626725.1 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09W | VOLUME | | 626788.8 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09X | VOLUME | | 626852.4 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09Y | VOLUME | | 626916.0 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T09Z | VOLUME | | 626979.6 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0A0 | VOLUME | | 627043.2 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0A1 | VOLUME | | 627106.8 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0A2 | VOLUME | | 627170.4 | 4275150.0 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0A3 | VOLUME | | 625770.9 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0A4 | VOLUME | | 625834.5 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0A5 | VOLUME | | 625898.1 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0A6 | VOLUME | | 625961.8 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0A7 | VOLUME | | 626025.4 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0A8 | VOLUME | | 626089.0 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0A9 | VOLUME | | 626152.6 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AA | VOLUME | | 626216.2 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AB | VOLUME | | 626279.8 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AC | VOLUME | | 626343.5 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AD | VOLUME | | 626407.1 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AE | VOLUME | | 626470.7 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AF | VOLUME | | 626534.3 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AG | VOLUME | | 626597.9 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AH | VOLUME | | 626661.5 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AI | VOLUME | | 626725.1 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AJ | VOLUME | | 626788.8 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AK | VOLUME | | 626852.4 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AL | VOLUME | | 626916.0 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AM | VOLUME | | 626979.6 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AN | VOLUME | | 627043.2 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AO | VOLUME | | 627106.8 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AP | VOLUME | | 627170.4 | 4275213.6 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AQ | VOLUME | | 626025.4 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AR | VOLUME | | 626089.0 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AS | VOLUME | | 626152.6 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AT | VOLUME | | 626216.2 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AU | VOLUME | | 626279.8 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AV | VOLUME | | 626343.5 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AW | VOLUME | | 626407.1 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AX | VOLUME | | 626470.7 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AY | VOLUME | | 626534.3 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0AZ | VOLUME | | 626597.9 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0B0 | VOLUME | | 626661.5 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0B1 | VOLUME | | 626725.1 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0B2 | VOLUME | | 626788.8 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |

Tier 4 Mitigation - On-site Receptor

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T0B3 | VOLUME | | 626852.4 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0B4 | VOLUME | | 626916.0 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0B5 | VOLUME | | 626979.6 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0B6 | VOLUME | | 627043.2 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0B7 | VOLUME | | 627106.8 | 4275277.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0B8 | VOLUME | | 626089.0 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0B9 | VOLUME | | 626152.6 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BA | VOLUME | | 626216.2 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BB | VOLUME | | 626279.8 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BC | VOLUME | | 626343.5 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BD | VOLUME | | 626407.1 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BE | VOLUME | | 626470.7 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BF | VOLUME | | 626534.3 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BG | VOLUME | | 626597.9 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BH | VOLUME | | 626661.5 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BI | VOLUME | | 626725.1 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BJ | VOLUME | | 626788.8 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BK | VOLUME | | 626852.4 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BL | VOLUME | | 626916.0 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BM | VOLUME | | 626979.6 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BN | VOLUME | | 627043.2 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BO | VOLUME | | 627106.8 | 4275340.9 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BP | VOLUME | | 626089.0 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BQ | VOLUME | | 626152.6 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BR | VOLUME | | 626216.2 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BS | VOLUME | | 626279.8 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BT | VOLUME | | 626343.5 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BU | VOLUME | | 626407.1 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BV | VOLUME | | 626470.7 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BW | VOLUME | | 626534.3 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BX | VOLUME | | 626597.9 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BY | VOLUME | | 626661.5 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0BZ | VOLUME | | 626725.1 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0C0 | VOLUME | | 626788.8 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0C1 | VOLUME | | 626852.4 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0C2 | VOLUME | | 626916.0 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0C3 | VOLUME | | 626979.6 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0C4 | VOLUME | | 627043.2 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0C5 | VOLUME | | 627106.8 | 4275404.5 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0C6 | VOLUME | | 626089.0 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0C7 | VOLUME | | 626152.6 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0C8 | VOLUME | | 626216.2 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0C9 | VOLUME | | 626279.8 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CA | VOLUME | | 626343.5 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CB | VOLUME | | 626407.1 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CC | VOLUME | | 626470.7 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T0CD | VOLUME | | 626534.3 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CE | VOLUME | | 626597.9 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CF | VOLUME | | 626661.5 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CG | VOLUME | | 626725.1 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CH | VOLUME | | 626788.8 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CI | VOLUME | | 626852.4 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CJ | VOLUME | | 626916.0 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CK | VOLUME | | 626979.6 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CL | VOLUME | | 627043.2 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CM | VOLUME | | 627106.8 | 4275468.1 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CN | VOLUME | | 626152.6 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CO | VOLUME | | 626216.2 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CP | VOLUME | | 626279.8 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CQ | VOLUME | | 626343.5 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CR | VOLUME | | 626407.1 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CS | VOLUME | | 626470.7 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CT | VOLUME | | 626534.3 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CU | VOLUME | | 626597.9 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CV | VOLUME | | 626661.5 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CW | VOLUME | | 626725.1 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CX | VOLUME | | 626788.8 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CY | VOLUME | | 626852.4 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0CZ | VOLUME | | 626916.0 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0D0 | VOLUME | | 626979.6 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0D1 | VOLUME | | 627043.2 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0D2 | VOLUME | | 627106.8 | 4275531.7 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0D3 | VOLUME | | 626152.6 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0D4 | VOLUME | | 626216.2 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0D5 | VOLUME | | 626279.8 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0D6 | VOLUME | | 626343.5 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0D7 | VOLUME | | 626407.1 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0D8 | VOLUME | | 626470.7 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0D9 | VOLUME | | 626534.3 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0DA | VOLUME | | 626597.9 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0DB | VOLUME | | 626661.5 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0DC | VOLUME | | 626725.1 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0DD | VOLUME | | 626788.8 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0DE | VOLUME | | 626852.4 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0DF | VOLUME | | 626916.0 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0DG | VOLUME | | 626979.6 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0DH | VOLUME | | 627043.2 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |
| 7NL8T0DI | VOLUME | | 627106.8 | 4275595.3 | 0 | 0.00000598612424 | (g/s) | 5 |

## Volume Sources

| | | | | | | | |
|---|---|---|---|---|---|---|---|

Tier 4 Mitigation - On-site Receptor

| Source ID / Pollutant ID | Description | UTM | | Elev. | Emiss. Rate | Release Height | Init. Lat. Dim. | Init. Vert. Dim. |
|---|---|---|---|---|---|---|---|---|
| | | East (m) | North (m) | (m) | (g/s) | (m) | (m) | (m) |
| 7NL8T001 | | 626470.7 | 4273814.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T002 | | 626534.3 | 4273814.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T003 | | 626597.9 | 4273814.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T004 | | 626661.5 | 4273814.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T005 | | 626407.1 | 4273877.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T006 | | 626470.7 | 4273877.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T007 | | 626534.3 | 4273877.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T008 | | 626597.9 | 4273877.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T009 | | 626661.5 | 4273877.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00A | | 626343.5 | 4273941.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00B | | 626407.1 | 4273941.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00C | | 626470.7 | 4273941.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00D | | 626534.3 | 4273941.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00E | | 626597.9 | 4273941.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00F | | 626661.5 | 4273941.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00G | | 626725.1 | 4273941.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00H | | 626279.8 | 4274005.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00I | | 626343.5 | 4274005.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00J | | 626407.1 | 4274005.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00K | | 626470.7 | 4274005.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00L | | 626534.3 | 4274005.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00M | | 626597.9 | 4274005.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00N | | 626661.5 | 4274005.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00O | | 626725.1 | 4274005.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00P | | 626216.2 | 4274068.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00Q | | 626279.8 | 4274068.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00R | | 626343.5 | 4274068.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00S | | 626407.1 | 4274068.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00T | | 626470.7 | 4274068.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00U | | 626534.3 | 4274068.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00V | | 626597.9 | 4274068.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00W | | 626661.5 | 4274068.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00X | | 626725.1 | 4274068.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00Y | | 626788.8 | 4274068.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T00Z | | 626152.6 | 4274132.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T010 | | 626216.2 | 4274132.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T011 | | 626279.8 | 4274132.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T012 | | 626343.5 | 4274132.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T013 | | 626407.1 | 4274132.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T014 | | 626470.7 | 4274132.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T015 | | 626534.3 | 4274132.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T016 | | 626597.9 | 4274132.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T017 | | 626661.5 | 4274132.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |

Tier 4 Mitigation - On-site Receptor

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T018 | | 626725.1 | 4274132.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T019 | | 626788.8 | 4274132.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01A | | 626025.4 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01B | | 626089.0 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01C | | 626152.6 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01D | | 626216.2 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01E | | 626279.8 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01F | | 626343.5 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01G | | 626407.1 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01H | | 626470.7 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01I | | 626534.3 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01J | | 626597.9 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01K | | 626661.5 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01L | | 626725.1 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01M | | 626788.8 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01N | | 626852.4 | 4274195.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01O | | 626025.4 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01P | | 626089.0 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01Q | | 626152.6 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01R | | 626216.2 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01S | | 626279.8 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01T | | 626343.5 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01U | | 626407.1 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01V | | 626470.7 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01W | | 626534.3 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01X | | 626597.9 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01Y | | 626661.5 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T01Z | | 626725.1 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T020 | | 626788.8 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T021 | | 626852.4 | 4274259.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T022 | | 626025.4 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T023 | | 626089.0 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T024 | | 626152.6 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T025 | | 626216.2 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T026 | | 626279.8 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T027 | | 626343.5 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T028 | | 626407.1 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T029 | | 626470.7 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02A | | 626534.3 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02B | | 626597.9 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02C | | 626661.5 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02D | | 626725.1 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02E | | 626788.8 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02F | | 626852.4 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02G | | 626916.0 | 4274323.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| | | | | | | | | |

Tier 4 Mitigation - On-site Receptor

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T02H | | 625961.8 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02I | | 626025.4 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02J | | 626089.0 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02K | | 626152.6 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02L | | 626216.2 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02M | | 626279.8 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02N | | 626343.5 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02O | | 626407.1 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02P | | 626470.7 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02Q | | 626534.3 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02R | | 626597.9 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02S | | 626661.5 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02T | | 626725.1 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02U | | 626788.8 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02V | | 626852.4 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02W | | 626916.0 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02X | | 626979.6 | 4274386.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02Y | | 625961.8 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T02Z | | 626025.4 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T030 | | 626089.0 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T031 | | 626152.6 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T032 | | 626216.2 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T033 | | 626279.8 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T034 | | 626343.5 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T035 | | 626407.1 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T036 | | 626470.7 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T037 | | 626534.3 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T038 | | 626597.9 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T039 | | 626661.5 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03A | | 626725.1 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03B | | 626788.8 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03C | | 626852.4 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03D | | 626916.0 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03E | | 626979.6 | 4274450.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03F | | 625898.1 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03G | | 625961.8 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03H | | 626025.4 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03I | | 626089.0 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03J | | 626152.6 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03K | | 626216.2 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03L | | 626279.8 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03M | | 626343.5 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03N | | 626407.1 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03O | | 626470.7 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03P | | 626534.3 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03Q | | 626597.9 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |

Tier 4 Mitigation - On-site Receptor

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T03R | | 626661.5 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03S | | 626725.1 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03T | | 626788.8 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03U | | 626852.4 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03V | | 626916.0 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03W | | 626979.6 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03X | | 627043.2 | 4274513.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03Y | | 625898.1 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T03Z | | 625961.8 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T040 | | 626025.4 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T041 | | 626089.0 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T042 | | 626152.6 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T043 | | 626216.2 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T044 | | 626279.8 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T045 | | 626343.5 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T046 | | 626407.1 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T047 | | 626470.7 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T048 | | 626534.3 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T049 | | 626597.9 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04A | | 626661.5 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04B | | 626725.1 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04C | | 626788.8 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04D | | 626852.4 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04E | | 626916.0 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04F | | 626979.6 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04G | | 627043.2 | 4274577.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04H | | 625834.5 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04I | | 625898.1 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04J | | 625961.8 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04K | | 626025.4 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04L | | 626089.0 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04M | | 626152.6 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04N | | 626216.2 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04O | | 626279.8 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04P | | 626343.5 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04Q | | 626407.1 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04R | | 626470.7 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04S | | 626534.3 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04T | | 626597.9 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04U | | 626661.5 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04V | | 626725.1 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04W | | 626788.8 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04X | | 626852.4 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04Y | | 626916.0 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T04Z | | 626979.6 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |

Tier 4 Mitigation - On-site Receptor

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|---|---|---|---|---|---|---|---|---|
| 7NL8T050 | | 627043.2 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T051 | | 627106.8 | 4274641.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T052 | | 625834.5 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T053 | | 625898.1 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T054 | | 625961.8 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T055 | | 626025.4 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T056 | | 626089.0 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T057 | | 626152.6 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T058 | | 626216.2 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T059 | | 626279.8 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05A | | 626343.5 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05B | | 626407.1 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05C | | 626470.7 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05D | | 626534.3 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05E | | 626597.9 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05F | | 626661.5 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05G | | 626725.1 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05H | | 626788.8 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05I | | 626852.4 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05J | | 626916.0 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05K | | 626979.6 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05L | | 627043.2 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05M | | 627106.8 | 4274704.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05N | | 625834.5 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05O | | 625898.1 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05P | | 625961.8 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05Q | | 626025.4 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05R | | 626089.0 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05S | | 626152.6 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05T | | 626216.2 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05U | | 626279.8 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05V | | 626343.5 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05W | | 626407.1 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05X | | 626470.7 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05Y | | 626534.3 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T05Z | | 626597.9 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T060 | | 626661.5 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T061 | | 626725.1 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T062 | | 626788.8 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T063 | | 626852.4 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T064 | | 626916.0 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T065 | | 626979.6 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T066 | | 627043.2 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T067 | | 627106.8 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T068 | | 627170.4 | 4274768.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T069 | | 625770.9 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |

Tier 4 Mitigation - On-site Receptor

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|---|---|---|---|---|---|---|---|---|
| 7NL8T06A | | 625834.5 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06B | | 625898.1 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06C | | 625961.8 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06D | | 626025.4 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06E | | 626089.0 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06F | | 626152.6 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06G | | 626216.2 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06H | | 626279.8 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06I | | 626343.5 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06J | | 626407.1 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06K | | 626470.7 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06L | | 626534.3 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06M | | 626597.9 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06N | | 626661.5 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06O | | 626725.1 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06P | | 626788.8 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06Q | | 626852.4 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06R | | 626916.0 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06S | | 626979.6 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06T | | 627043.2 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06U | | 627106.8 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06V | | 627170.4 | 4274832.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06W | | 625770.9 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06X | | 625834.5 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06Y | | 625898.1 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T06Z | | 625961.8 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T070 | | 626025.4 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T071 | | 626089.0 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T072 | | 626152.6 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T073 | | 626216.2 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T074 | | 626279.8 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T075 | | 626343.5 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T076 | | 626407.1 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T077 | | 626470.7 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T078 | | 626534.3 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T079 | | 626597.9 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07A | | 626661.5 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07B | | 626725.1 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07C | | 626788.8 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07D | | 626852.4 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07E | | 626916.0 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07F | | 626979.6 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07G | | 627043.2 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07H | | 627106.8 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07I | | 627170.4 | 4274895.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |

Tier 4 Mitigation - On-site Receptor

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T07J | | 625770.9 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07K | | 625834.5 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07L | | 625898.1 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07M | | 625961.8 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07N | | 626025.4 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07O | | 626089.0 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07P | | 626152.6 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07Q | | 626216.2 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07R | | 626279.8 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07S | | 626343.5 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07T | | 626407.1 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07U | | 626470.7 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07V | | 626534.3 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07W | | 626597.9 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07X | | 626661.5 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07Y | | 626725.1 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T07Z | | 626788.8 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T080 | | 626852.4 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T081 | | 626916.0 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T082 | | 626979.6 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T083 | | 627043.2 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T084 | | 627106.8 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T085 | | 627170.4 | 4274959.2 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T086 | | 625770.9 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T087 | | 625834.5 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T088 | | 625898.1 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T089 | | 625961.8 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08A | | 626025.4 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08B | | 626089.0 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08C | | 626152.6 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08D | | 626216.2 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08E | | 626279.8 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08F | | 626343.5 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08G | | 626407.1 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08H | | 626470.7 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08I | | 626534.3 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08J | | 626597.9 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08K | | 626661.5 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08L | | 626725.1 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08M | | 626788.8 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08N | | 626852.4 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08O | | 626916.0 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08P | | 626979.6 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08Q | | 627043.2 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08R | | 627106.8 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08S | | 627170.4 | 4275022.8 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |

Tier 4 Mitigation - On-site Receptor

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T08T | | 625770.9 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08U | | 625834.5 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08V | | 625898.1 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08W | | 625961.8 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08X | | 626025.4 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08Y | | 626089.0 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T08Z | | 626152.6 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T090 | | 626216.2 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T091 | | 626279.8 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T092 | | 626343.5 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T093 | | 626407.1 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T094 | | 626470.7 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T095 | | 626534.3 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T096 | | 626597.9 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T097 | | 626661.5 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T098 | | 626725.1 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T099 | | 626788.8 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09A | | 626852.4 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09B | | 626916.0 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09C | | 626979.6 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09D | | 627043.2 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09E | | 627106.8 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09F | | 627170.4 | 4275086.4 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09G | | 625770.9 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09H | | 625834.5 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09I | | 625898.1 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09J | | 625961.8 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09K | | 626025.4 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09L | | 626089.0 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09M | | 626152.6 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09N | | 626216.2 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09O | | 626279.8 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09P | | 626343.5 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09Q | | 626407.1 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09R | | 626470.7 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09S | | 626534.3 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09T | | 626597.9 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09U | | 626661.5 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09V | | 626725.1 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09W | | 626788.8 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09X | | 626852.4 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09Y | | 626916.0 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T09Z | | 626979.6 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0A0 | | 627043.2 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0A1 | | 627106.8 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |

Tier 4 Mitigation - On-site Receptor

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T0A2 | | 627170.4 | 4275150.0 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0A3 | | 625770.9 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0A4 | | 625834.5 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0A5 | | 625898.1 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0A6 | | 625961.8 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0A7 | | 626025.4 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0A8 | | 626089.0 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0A9 | | 626152.6 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AA | | 626216.2 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AB | | 626279.8 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AC | | 626343.5 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AD | | 626407.1 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AE | | 626470.7 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AF | | 626534.3 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AG | | 626597.9 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AH | | 626661.5 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AI | | 626725.1 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AJ | | 626788.8 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AK | | 626852.4 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AL | | 626916.0 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AM | | 626979.6 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AN | | 627043.2 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AO | | 627106.8 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AP | | 627170.4 | 4275213.6 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AQ | | 626025.4 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AR | | 626089.0 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AS | | 626152.6 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AT | | 626216.2 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AU | | 626279.8 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AV | | 626343.5 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AW | | 626407.1 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AX | | 626470.7 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AY | | 626534.3 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0AZ | | 626597.9 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0B0 | | 626661.5 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0B1 | | 626725.1 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0B2 | | 626788.8 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0B3 | | 626852.4 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0B4 | | 626916.0 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0B5 | | 626979.6 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0B6 | | 627043.2 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0B7 | | 627106.8 | 4275277.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0B8 | | 626089.0 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0B9 | | 626152.6 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BA | | 626216.2 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BB | | 626279.8 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |

Tier 4 Mitigation - On-site Receptor

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T0BC | | 626343.5 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BD | | 626407.1 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BE | | 626470.7 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BF | | 626534.3 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BG | | 626597.9 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BH | | 626661.5 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BI | | 626725.1 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BJ | | 626788.8 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BK | | 626852.4 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BL | | 626916.0 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BM | | 626979.6 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BN | | 627043.2 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BO | | 627106.8 | 4275340.9 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BP | | 626089.0 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BQ | | 626152.6 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BR | | 626216.2 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BS | | 626279.8 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BT | | 626343.5 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BU | | 626407.1 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BV | | 626470.7 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BW | | 626534.3 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BX | | 626597.9 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BY | | 626661.5 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0BZ | | 626725.1 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0C0 | | 626788.8 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0C1 | | 626852.4 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0C2 | | 626916.0 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0C3 | | 626979.6 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0C4 | | 627043.2 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0C5 | | 627106.8 | 4275404.5 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0C6 | | 626089.0 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0C7 | | 626152.6 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0C8 | | 626216.2 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0C9 | | 626279.8 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CA | | 626343.5 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CB | | 626407.1 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CC | | 626470.7 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CD | | 626534.3 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CE | | 626597.9 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CF | | 626661.5 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CG | | 626725.1 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CH | | 626788.8 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CI | | 626852.4 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CJ | | 626916.0 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CK | | 626979.6 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |

Tier 4 Mitigation - On-site Receptor

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7NL8T0CL | | 627043.2 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CM | | 627106.8 | 4275468.1 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CN | | 626152.6 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CO | | 626216.2 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CP | | 626279.8 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CQ | | 626343.5 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CR | | 626407.1 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CS | | 626470.7 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CT | | 626534.3 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CU | | 626597.9 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CV | | 626661.5 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CW | | 626725.1 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CX | | 626788.8 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CY | | 626852.4 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0CZ | | 626916.0 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0D0 | | 626979.6 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0D1 | | 627043.2 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0D2 | | 627106.8 | 4275531.7 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0D3 | | 626152.6 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0D4 | | 626216.2 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0D5 | | 626279.8 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0D6 | | 626343.5 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0D7 | | 626407.1 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0D8 | | 626470.7 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0D9 | | 626534.3 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0DA | | 626597.9 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0DB | | 626661.5 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0DC | | 626725.1 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0DD | | 626788.8 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0DE | | 626852.4 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0DF | | 626916.0 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0DG | | 626979.6 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0DH | | 627043.2 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |
| 7NL8T0DI | | 627106.8 | 4275595.3 | 0 | 0.00000598612424 | 5 | 29.59 | 1 |

Tier 4 Mitigation - On-site Receptor

# BREEZE AERMOD Model Results

## Max. Annual ( 4 YEARS) Results of Pollutant: PM25 (ug/m**3)

| Group ID | High | Avg. Conc. | UTM | | Elev. | Hill Ht. | Flag Ht. | Rec. Type | Grid ID |
|---|---|---|---|---|---|---|---|---|---|
| | | | East (m) | North (m) | (m) | (m) | (m) | | |
| ALL | 1ST | 0.00480 | 626496.90 | 4274799.00 | 0.00 | 0.00 | 1.80 | DC | |
| | 2ND | 0.00479 | 626496.90 | 4274804.00 | 0.00 | 0.00 | 1.80 | DC | |
| | 3RD | 0.00479 | 626501.90 | 4274799.00 | 0.00 | 0.00 | 1.80 | DC | |
| | 4TH | 0.00478 | 626506.90 | 4274799.00 | 0.00 | 0.00 | 1.80 | DC | |
| | 5TH | 0.00478 | 626501.90 | 4274804.00 | 0.00 | 0.00 | 1.80 | DC | |
| | 6TH | 0.00478 | 626506.90 | 4274804.00 | 0.00 | 0.00 | 1.80 | DC | |
| | 7TH | 0.00000 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | 8TH | 0.00000 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | 9TH | 0.00000 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| | 10TH | 0.00000 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |

## Highest Results of Pollutant: PM25

| Avg. Per. | Grp ID | High | Type | Val | Units | Date | UTM | | Elev. | Hill Ht. | Flag Ht. | Rec. Type | Grid ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | YYMMDDHH | East (m) | North (m) | (m) | (m) | (m) | | |
| 1-HR | ALL | 1ST | Avg. Conc. | 0.18655 | ug/m**3 | 15040807 | 626496.90 | 4274804.00 | 0.00 | 0.00 | 1.80 | DC | |

## Summary of Total Messages

| # | Message Type |
|---|---|
| 0 | Fatal Error Message(s) |
| 6 | Warning Message(s) |
| 996 | Informational Message(s) |
| 43680 | Hours Were Processed |
| 452 | Calm Hours Identified |
| 544 | Missing Hours Identified ( 1.25 Percent) |

## Error & Warning Messages

| Msg. Type | Pathway | Ref. # | Description |
|---|---|---|---|
| WARNING | CO | W276 | Special proc for 1h-NO2/SO2 24hPM25 NAAQS disabled PM25 H1H |
| | | | |

Tier 4 Mitigation - On-site Receptor

| | | | |
|---|---|---|---|
| WARNING | CO | W363 | Multiyr 24h/Ann PM25 processing not applicable for PM25 H1H |
| WARNING | ME | W186 | THRESH_1MIN 1-min ASOS wind speed threshold used 0.50 |

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*HARP - HRACalc v22118 2/7/2024 2:29:45 PM - Cancer Risk - Input File: C:\Users\Jfahrney\Desktop\HARI

| INDEX | GRP1 | GRP2 | POLID | POLABBRE' | CONC | RISK_SUM | SCENARIO | DETAILS |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 9901 | DieselExhP | 0.0048 | 2.76E-06 | 8YrCancerI | * |

P\UWSP_Tier 4_On Site_HRAInput.hra

| INH_RISK | SOIL_RISK | DERMAL_RI | MMILK_RIS | WATER_RIS | FISH_RISK | CROP_RISK | BEEF_RISK | DAIRY_RISK |
|---|---|---|---|---|---|---|---|---|
| 2.76E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| PIG_RISK | CHICKEN_F | EGG_RISK | 1ST_DRIVE | 2ND_DRIVE | PASTURE_C | FISH_CONC | WATER_CONC |
|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | NA | NA | 0.00E+00 | 0.00E+00 | 0.00E+00 |

*HARP - HRACalc v22118 2/7/2024 2:29:45 PM - Chronic Risk - Input File: C:\Users\Jfahrney\Desktop\HAR

| INDEX | GRP1 | GRP2 | POLID | POLABBRE' | CONC | SCENARIO | CV | CNS |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 9901 | DieselExhP | 0.0048 | NonCancer | 0.00E+00 | 0.00E+00 |

:P\UWSP_Tier 4_On Site_HRAInput.hra

| IMMUN | KIDNEY | GILV | REPRO/DE\ | RESP | SKIN | EYE | BONE/TEET | ENDO |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.60E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| BLOOD | ODOR | GENERAL | DETAILS | INH_CONC | SOIL_DOSE | DERMAL_D | MMILK_DO | WATER_DO |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | * | 4.80E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| FISH_DOSE | CROP_DOS | BEEF_DOSE | DAIRY_DOS | PIG_DOSE | CHICKEN_D | EGG_DOSE | 1ST_DRIVEI | 2ND_DRIVE |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | INHALATIO | NA |

| 3RD_DRIVE | PASTURE_C | FISH_CON( | WATER_CONC |
|---|---|---|---|
| NA | 0.00E+00 | 0.00E+00 | 0.00E+00 |

*HARP - HRACalc v22118 2/7/2024 2:29:45 PM - Acute Risk - Input File: C:\Users\Jfahrney\Desktop\HARP\

| INDEX | GRP1 | GRP2 | POLID | POLABBRE\ | CONC | SCENARIO | CV | CNS |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 9901 | DieselExhP | 0.18655 | NonCancer | 0.00E+00 | 0.00E+00 |

\UWSP_Tier 4_On Site_HRAInput.hra

| IMMUN | KIDNEY | GILV | REPRO/DE\ | RESP | SKIN | EYE | BONE/TEET | ENDO |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| BLOOD | ODOR | GENERAL |
|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 |

| | | | |
|---|---|---|---|
| OU | DAYTABLE | Print summary opt. | |

# Source Parameter Tables

## All Sources

| Source ID / Pollutant ID | Source Type | Description | UTM | | Elev. | Emiss. Rate | Emiss. Units | Release Height |
|---|---|---|---|---|---|---|---|---|
| | | | East (m) | North (m) | (m) | | | (m) |
| 61TMY003 | POINT | 2-LOAD | 627193 | 4275178.7 | 0 | 5.659452E-05 | (g/s) | 3.66 |
| N3LK2000 | POINT | 1-LOAD | 627237.8 | 4275309.5 | 0 | 8.561735E-05 | (g/s) | 3.66 |
| N3LK2001 | POINT | 1-BREATH | 627237.8 | 4275309.5 | 0 | 2.548135E-05 | (g/s) | 3.66 |
| N3LK2002 | POINT | 2-BREATH | 627192.9 | 4275178.9 | 0 | 1.684361E-05 | (g/s) | 3.66 |
| N3LK2003 | VOLUME | 1-REFUEL | 627237.8 | 4275309.2 | 0 | 0.0007542481 | (g/s) | 1 |
| N3LK2004 | VOLUME | 1-SPILL | 627237.6 | 4275309.1 | 0 | 0.001426956 | (g/s) | 0 |
| N3LK2005 | VOLUME | 2-REFUEL | 627192.8 | 4275178.7 | 0 | 0.0004985708 | (g/s) | 1 |
| N3LK2006 | VOLUME | 2-SPILL | 627192.8 | 4275178.7 | 0 | 0.000943242 | (g/s) | 0 |

## Point Sources

| Source ID / Pollutant ID | Description | UTM | | Elev. | Emiss. Rate | Stack Height | Stack Temp | Stack Velocity | Stack Diameter |
|---|---|---|---|---|---|---|---|---|---|
| | | East (m) | North (m) | (m) | (g/s) | (m) | (K) | (m/s) | (m) |
| 61TMY003 | 2-LOAD | 627193 | 4275178.7 | 0 | 5.659452E-05 | 3.66 | 291 | 0.001382213 | 0.0508 |
| N3LK2000 | 1-LOAD | 627237.8 | 4275309.5 | 0 | 8.561735E-05 | 3.66 | 291 | 0.00209104 | 0.0508 |
| N3LK2001 | 1-BREATH | 627237.8 | 4275309.5 | 0 | 2.548135E-05 | 3.66 | 289 | 0.000622333 | 0.0508 |
| N3LK2002 | 2-BREATH | 627192.9 | 4275178.9 | 0 | 1.684361E-05 | 3.66 | 289 | 0.000411373 | 0.0508 |

## Volume Sources

| Source ID / Pollutant ID | Description | UTM | | Elev. | Emiss. Rate | Release Height | Init. Lat. Dim. | Init. Vert. Dim. |
|---|---|---|---|---|---|---|---|---|
| | | East (m) | North (m) | (m) | (g/s) | (m) | (m) | (m) |
| N3LK2003 | 1-REFUEL | 627237.8 | 4275309.2 | 0 | 0.0007542481 | 1 | 3.02 | 1.86 |
| N3LK2004 | 1-SPILL | 627237.6 | 4275309.1 | 0 | 0.001426956 | 0 | 3.02 | 1.86 |
| N3LK2005 | 2-REFUEL | 627192.8 | 4275178.7 | 0 | 0.0004985708 | 1 | 3.02 | 1.86 |
| N3LK2006 | 2-SPILL | 627192.8 | 4275178.7 | 0 | 0.000943242 | 0 | 3.02 | 1.86 |

# BREEZE AERMOD Model Results

## Max. Annual ( 4 YEARS) Results of Pollutant: OTHER (ug/m**3)

| Group ID | High | Avg. Conc. | UTM | | Elev. | Hill Ht. | Flag Ht. | Rec. Type | Grid ID |
|---|---|---|---|---|---|---|---|---|---|
| | | | East (m) | North (m) | (m) | (m) | (m) | | |
| ALL | 1ST | 0.35754 | 627139.90 | 4275225.30 | 0.00 | 0.00 | 1.80 | DC | |
| | 2ND | 0.35109 | 627139.90 | 4275245.30 | 0.00 | 0.00 | 1.80 | DC | |
| | 3RD | 0.33714 | 627139.90 | 4275205.30 | 0.00 | 0.00 | 1.80 | DC | |
| | 4TH | 0.32419 | 627139.90 | 4275265.30 | 0.00 | 0.00 | 1.80 | DC | |
| | 5TH | 0.32124 | 627139.90 | 4275185.30 | 0.00 | 0.00 | 1.80 | DC | |
| | 6TH | 0.29580 | 627139.90 | 4275285.30 | 0.00 | 0.00 | 1.80 | DC | |
| | 7TH | 0.26928 | 627139.90 | 4275165.30 | 0.00 | 0.00 | 1.80 | DC | |
| | 8TH | 0.23005 | 627119.90 | 4275245.30 | 0.00 | 0.00 | 1.80 | DC | |
| | 9TH | 0.22925 | 627119.90 | 4275265.30 | 0.00 | 0.00 | 1.80 | DC | |
| | 10TH | 0.22498 | 627139.90 | 4275145.30 | 0.00 | 0.00 | 1.80 | DC | |

## Highest Results of Pollutant: OTHER

| Avg. Per. | Grp ID | High | Type | Val | Units | Date | UTM | | Elev. | Hill Ht. | Flag Ht. | Rec. Type | Grid ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | YYMMDDHH | East (m) | North (m) | (m) | (m) | (m) | | |
| 1-HR | ALL | 1ST | Avg. Conc. | 19.89680 | ug/m**3 | 15011908 | 627139.90 | 4275165.30 | 0.00 | 0.00 | 1.80 | DC | |

## Summary of Total Messages

| # | Message Type |
|---|---|
| 0 | Fatal Error Message(s) |
| 4 | Warning Message(s) |
| 996 | Informational Message(s) |
| 43680 | Hours Were Processed |
| 452 | Calm Hours Identified |
| 544 | Missing Hours Identified ( 1.25 Percent) |

## Error & Warning Messages

| Msg. Type | Pathway | Ref. # | Description |
|---|---|---|---|
| WARNING | ME | W186 | THRESH_1MIN 1-min ASOS wind speed threshold used 0.50 |

Operational HRA

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*HARP - HRACalc v19044 7/28/2021 9:55:28 AM - Cancer Risk - Input File: C:\Users\bshea\Desktop\HARP\UWSP GDF 1 and 2_HRAInput.hra

| INDEX | GRP1 | GRP2 | POLID | POLABBREV | CONC | RISK_SUM | SCENARIO | DETAILS | INH_RISK | SOIL_RISK |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 71432 | Benzene | 0.35754 | 2.81E-05 | 30YrCancerHighEnd_Inh_FAH16to70 | * | 2.81E-05 | 0.00E+00 |

| DERMAL_RISK | MMILK_RISK | WATER_RISK | FISH_RISK | CROP_RISK | BEEF_RISK | DAIRY_RISK | PIG_RISK | CHICKEN_RISK | EGG_RISK | 1ST_DRIVER |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | NA |

| 2ND_DRIVER | PASTURE_CONC | FISH_CONC | WATER_CONC |
|---|---|---|---|
| NA | 0.00E+00 | 0.00E+00 | 0.00E+00 |

*HARP - HRACalc v19044 7/28/2021 9:55:28 AM - Chronic Risk - Input File: C:\Users\bshea\Desktop\HARP\UWSP GDF 1 and 2_HRAInput.hra

| INDEX | GRP1 | GRP2 | POLID | POLABBREV | CONC | SCENARIO | CV | CNS | IMMUN | KIDNEY | GILV |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 71432 | Benzene | 0.35754 | NonCancerChronicHighEnd_Inh | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| REPRO/DEVEL | RESP | SKIN | EYE | BONE/TEETH | ENDO | BLOOD | ODOR | GENERAL | DETAILS | INH_CONC | SOIL_DOSE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.19E-01 | 0.00E+00 | 0.00E+00 | * | 3.58E-01 | 0.00E+00 |

| DERMAL_DOSE | MMILK_DOSE | WATER_DOSE | FISH_DOSE | CROP_DOSE | BEEF_DOSE | DAIRY_DOSE | PIG_DOSE | CHICKEN_DOSE | EGG_DOSE |
|---|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| 1ST_DRIVER | 2ND_DRIVER | 3RD_DRIVER | PASTURE_CONC | FISH_CONC | WATER_CONC |
|---|---|---|---|---|---|
| INHALATION | NA | NA | 0.00E+00 | 0.00E+00 | 0.00E+00 |

*HARP - HRACalc v19044 7/28/2021 9:55:28 AM - Acute Risk - Input File: C:\Users\bshea\Desktop\HARP\UWSP GDF 1 and 2_HRAInput.hra

| INDEX | GRP1 | GRP2 | POLID | POLABBREV | CONC | SCENARIO | CV | CNS | IMMUN | KIDNEY | GILV | REPRO/DEVEL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 71432 | Benzene | 19.8968 | NonCancerAcute | 0.00E+00 | 0.00E+00 | 7.37E-01 | 0.00E+00 | 0.00E+00 | 7.37E-01 |

| RESP | SKIN | EYE | BONE/TEETH | ENDO | BLOOD | ODOR | GENERAL |
|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.37E-01 | 0.00E+00 | 0.00E+00 |

# BREEZE AERMOD Model Results

## Max. Annual ( 4 YEARS) Results of Pollutant: PM25 (ug/m**3)

| Group ID | High | Avg. Conc. | UTM | | Elev. | Hill Ht. | Flag Ht. | Rec. Type | Grid ID |
|---|---|---|---|---|---|---|---|---|---|
| | | | East (m) | North (m) | (m) | (m) | (m) | | |
| ALL | 1ST | 0.16832 | 626671.80 | 4273845.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 2ND | 0.16807 | 626711.80 | 4273925.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 3RD | 0.15682 | 626691.80 | 4273905.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 4TH | 0.15674 | 626919.50 | 4274348.20 | 0.00 | 0.00 | 1.80 | DC | |
| | 5TH | 0.15652 | 626651.80 | 4273825.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 6TH | 0.15650 | 626671.80 | 4273865.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 7TH | 0.15636 | 626939.50 | 4274388.20 | 0.00 | 0.00 | 1.80 | DC | |
| | 8TH | 0.15497 | 626959.50 | 4274428.20 | 0.00 | 0.00 | 1.80 | DC | |
| | 9TH | 0.15437 | 626979.50 | 4274468.20 | 0.00 | 0.00 | 1.80 | DC | |
| | 10TH | 0.15303 | 626999.50 | 4274508.20 | 0.00 | 0.00 | 1.80 | DC | |

## Highest Results of Pollutant: PM25

| Avg. Per. | Grp ID | High | Type | Val | Units | Date | UTM | | Elev. | Hill Ht. | Flag Ht. | Rec. Type | Grid ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | YYMMDDHH | East (m) | North (m) | (m) | (m) | (m) | | |
| 1-HR | ALL | 1ST | Avg. Conc. | 2.90988 | ug/m**3 | 14121409 | 626482.10 | 4273243.40 | 0.00 | 0.00 | 1.80 | DC | |

## Summary of Total Messages

| # | Message Type |
|---|---|
| 0 | Fatal Error Message(s) |
| 6 | Warning Message(s) |
| 996 | Informational Message(s) |
| 43680 | Hours Were Processed |
| 452 | Calm Hours Identified |
| 544 | Missing Hours Identified ( 1.25 Percent) |

## Error & Warning Messages

| Msg. Type | Pathway | Ref. # | Description |
|---|---|---|---|
| WARNING | CO | W276 | Special proc for 1h-NO2/SO2 24hPM25 NAAQS disabled PM25 H1H |
| WARNING | CO | W363 | Multiyr 24h/Ann PM25 processing not applicable for PM25 H1H |

| | | | |
|---|---|---|---|
| WARNING | ME | W186 | THRESH_1MIN 1-min ASOS wind speed threshold used 0.50 |

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# AERMOD Model Options

## Model Options

| Pathway | Keyword | Description | Value |
|---|---|---|---|
| CO | TITLEONE | Project title 1 | UWSP I-80 HRA (Existing Conditions 2023) |
| CO | TITLETWO | Project title 2 | |
| CO | MODELOPT | Model options | DFAULT,CONC,NODRYDPLT,NOWETDPLT |
| CO | AVERTIME | Averaging times | 1,24,ANNUAL |
| CO | URBANOPT | Urban options | |
| CO | POLLUTID | Pollutant ID | PM25 H1H |
| CO | HALFLIFE | Half life | |
| CO | DCAYCOEF | Decay coefficient | |
| CO | FLAGPOLE | Flagpole receptor heights | 1.8 |
| CO | RUNORNOT | Run or Not | RUN |
| CO | EVENTFIL | Event file | F |
| CO | SAVEFILE | Save file | F |
| CO | INITFILE | Initialization file | |
| CO | MULTYEAR | Multiple year option | N/A |
| CO | DEBUGOPT | Debug options | N/A |
| CO | ERRORFIL | Error file | F |
| SO | ELEVUNIT | Elevation units | METERS |
| SO | EMISUNIT | Emission units | N/A |
| RE | ELEVUNIT | Elevation units | METERS |
| ME | SURFFILE | Surface met file | C:\Users\bshea\Desktop\METEOR~1\SACINT~1.SFC |
| ME | PROFFILE | Profile met file | C:\Users\bshea\Desktop\METEOR~1\SACINT~1.PFL |
| ME | SURFDATA | Surf met data info. | 93225 2014 |
| ME | UAIRDATA | U-Air met data info. | 23230 2014 |
| ME | SITEDATA | On-site met data info. | |
| ME | PROFBASE | Elev. above MSL | 8.23 |
| ME | STARTEND | Start-end met dates | |
| ME | WDROTATE | Wind dir. rot. adjust. | |
| ME | WINDCATS | Wind speed cat. max. | |
| ME | SCIMBYHR | SCIM sample params | |
| EV | DAYTABLE | Print summary opt. | N/A |
| OU | EVENTOUT | Output info. level | N/A |

| | | | |
|---|---|---|---|
| OU | DAYTABLE | Print summary opt. | |

# Source Parameter Tables

## All Sources

| Source ID / Pollutant ID | Source Type | Description | UTM | | Elev. | Emiss. Rate | Emiss. Units | Release Height |
|---|---|---|---|---|---|---|---|---|
| | | | East (m) | North (m) | (m) | | | (m) |
| M5C4S3FQ | VOLUME | | 627697.9 | 4275227.3 | 0 | 0.0004997734 | (g/s) | 4.4112 |
| M5C4S3FR | VOLUME | | 627620.2 | 4275174.3 | 0 | 0.0004997734 | (g/s) | 4.4112 |
| M5C4S3FS | VOLUME | | 627544.5 | 4275118.7 | 0 | 0.0004997734 | (g/s) | 4.4112 |
| M5C4S3FT | VOLUME | | 627472.4 | 4275058.6 | 0 | 0.0004997734 | (g/s) | 4.4112 |
| M5C4S3FU | VOLUME | | 627407.6 | 4274990.7 | 0 | 0.0004997734 | (g/s) | 4.4112 |
| M5C4S3FV | VOLUME | | 627348.9 | 4274917.3 | 0 | 0.0004997734 | (g/s) | 4.4112 |
| M5C4S3FW | VOLUME | | 627295.2 | 4274840.4 | 0 | 0.0004997734 | (g/s) | 4.4112 |
| M5C4S3FX | VOLUME | | 627246.9 | 4274759.8 | 0 | 0.0004997734 | (g/s) | 4.4112 |
| M5C4S3FY | VOLUME | | 627202.9 | 4274676.7 | 0 | 0.0004997734 | (g/s) | 4.4112 |
| M5C4S3FZ | VOLUME | | 627159.3 | 4274593.4 | 0 | 0.0004997734 | (g/s) | 4.4112 |
| M5C4S3G0 | VOLUME | | 627115.7 | 4274510.1 | 0 | 0.0004997734 | (g/s) | 4.4112 |
| M5C4S3G1 | VOLUME | | 627072.1 | 4274426.8 | 0 | 0.0004997734 | (g/s) | 4.4112 |
| M5C4S3G2 | VOLUME | | 627028.5 | 4274343.6 | 0 | 0.0004997734 | (g/s) | 4.4112 |
| M5C4S3G3 | VOLUME | | 626984.9 | 4274260.3 | 0 | 0.0004997734 | (g/s) | 4.4112 |
| M5C4S3G4 | VOLUME | | 626941.3 | 4274177.0 | 0 | 0.0004997734 | (g/s) | 4.4112 |
| M5C4S3G5 | VOLUME | | 626897.7 | 4274093.7 | 0 | 0.0004997734 | (g/s) | 4.4112 |
| M5C4S3G6 | VOLUME | | 626854.1 | 4274010.5 | 0 | 0.0004997734 | (g/s) | 4.4112 |
| M5C4S3G7 | VOLUME | | 626810.5 | 4273927.2 | 0 | 0.0004997734 | (g/s) | 4.4112 |
| M5C4S3G8 | VOLUME | | 626766.9 | 4273843.9 | 0 | 0.0004997734 | (g/s) | 4.4112 |
| M5C4S3G9 | VOLUME | | 626723.3 | 4273760.6 | 0 | 0.0004997734 | (g/s) | 4.4112 |
| M5C4S3GA | VOLUME | | 626679.7 | 4273677.4 | 0 | 0.0004997734 | (g/s) | 4.4112 |
| M5C4S3GB | VOLUME | | 626636.1 | 4273594.1 | 0 | 0.0004997734 | (g/s) | 4.4112 |
| M5C4S3GC | VOLUME | | 626592.5 | 4273510.8 | 0 | 0.0004997734 | (g/s) | 4.4112 |
| M5C4S3GD | VOLUME | | 626548.9 | 4273427.5 | 0 | 0.0004997734 | (g/s) | 4.4112 |

## Volume Sources

| Source ID / Pollutant ID | Description | UTM | | Elev. | Emiss. Rate | Release Height | Init. Lat. Dim. | Init. Vert. Dim. |
|---|---|---|---|---|---|---|---|---|
| | | East (m) | North (m) | (m) | (g/s) | (m) | (m) | (m) |
| M5C4S3FQ | | 627697.9 | 4275227.3 | 0 | 0.0004997734 | 4.4112 | 43.72093 | 4.103442 |
| M5C4S3FR | | 627620.2 | 4275174.3 | 0 | 0.0004997734 | 4.4112 | 43.72093 | 4.103442 |
| M5C4S3FS | | 627544.5 | 4275118.7 | 0 | 0.0004997734 | 4.4112 | 43.72093 | 4.103442 |
| M5C4S3FT | | 627472.4 | 4275058.6 | 0 | 0.0004997734 | 4.4112 | 43.72093 | 4.103442 |
| M5C4S3FU | | 627407.6 | 4274990.7 | 0 | 0.0004997734 | 4.4112 | 43.72093 | 4.103442 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| M5C4S3FV | | 627348.9 | 4274917.3 | 0 | 0.0004997734 | 4.4112 | 43.72093 | 4.103442 |
| M5C4S3FW | | 627295.2 | 4274840.4 | 0 | 0.0004997734 | 4.4112 | 43.72093 | 4.103442 |
| M5C4S3FX | | 627246.9 | 4274759.8 | 0 | 0.0004997734 | 4.4112 | 43.72093 | 4.103442 |
| M5C4S3FY | | 627202.9 | 4274676.7 | 0 | 0.0004997734 | 4.4112 | 43.72093 | 4.103442 |
| M5C4S3FZ | | 627159.3 | 4274593.4 | 0 | 0.0004997734 | 4.4112 | 43.72093 | 4.103442 |
| M5C4S3G0 | | 627115.7 | 4274510.1 | 0 | 0.0004997734 | 4.4112 | 43.72093 | 4.103442 |
| M5C4S3G1 | | 627072.1 | 4274426.8 | 0 | 0.0004997734 | 4.4112 | 43.72093 | 4.103442 |
| M5C4S3G2 | | 627028.5 | 4274343.6 | 0 | 0.0004997734 | 4.4112 | 43.72093 | 4.103442 |
| M5C4S3G3 | | 626984.9 | 4274260.3 | 0 | 0.0004997734 | 4.4112 | 43.72093 | 4.103442 |
| M5C4S3G4 | | 626941.3 | 4274177.0 | 0 | 0.0004997734 | 4.4112 | 43.72093 | 4.103442 |
| M5C4S3G5 | | 626897.7 | 4274093.7 | 0 | 0.0004997734 | 4.4112 | 43.72093 | 4.103442 |
| M5C4S3G6 | | 626854.1 | 4274010.5 | 0 | 0.0004997734 | 4.4112 | 43.72093 | 4.103442 |
| M5C4S3G7 | | 626810.5 | 4273927.2 | 0 | 0.0004997734 | 4.4112 | 43.72093 | 4.103442 |
| M5C4S3G8 | | 626766.9 | 4273843.9 | 0 | 0.0004997734 | 4.4112 | 43.72093 | 4.103442 |
| M5C4S3G9 | | 626723.3 | 4273760.6 | 0 | 0.0004997734 | 4.4112 | 43.72093 | 4.103442 |
| M5C4S3GA | | 626679.7 | 4273677.4 | 0 | 0.0004997734 | 4.4112 | 43.72093 | 4.103442 |
| M5C4S3GB | | 626636.1 | 4273594.1 | 0 | 0.0004997734 | 4.4112 | 43.72093 | 4.103442 |
| M5C4S3GC | | 626592.5 | 4273510.8 | 0 | 0.0004997734 | 4.4112 | 43.72093 | 4.103442 |
| M5C4S3GD | | 626548.9 | 4273427.5 | 0 | 0.0004997734 | 4.4112 | 43.72093 | 4.103442 |

*HARP - HRACalc v22118 9/30/2022 9:06:34 AM - Cancer Risk - Input File: C:\Users\bshea\Desktop\HAI

| INDEX | GRP1 | GRP2 | POLID | POLABBRE | CONC | RISK_SUM | SCENARIO | DETAILS |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 9901 | DieselExhP | 0.16832 | 1.46E-04 | 30YrCancer | * |

RP results\UWSP Existing Conditions_HRAInput.hra

| INH_RISK | SOIL_RISK | DERMAL_R | MMILK_RIS | WATER_RIS | FISH_RISK | CROP_RISK | BEEF_RISK | DAIRY_RISK |
|---|---|---|---|---|---|---|---|---|
| 1.46E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| PIG_RISK | CHICKEN_R | EGG_RISK | 1ST_DRIVE | 2ND_DRIVE | PASTURE_C | FISH_CONC | WATER_CONC |
|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | NA | NA | 0.00E+00 | 0.00E+00 | 0.00E+00 |

*HARP - HRACalc v22118 9/30/2022 9:06:34 AM - Chronic Risk - Input File: C:\Users\bshea\Desktop\HA

| INDEX | GRP1 | GRP2 | POLID | POLABBRE | CONC | SCENARIO | CV | CNS |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 9901 | DieselExhP | 0.16832 | NonCancer | 0.00E+00 | 0.00E+00 |

\RP results\UWSP Existing Conditions_HRAInput.hra

| IMMUN | KIDNEY | GILV | REPRO/DE\ | RESP | SKIN | EYE | BONE/TEET | ENDO |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.37E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| BLOOD | ODOR | GENERAL | DETAILS | INH_CONC | SOIL_DOSE | DERMAL_D | MMILK_DC | WATER_DC |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | * | 1.68E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| FISH_DOSE | CROP_DOS | BEEF_DOSE | DAIRY_DOS | PIG_DOSE | CHICKEN_D | EGG_DOSE | 1ST_DRIVE | 2ND_DRIVE |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | INHALATIO | NA |

| 3RD_DRIVE | PASTURE_( | FISH_CONC | WATER_CONC |
|---|---|---|---|
| NA | 0.00E+00 | 0.00E+00 | 0.00E+00 |

*HARP - HRACalc v22118 9/30/2022 9:06:34 AM - Acute Risk - Input File: C:\Users\bshea\Desktop\HAR

| INDEX | GRP1 | GRP2 | POLID | POLABBRE\ | CONC | SCENARIO | CV | CNS |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 9901 | DieselExhP | 2.90988 | NonCancer | 0.00E+00 | 0.00E+00 |

P results\UWSP Existing Conditions_HRAInput.hra

| IMMUN | KIDNEY | GILV | REPRO/DE\ | RESP | SKIN | EYE | BONE/TEET | ENDO |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| BLOOD | ODOR | GENERAL |
| --- | --- | --- |
| 0.00E+00 | 0.00E+00 | 0.00E+00 |

# BREEZE AERMOD Model Results

## Max. Annual ( 4 YEARS) Results of Pollutant: PM25 (ug/m**3)

| Group ID | High | Avg. Conc. | UTM | | Elev. | Hill Ht. | Flag Ht. | Rec. Type | Grid ID |
|---|---|---|---|---|---|---|---|---|---|
| | | | East (m) | North (m) | (m) | (m) | (m) | | |
| ALL | 1ST | 0.29970 | 626711.80 | 4273925.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 2ND | 0.28068 | 626919.50 | 4274348.20 | 0.00 | 0.00 | 1.80 | DC | |
| | 3RD | 0.27995 | 626939.50 | 4274388.20 | 0.00 | 0.00 | 1.80 | DC | |
| | 4TH | 0.27972 | 626691.80 | 4273905.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 5TH | 0.27926 | 626671.80 | 4273865.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 6TH | 0.27901 | 626651.80 | 4273825.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 7TH | 0.27744 | 626959.50 | 4274428.20 | 0.00 | 0.00 | 1.80 | DC | |
| | 8TH | 0.27638 | 626979.50 | 4274468.20 | 0.00 | 0.00 | 1.80 | DC | |
| | 9TH | 0.27384 | 626999.50 | 4274508.20 | 0.00 | 0.00 | 1.80 | DC | |
| | 10TH | 0.27238 | 627019.50 | 4274548.20 | 0.00 | 0.00 | 1.80 | DC | |

## Highest Results of Pollutant: PM25

| Avg. Per. | Grp ID | High | Type | Val | Units | Date | UTM | | Elev. | Hill Ht. | Flag Ht. | Rec. Type | Grid ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | YYMMDDHH | East (m) | North (m) | (m) | (m) | (m) | | |
| 1-HR | ALL | 1ST | Avg. Conc. | 5.22477 | ug/m**3 | 14121409 | 626482.10 | 4273243.40 | 0.00 | 0.00 | 1.80 | DC | |

## Summary of Total Messages

| # | Message Type |
|---|---|
| 0 | Fatal Error Message(s) |
| 6 | Warning Message(s) |
| 996 | Informational Message(s) |
| 43680 | Hours Were Processed |
| 452 | Calm Hours Identified |
| 544 | Missing Hours Identified ( 1.25 Percent) |

## Error & Warning Messages

| Msg. Type | Pathway | Ref. # | Description |
|---|---|---|---|
| WARNING | CO | W276 | Special proc for 1h-NO2/SO2 24hPM25 NAAQS disabled PM25 H1H |
| WARNING | CO | W363 | Multiyr 24h/Ann PM25 processing not applicable for PM25 H1H |

| | | | |
|---|---|---|---|
| WARNING | ME | W186 | THRESH_1MIN 1-min ASOS wind speed threshold used 0.50 |

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# AERMOD Model Options

## Model Options

| Pathway | Keyword | Description | Value |
|---|---|---|---|
| CO | TITLEONE | Project title 1 | UWSP I-80 HRA (Cumulative No Project Conditions 2045) |
| CO | TITLETWO | Project title 2 | |
| CO | MODELOPT | Model options | DFAULT,CONC,NODRYDPLT,NOWETDPLT |
| CO | AVERTIME | Averaging times | 1,24,ANNUAL |
| CO | URBANOPT | Urban options | |
| CO | POLLUTID | Pollutant ID | PM25 H1H |
| CO | HALFLIFE | Half life | |
| CO | DCAYCOEF | Decay coefficient | |
| CO | FLAGPOLE | Flagpole receptor heights | 1.8 |
| CO | RUNORNOT | Run or Not | RUN |
| CO | EVENTFIL | Event file | F |
| CO | SAVEFILE | Save file | F |
| CO | INITFILE | Initialization file | |
| CO | MULTYEAR | Multiple year option | N/A |
| CO | DEBUGOPT | Debug options | N/A |
| CO | ERRORFIL | Error file | F |
| SO | ELEVUNIT | Elevation units | METERS |
| SO | EMISUNIT | Emission units | N/A |
| RE | ELEVUNIT | Elevation units | METERS |
| ME | SURFFILE | Surface met file | C:\Users\bshea\Desktop\METEOR~1\SACINT~1.SFC |
| ME | PROFFILE | Profile met file | C:\Users\bshea\Desktop\METEOR~1\SACINT~1.PFL |
| ME | SURFDATA | Surf met data info. | 93225 2014 |
| ME | UAIRDATA | U-Air met data info. | 23230 2014 |
| ME | SITEDATA | On-site met data info. | |
| ME | PROFBASE | Elev. above MSL | 8.23 |
| ME | STARTEND | Start-end met dates | |
| ME | WDROTATE | Wind dir. rot. adjust. | |
| ME | WINDCATS | Wind speed cat. max. | |
| ME | SCIMBYHR | SCIM sample params | |
| EV | DAYTABLE | Print summary opt. | N/A |
| OU | EVENTOUT | Output info. level | N/A |

| | | |
|---|---|---|
| OU | DAYTABLE | Print summary opt. |

# Source Parameter Tables

## All Sources

| Source ID / Pollutant ID | Source Type | Description | UTM | | Elev. | Emiss. Rate | Emiss. Units | Release Height |
|---|---|---|---|---|---|---|---|---|
| | | | East (m) | North (m) | (m) | | | (m) |
| M5C4S3GG | VOLUME | | 627698.0 | 4275224.0 | 0 | 0.0008986992 | (g/s) | 4.483 |
| M5C4S3GH | VOLUME | | 627619.6 | 4275172.1 | 0 | 0.0008986992 | (g/s) | 4.483 |
| M5C4S3GI | VOLUME | | 627543.6 | 4275117.1 | 0 | 0.0008986992 | (g/s) | 4.483 |
| M5C4S3GJ | VOLUME | | 627472.6 | 4275055.5 | 0 | 0.0008986992 | (g/s) | 4.483 |
| M5C4S3GK | VOLUME | | 627409.6 | 4274986.2 | 0 | 0.0008986992 | (g/s) | 4.483 |
| M5C4S3GL | VOLUME | | 627350.5 | 4274913.1 | 0 | 0.0008986992 | (g/s) | 4.483 |
| M5C4S3GM | VOLUME | | 627295.4 | 4274837.3 | 0 | 0.0008986992 | (g/s) | 4.483 |
| M5C4S3GN | VOLUME | | 627248.6 | 4274755.8 | 0 | 0.0008986992 | (g/s) | 4.483 |
| M5C4S3GO | VOLUME | | 627201.9 | 4274674.2 | 0 | 0.0008986992 | (g/s) | 4.483 |
| M5C4S3GP | VOLUME | | 627158.1 | 4274591.1 | 0 | 0.0008986992 | (g/s) | 4.483 |
| M5C4S3GQ | VOLUME | | 627114.5 | 4274507.8 | 0 | 0.0008986992 | (g/s) | 4.483 |
| M5C4S3GR | VOLUME | | 627070.8 | 4274424.5 | 0 | 0.0008986992 | (g/s) | 4.483 |
| M5C4S3GS | VOLUME | | 627027.2 | 4274341.3 | 0 | 0.0008986992 | (g/s) | 4.483 |
| M5C4S3GT | VOLUME | | 626983.6 | 4274258.0 | 0 | 0.0008986992 | (g/s) | 4.483 |
| M5C4S3GU | VOLUME | | 626940.0 | 4274174.7 | 0 | 0.0008986992 | (g/s) | 4.483 |
| M5C4S3GV | VOLUME | | 626896.5 | 4274091.4 | 0 | 0.0008986992 | (g/s) | 4.483 |
| M5C4S3GW | VOLUME | | 626853.0 | 4274008.1 | 0 | 0.0008986992 | (g/s) | 4.483 |
| M5C4S3GX | VOLUME | | 626809.5 | 4273924.7 | 0 | 0.0008986992 | (g/s) | 4.483 |
| M5C4S3GY | VOLUME | | 626766.0 | 4273841.4 | 0 | 0.0008986992 | (g/s) | 4.483 |
| M5C4S3GZ | VOLUME | | 626722.4 | 4273758.1 | 0 | 0.0008986992 | (g/s) | 4.483 |
| M5C4S3H0 | VOLUME | | 626678.8 | 4273674.8 | 0 | 0.0008986992 | (g/s) | 4.483 |
| M5C4S3H1 | VOLUME | | 626635.0 | 4273591.7 | 0 | 0.0008986992 | (g/s) | 4.483 |
| M5C4S3H2 | VOLUME | | 626591.3 | 4273508.5 | 0 | 0.0008986992 | (g/s) | 4.483 |
| M5C4S3H3 | VOLUME | | 626547.5 | 4273425.3 | 0 | 0.0008986992 | (g/s) | 4.483 |

## Volume Sources

| Source ID / Pollutant ID | Description | UTM | | Elev. | Emiss. Rate | Release Height | Init. Lat. Dim. | Init. Vert. Dim. |
|---|---|---|---|---|---|---|---|---|
| | | East (m) | North (m) | (m) | (g/s) | (m) | (m) | (m) |
| M5C4S3GG | | 627698.0 | 4275224.0 | 0 | 0.0008986992 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3GH | | 627619.6 | 4275172.1 | 0 | 0.0008986992 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3GI | | 627543.6 | 4275117.1 | 0 | 0.0008986992 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3GJ | | 627472.6 | 4275055.5 | 0 | 0.0008986992 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3GK | | 627409.6 | 4274986.2 | 0 | 0.0008986992 | 4.483 | 43.72093 | 4.170232 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| M5C4S3GL | | 627350.5 | 4274913.1 | 0 | 0.0008986992 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3GM | | 627295.4 | 4274837.3 | 0 | 0.0008986992 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3GN | | 627248.6 | 4274755.8 | 0 | 0.0008986992 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3GO | | 627201.9 | 4274674.2 | 0 | 0.0008986992 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3GP | | 627158.1 | 4274591.1 | 0 | 0.0008986992 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3GQ | | 627114.5 | 4274507.8 | 0 | 0.0008986992 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3GR | | 627070.8 | 4274424.5 | 0 | 0.0008986992 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3GS | | 627027.2 | 4274341.3 | 0 | 0.0008986992 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3GT | | 626983.6 | 4274258.0 | 0 | 0.0008986992 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3GU | | 626940.0 | 4274174.7 | 0 | 0.0008986992 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3GV | | 626896.5 | 4274091.4 | 0 | 0.0008986992 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3GW | | 626853.0 | 4274008.1 | 0 | 0.0008986992 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3GX | | 626809.5 | 4273924.7 | 0 | 0.0008986992 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3GY | | 626766.0 | 4273841.4 | 0 | 0.0008986992 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3GZ | | 626722.4 | 4273758.1 | 0 | 0.0008986992 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3H0 | | 626678.8 | 4273674.8 | 0 | 0.0008986992 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3H1 | | 626635.0 | 4273591.7 | 0 | 0.0008986992 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3H2 | | 626591.3 | 4273508.5 | 0 | 0.0008986992 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3H3 | | 626547.5 | 4273425.3 | 0 | 0.0008986992 | 4.483 | 43.72093 | 4.170232 |

*HARP - HRACalc v22118 9/30/2022 9:07:28 AM - Cancer Risk - Input File: C:\Users\bshea\Desktop\HAI

| INDEX | GRP1 | GRP2 | POLID | POLABBRE\ | CONC | RISK_SUM | SCENARIO | DETAILS |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 9901 | DieselExhP | 0.2997 | 2.59E-04 | 30YrCancer | * |

RP results\UWSP Cumulative No Project Conditions_HRAInput.hra

| INH_RISK | SOIL_RISK | DERMAL_R | MMILK_RIS | WATER_RIS | FISH_RISK | CROP_RISK | BEEF_RISK | DAIRY_RISI |
|---|---|---|---|---|---|---|---|---|
| 2.59E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| PIG_RISK | CHICKEN_R | EGG_RISK | 1ST_DRIVE | 2ND_DRIVE | PASTURE_C | FISH_CONC | WATER_CONC |
|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | NA | NA | 0.00E+00 | 0.00E+00 | 0.00E+00 |

*HARP - HRACalc v22118 9/30/2022 9:07:28 AM - Chronic Risk - Input File: C:\Users\bshea\Desktop\HA

| INDEX | GRP1 | GRP2 | POLID | POLABBRE\ | CONC | SCENARIO | CV | CNS |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 9901 | DieselExhP | 0.2997 | NonCancer | 0.00E+00 | 0.00E+00 |

\RP results\UWSP Cumulative No Project Conditions_HRAInput.hra

| IMMUN | KIDNEY | GILV | REPRO/DE\ | RESP | SKIN | EYE | BONE/TEET | ENDO |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.99E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| BLOOD | ODOR | GENERAL | DETAILS | INH_CONC | SOIL_DOSE | DERMAL_D | MMILK_DC | WATER_DC |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | * | 3.00E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| FISH_DOSE | CROP_DOS | BEEF_DOSE | DAIRY_DOS | PIG_DOSE | CHICKEN_D | EGG_DOSE | 1ST_DRIVE | 2ND_DRIVE |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | INHALATIO | NA |

| 3RD_DRIVE | PASTURE_( | FISH_CONC | WATER_CONC |
|---|---|---|---|
| NA | 0.00E+00 | 0.00E+00 | 0.00E+00 |

*HARP - HRACalc v22118 9/30/2022 9:07:28 AM - Acute Risk - Input File: C:\Users\bshea\Desktop\HAR

| INDEX | GRP1 | GRP2 | POLID | POLABBRE\ | CONC | SCENARIO | CV | CNS |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 9901 | DieselExhP | 5.22477 | NonCancer | 0.00E+00 | 0.00E+00 |

P results\UWSP Cumulative No Project Conditions_HRAInput.hra

| IMMUN | KIDNEY | GILV | REPRO/DE\ | RESP | SKIN | EYE | BONE/TEET | ENDO |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| BLOOD | ODOR | GENERAL |
| --- | --- | --- |
| 0.00E+00 | 0.00E+00 | 0.00E+00 |

# BREEZE AERMOD Model Results

## Max. Annual ( 4 YEARS) Results of Pollutant: PM25 (ug/m**3)

| Group ID | High | Avg. Conc. | UTM | | Elev. | Hill Ht. | Flag Ht. | Rec. Type | Grid ID |
|---|---|---|---|---|---|---|---|---|---|
| | | | East (m) | North (m) | (m) | (m) | (m) | | |
| ALL | 1ST | 0.35099 | 626759.50 | 4274008.20 | 0.00 | 0.00 | 1.80 | DC | |
| | 2ND | 0.33895 | 626671.80 | 4273845.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 3RD | 0.33780 | 626711.80 | 4273925.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 4TH | 0.31562 | 626691.80 | 4273905.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 5TH | 0.31547 | 626651.80 | 4273825.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 6TH | 0.31491 | 626671.80 | 4273865.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 7TH | 0.31428 | 626631.80 | 4273785.50 | 0.00 | 0.00 | 1.80 | DC | |
| | 8TH | 0.31208 | 626919.50 | 4274348.20 | 0.00 | 0.00 | 1.80 | DC | |
| | 9TH | 0.31073 | 626939.50 | 4274388.20 | 0.00 | 0.00 | 1.80 | DC | |
| | 10TH | 0.30796 | 626959.50 | 4274428.20 | 0.00 | 0.00 | 1.80 | DC | |

## Highest Results of Pollutant: PM25

| Avg. Per. | Grp ID | High | Type | Val | Units | Date | UTM | | Elev. | Hill Ht. | Flag Ht. | Rec. Type | Grid ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | YYMMDDHH | East (m) | North (m) | (m) | (m) | (m) | | |
| 1-HR | ALL | 1ST | Avg. Conc. | 5.92475 | ug/m**3 | 14121409 | 626863.10 | 4273912.20 | 0.00 | 0.00 | 1.80 | DC | |

## Summary of Total Messages

| # | Message Type |
|---|---|
| 0 | Fatal Error Message(s) |
| 6 | Warning Message(s) |
| 996 | Informational Message(s) |
| 43680 | Hours Were Processed |
| 452 | Calm Hours Identified |
| 544 | Missing Hours Identified ( 1.25 Percent) |

## Error & Warning Messages

| Msg. Type | Pathway | Ref. # | Description |
|---|---|---|---|
| WARNING | CO | W276 | Special proc for 1h-NO2/SO2 24hPM25 NAAQS disabled PM25 H1H |
| WARNING | CO | W363 | Multiyr 24h/Ann PM25 processing not applicable for PM25 H1H |

| | | | |
|---|---|---|---|
| WARNING | ME | W186 | THRESH_1MIN 1-min ASOS wind speed threshold used 0.50 |

www.breeze-software.com

# AERMOD Model Options

## Model Options

| Pathway | Keyword | Description | Value |
|---|---|---|---|
| CO | TITLEONE | Project title 1 | UWSP I-80 HRA (Cumulative Plus Project Conditions 2045) |
| CO | TITLETWO | Project title 2 | |
| CO | MODELOPT | Model options | DFAULT,CONC,NODRYDPLT,NOWETDPLT |
| CO | AVERTIME | Averaging times | 1,24,ANNUAL |
| CO | URBANOPT | Urban options | |
| CO | POLLUTID | Pollutant ID | PM25 H1H |
| CO | HALFLIFE | Half life | |
| CO | DCAYCOEF | Decay coefficient | |
| CO | FLAGPOLE | Flagpole receptor heights | 1.8 |
| CO | RUNORNOT | Run or Not | RUN |
| CO | EVENTFIL | Event file | F |
| CO | SAVEFILE | Save file | F |
| CO | INITFILE | Initialization file | |
| CO | MULTYEAR | Multiple year option | N/A |
| CO | DEBUGOPT | Debug options | N/A |
| CO | ERRORFIL | Error file | F |
| SO | ELEVUNIT | Elevation units | METERS |
| SO | EMISUNIT | Emission units | N/A |
| RE | ELEVUNIT | Elevation units | METERS |
| ME | SURFFILE | Surface met file | C:\Users\bshea\Desktop\METEOR~1\SACINT~1.SFC |
| ME | PROFFILE | Profile met file | C:\Users\bshea\Desktop\METEOR~1\SACINT~1.PFL |
| ME | SURFDATA | Surf met data info. | 93225 2014 |
| ME | UAIRDATA | U-Air met data info. | 23230 2014 |
| ME | SITEDATA | On-site met data info. | |
| ME | PROFBASE | Elev. above MSL | 8.23 |
| ME | STARTEND | Start-end met dates | |
| ME | WDROTATE | Wind dir. rot. adjust. | |
| ME | WINDCATS | Wind speed cat. max. | |
| ME | SCIMBYHR | SCIM sample params | |
| EV | DAYTABLE | Print summary opt. | N/A |
| OU | EVENTOUT | Output info. level | N/A |

| | | | |
|---|---|---|---|
| OU | DAYTABLE | Print summary opt. | |

# Source Parameter Tables

## All Sources

| Source ID / Pollutant ID | Source Type | Description | UTM | | Elev. | Emiss. Rate | Emiss. Units | Release Height |
|---|---|---|---|---|---|---|---|---|
| | | | East (m) | North (m) | (m) | | | (m) |
| M5C4S3H6 | VOLUME | | 627699.6 | 4275228.3 | 0 | 0.001021924 | (g/s) | 4.483 |
| M5C4S3H7 | VOLUME | | 627620.3 | 4275178.1 | 0 | 0.001021924 | (g/s) | 4.483 |
| M5C4S3H8 | VOLUME | | 627546.2 | 4275120.2 | 0 | 0.001021924 | (g/s) | 4.483 |
| M5C4S3H9 | VOLUME | | 627471.8 | 4275062.8 | 0 | 0.001021924 | (g/s) | 4.483 |
| M5C4S3HA | VOLUME | | 627407.7 | 4274994.3 | 0 | 0.001021924 | (g/s) | 4.483 |
| M5C4S3HB | VOLUME | | 627351.3 | 4274919.4 | 0 | 0.001021924 | (g/s) | 4.483 |
| M5C4S3HC | VOLUME | | 627297.8 | 4274842.0 | 0 | 0.001021924 | (g/s) | 4.483 |
| M5C4S3HD | VOLUME | | 627251.8 | 4274760.2 | 0 | 0.001021924 | (g/s) | 4.483 |
| M5C4S3HE | VOLUME | | 627207.9 | 4274677.1 | 0 | 0.001021924 | (g/s) | 4.483 |
| M5C4S3HF | VOLUME | | 627164.0 | 4274594.0 | 0 | 0.001021924 | (g/s) | 4.483 |
| M5C4S3HG | VOLUME | | 627120.2 | 4274510.8 | 0 | 0.001021924 | (g/s) | 4.483 |
| M5C4S3HH | VOLUME | | 627076.3 | 4274427.7 | 0 | 0.001021924 | (g/s) | 4.483 |
| M5C4S3HI | VOLUME | | 627032.4 | 4274344.5 | 0 | 0.001021924 | (g/s) | 4.483 |
| M5C4S3HJ | VOLUME | | 626988.6 | 4274261.4 | 0 | 0.001021924 | (g/s) | 4.483 |
| M5C4S3HK | VOLUME | | 626944.7 | 4274178.3 | 0 | 0.001021924 | (g/s) | 4.483 |
| M5C4S3HL | VOLUME | | 626900.8 | 4274095.1 | 0 | 0.001021924 | (g/s) | 4.483 |
| M5C4S3HM | VOLUME | | 626857.0 | 4274012.0 | 0 | 0.001021924 | (g/s) | 4.483 |
| M5C4S3HN | VOLUME | | 626813.1 | 4273928.8 | 0 | 0.001021924 | (g/s) | 4.483 |
| M5C4S3HO | VOLUME | | 626769.2 | 4273845.7 | 0 | 0.001021924 | (g/s) | 4.483 |
| M5C4S3HP | VOLUME | | 626725.4 | 4273762.6 | 0 | 0.001021924 | (g/s) | 4.483 |
| M5C4S3HQ | VOLUME | | 626681.5 | 4273679.4 | 0 | 0.001021924 | (g/s) | 4.483 |
| M5C4S3HR | VOLUME | | 626637.7 | 4273596.3 | 0 | 0.001021924 | (g/s) | 4.483 |
| M5C4S3HS | VOLUME | | 626593.8 | 4273513.2 | 0 | 0.001021924 | (g/s) | 4.483 |
| M5C4S3HT | VOLUME | | 626549.9 | 4273430.0 | 0 | 0.001021924 | (g/s) | 4.483 |

## Volume Sources

| Source ID / Pollutant ID | Description | UTM | | Elev. | Emiss. Rate | Release Height | Init. Lat. Dim. | Init. Vert. Dim. |
|---|---|---|---|---|---|---|---|---|
| | | East (m) | North (m) | (m) | (g/s) | (m) | (m) | (m) |
| M5C4S3H6 | | 627699.6 | 4275228.3 | 0 | 0.001021924 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3H7 | | 627620.3 | 4275178.1 | 0 | 0.001021924 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3H8 | | 627546.2 | 4275120.2 | 0 | 0.001021924 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3H9 | | 627471.8 | 4275062.8 | 0 | 0.001021924 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3HA | | 627407.7 | 4274994.3 | 0 | 0.001021924 | 4.483 | 43.72093 | 4.170232 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| M5C4S3HB | | 627351.3 | 4274919.4 | 0 | 0.001021924 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3HC | | 627297.8 | 4274842.0 | 0 | 0.001021924 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3HD | | 627251.8 | 4274760.2 | 0 | 0.001021924 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3HE | | 627207.9 | 4274677.1 | 0 | 0.001021924 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3HF | | 627164.0 | 4274594.0 | 0 | 0.001021924 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3HG | | 627120.2 | 4274510.8 | 0 | 0.001021924 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3HH | | 627076.3 | 4274427.7 | 0 | 0.001021924 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3HI | | 627032.4 | 4274344.5 | 0 | 0.001021924 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3HJ | | 626988.6 | 4274261.4 | 0 | 0.001021924 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3HK | | 626944.7 | 4274178.3 | 0 | 0.001021924 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3HL | | 626900.8 | 4274095.1 | 0 | 0.001021924 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3HM | | 626857.0 | 4274012.0 | 0 | 0.001021924 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3HN | | 626813.1 | 4273928.8 | 0 | 0.001021924 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3HO | | 626769.2 | 4273845.7 | 0 | 0.001021924 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3HP | | 626725.4 | 4273762.6 | 0 | 0.001021924 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3HQ | | 626681.5 | 4273679.4 | 0 | 0.001021924 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3HR | | 626637.7 | 4273596.3 | 0 | 0.001021924 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3HS | | 626593.8 | 4273513.2 | 0 | 0.001021924 | 4.483 | 43.72093 | 4.170232 |
| M5C4S3HT | | 626549.9 | 4273430.0 | 0 | 0.001021924 | 4.483 | 43.72093 | 4.170232 |

*HARP - HRACalc v22118 9/30/2022 9:08:03 AM - Cancer Risk - Input File: C:\Users\bshea\Desktop\HAI

| INDEX | GRP1 | GRP2 | POLID | POLABBRE\ | CONC | RISK_SUM | SCENARIO | DETAILS |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 9901 | DieselExhP | 0.35099 | 3.04E-04 | 30YrCancer | * |

RP results\UWSP Cumulative Plus Project Conditions_HRAInput.hra

| INH_RISK | SOIL_RISK | DERMAL_R | MMILK_RIS | WATER_RIS | FISH_RISK | CROP_RISK | BEEF_RISK | DAIRY_RISK |
|---|---|---|---|---|---|---|---|---|
| 3.04E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| PIG_RISK | CHICKEN_R | EGG_RISK | 1ST_DRIVE | 2ND_DRIVE | PASTURE_C | FISH_CONC | WATER_CONC |
|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | NA | NA | 0.00E+00 | 0.00E+00 | 0.00E+00 |

*HARP - HRACalc v22118 9/30/2022 9:08:03 AM - Chronic Risk - Input File: C:\Users\bshea\Desktop\HA

| INDEX | GRP1 | GRP2 | POLID | POLABBRE | CONC | SCENARIO | CV | CNS |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 9901 | DieselExhP | 0.35099 | NonCancer | 0.00E+00 | 0.00E+00 |

\RP results\UWSP Cumulative Plus Project Conditions_HRAInput.hra

| IMMUN | KIDNEY | GILV | REPRO/DE\ | RESP | SKIN | EYE | BONE/TEET | ENDO |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.02E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| BLOOD | ODOR | GENERAL | DETAILS | INH_CONC | SOIL_DOSE | DERMAL_D | MMILK_DC | WATER_DC |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | * | 3.51E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| FISH_DOSE | CROP_DOS | BEEF_DOSE | DAIRY_DOS | PIG_DOSE | CHICKEN_D | EGG_DOSE | 1ST_DRIVE | 2ND_DRIVE |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | INHALATIO | NA |

| 3RD_DRIVE | PASTURE_( | FISH_CONC | WATER_CONC |
|---|---|---|---|
| NA | 0.00E+00 | 0.00E+00 | 0.00E+00 |

*HARP - HRACalc v22118 9/30/2022 9:08:03 AM - Acute Risk - Input File: C:\Users\bshea\Desktop\HAR

| INDEX | GRP1 | GRP2 | POLID | POLABBRE\ | CONC | SCENARIO | CV | CNS |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 9901 | DieselExhP | 5.92475 | NonCancer | 0.00E+00 | 0.00E+00 |

P results\UWSP Cumulative Plus Project Conditions_HRAInput.hra

| IMMUN | KIDNEY | GILV | REPRO/DE\ | RESP | SKIN | EYE | BONE/TEET | ENDO |
|---|---|---|---|---|---|---|---|---|
| 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

| BLOOD | ODOR | GENERAL |
| --- | --- | --- |
| 0.00E+00 | 0.00E+00 | 0.00E+00 |

# Appendix D

# SMAQMD Minor Project Health Effects Screening Tool

# Strategic Area Project Health Effects Tool

| | | |
|---|---|---|
| Strategic Area Location | III. Downtown Sacramento | **<-- Step 1: Input the area** |
| NOx Emissions | 252.57 | **<-- Step 2: Input NOx emissions in lbs./day** |
| ROG Emissions | 632.06 | **<-- Step 3: Input ROG emissions in lbs./day** |
| PM25 Emissions | 126.18 | **<-- Step 4: Input PM2.5 emissions in lbs./day** |

| PM2.5 Health Endpoint | Age Range1 | Incidences Across the Reduced Sacramento 4-km Modeling Domain Resulting from Project Emissions (per year)[2,5] | Incidences Across the 5-Air-District Region Resulting from Project Emissions (per year)[2] | Percent of Background Health Incidences Across the 5-Air-District Region[3] | Total Number of Health Incidences Across the 5-Air-District Region (per year)[4] |
|---|---|---|---|---|---|
| | | (Mean) | (Mean) | | |
| **Respiratory** | | | | | |
| Emergency Room Visits, Asthma | 0 - 99 | 2.3 | 2.1 | 0.011% | 18419 |
| Hospital Admissions, Asthma | 0 - 64 | 0.14 | 0.13 | 0.0072% | 1846 |
| Hospital Admissions, All Respiratory | 65 - 99 | 0.79 | 0.70 | 0.0036% | 19644 |
| **Cardiovascular** | | | | | |
| Hospital Admissions, All Cardiovascular (less Myocardial Infarctions) | 65 - 99 | 0.40 | 0.37 | 0.0015% | 24037 |
| Acute Myocardial Infarction, Nonfatal | 18 - 24 | 0.00021 | 0.00019 | 0.0049% | 4 |
| Acute Myocardial Infarction, Nonfatal | 25 - 44 | 0.017 | 0.016 | 0.0052% | 308 |
| Acute Myocardial Infarction, Nonfatal | 45 - 54 | 0.039 | 0.036 | 0.0049% | 741 |
| Acute Myocardial Infarction, Nonfatal | 55 - 64 | 0.066 | 0.062 | 0.0050% | 1239 |
| Acute Myocardial Infarction, Nonfatal | 65 - 99 | 0.26 | 0.24 | 0.0047% | 5052 |
| **Mortality** | | | | | |
| Mortality, All Cause | 30 - 99 | 5.6 | 5.2 | 0.012% | 44766 |

| Ozone Health Endpoint | Age Range1 | Incidences Across the Reduced Sacramento 4-km Modeling Domain Resulting from Project Emissions (per year)[2,5] | Incidences Across the 5-Air-District Region Resulting from Project Emissions (per year)[2] | Percent of Background Health Incidences Across the 5-Air-District Region[3] | Total Number of Health Incidences Across the 5-Air-District Region (per year)[4] |
|---|---|---|---|---|---|
| | | (Mean) | (Mean) | | |
| **Respiratory** | | | | | |
| Hospital Admissions, All Respiratory | 65 - 99 | 0.27 | 0.20 | 0.0010% | 19644 |
| Emergency Room Visits, Asthma | 0 - 17 | 1.4 | 1.1 | 0.019% | 5859 |
| Emergency Room Visits, Asthma | 18 - 99 | 2.2 | 1.8 | 0.014% | 12560 |
| **Mortality** | | | | | |
| Mortality, Non-Accidental | 0 - 99 | 0.17 | 0.14 | 0.00045% | 30386 |

1. Affected age ranges are shown. Other age ranges are available, but the endpoints and age ranges shown here are the ones used by the USEPA in their health assessments. The age ranges are consistent with the epidemiological study that is the basis of the health function.
2. Health effects are shown in terms of incidences of each health endpoint and how it compares to the base (2035 base year health effect incidences, or "background health incidence") values. Health effects are shown for the Reduced Sacramento 4-km Modeling Domain and the 5-Air-District Region.
3. The percent of background health incidence uses the mean incidence. The background health incidence is an estimate of the average number of people that are affected by the health endpoint in a given population over a given period of time. In this case, the background incidence rates cover the 5-Air-District Region (estimated 2035 population of 3,271,451 persons). Health incidence rates and other health data are typically collected by the government as well as the World Health Organization. The background incidence rates used here are obtained from BenMAP.

4. The total number of health incidences across the 5-Air-District Region is calculated based on the modeling data. The information is presented to assist in providing overall health context.

5. The technical specifications and map for the Reduced Sacramento 4-km Modeling Domain are included in Appendix A, Table A-1 and Appendix B, Figure B-2 of the *Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District.*

***Sac Metro Air District Strategic Area Project Health Effects Tool, version 2, published September 2020***

# Appendix E

# Air Quality Management Plan

# Air Quality Mitigation Plan

## Upper Westside Specific Plan Project

Prepared for:
Upper Westside LLC

**March 2022**

Prepared by

RANEY PLANNING & MANAGEMENT, INC. 20 years
1501 Sports Drive, Suite A, Sacramento, CA 95834

# Upper Westside Specific Plan Project
# Air Quality Mitigation Plan

## Lead Agency

Sacramento County
Department of Planning and Environmental Review
827 7th Street, 2nd Floor
Sacramento, CA  95814

## Prepared By

Raney Planning and Management, Inc.
1501 Sports Drive, Suite A
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Vice President

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## ATTACHMENTS

Attachment A: AQMP CalEEMod Modeling Results
Attachment B: Off-Model Calculations (Natural Gas Prohibition)

## INTRODUCTION

The Upper Westside Specific Plan Project (proposed project) is subject to the California Environmental Quality Act (CEQA). Accordingly, the lead agency is preparing an Environmental Impact Report (EIR) for the proposed project, which will assess whether the proposed project would result in significant air pollutant emissions impacts. If emissions exceed the Sacramento Metropolitan Air Quality Management District (SMAQMD)'s adopted thresholds of significance, then a mitigation plan, consistent with the SMAQMD *Guide to Air Quality Assessment in Sacramento County* (CEQA Guide), must be prepared to address the impacts.

Based on the Air Quality and Greenhouse Gas Impact Analysis prepared for the proposed project, operational air emissions associated with the proposed project, particularly related to ozone precursors (i.e., reactive organic gases [ROG] and nitrous oxides [$NO_X$]), were found to be significant.[1] This Air Quality Mitigation Plan (AQMP) addresses the identified significant impacts and has been prepared in compliance with the SMAQMD *Recommended Guidance for Land use Emission Reductions*.[2] In addition, this AQMP is intended to provide air quality impact mitigation measures that would be applied to the proposed project, as necessary, for the project to meet the requirements of SMAQMD. All modeling results are included as an appendix to this document.

## PROJECT SUMMARY

The Project Summary section includes a discussion regarding the specific location of the proposed project, as well as the project components.

### Project Location

The proposed project is located northwest of Interstate 80 (I-80), north and east of the Sacramento River and the Sacramento County limits, west of the Witter Canal, and south of Fisherman's Lake/Slough. The 2,066-acre site is outside of the Urban Policy Area and Urban Services Boundary in the Natomas New Growth Area, and is predominantly agricultural land with existing commercial uses, including a truck stop, restaurants, gas stations, and hotels located west of the I-80 off-/on-ramp (see Figure 1 and Figure 2).

Surrounding existing land uses include the Sacramento River to the south and west; agricultural land to the west; I-80, multi-family residences, and a business park to the east; and single-family residences to the east, west, north, and south.

The Sacramento County General Plan designates the site as Agricultural Cropland, Agricultural Residential, Commercial/Office, and Recreation and the site is zoned Agricultural, Agricultural Residential, General Commercial, and Highway Travel Commercial.

### Project Description

The proposed project would create a Specific Plan for the Upper Westside planning area, which would include 9,231 residential dwelling units, 130.5 acres of commercial uses, 147.1 acres of schools, 73.2 acres of parks, 49.8 acres of open space, 83.9 acres of agricultural residences, and 407.6 acres of agricultural cropland (see Figure 3). The project would also include roadway improvements, including the expansion of El Centro Road and the development of additional roadways throughout the project site.

---

1 Upper Westside LLC. *Air Quality and Greenhouse Gas Impact Analysis Upper Westside Specific Plan Project* [pg. 46]. December 2021.

2 Sacramento Metropolitan Air Quality Management District. *Recommended Guidance for Land Use Emission Reductions Version 4.3 (for Operational Emissions)*. February 10, 2021.

**Figure 1**
**Regional Project Location**

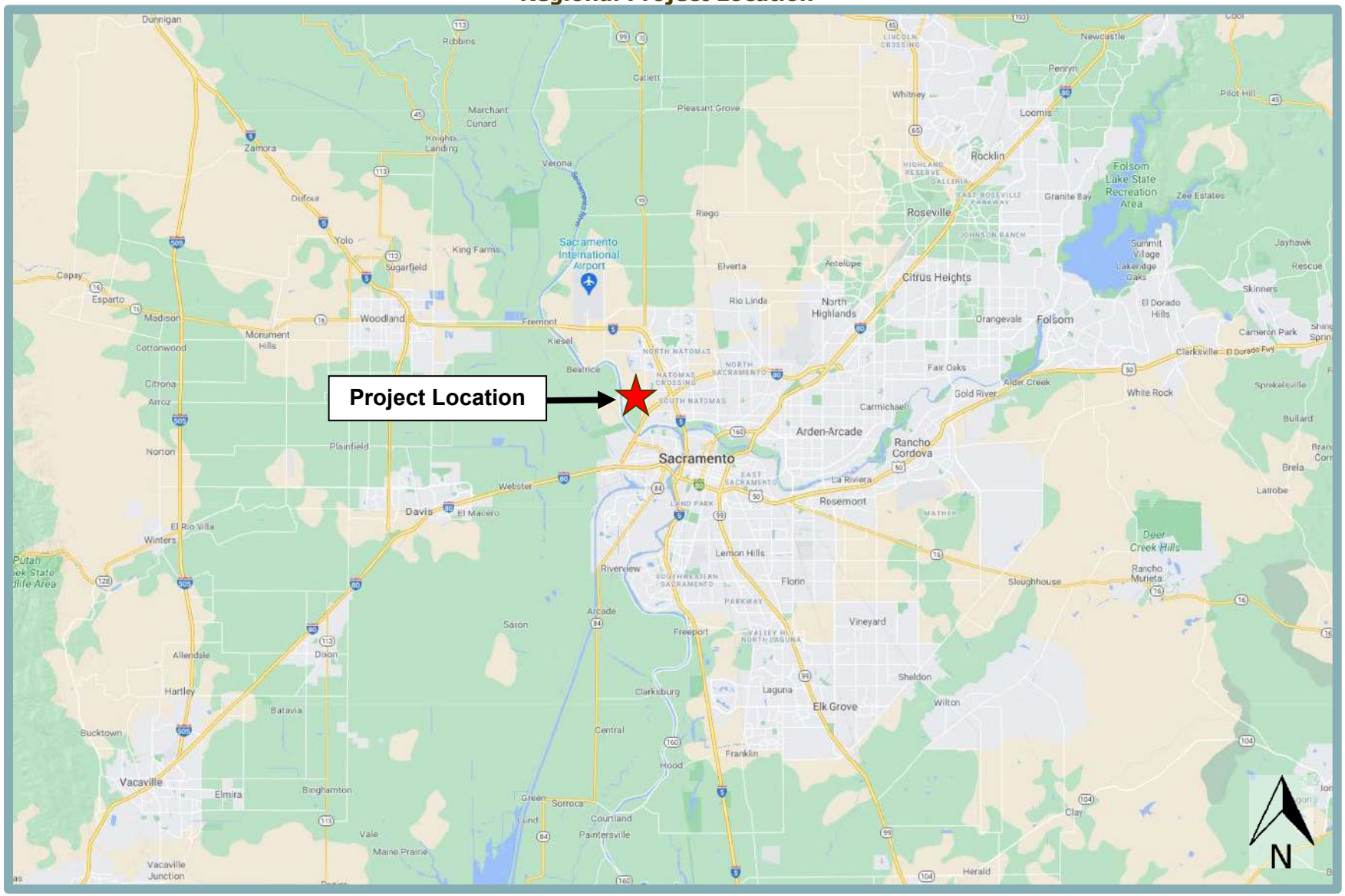


**Figure 2**
**Project Site**

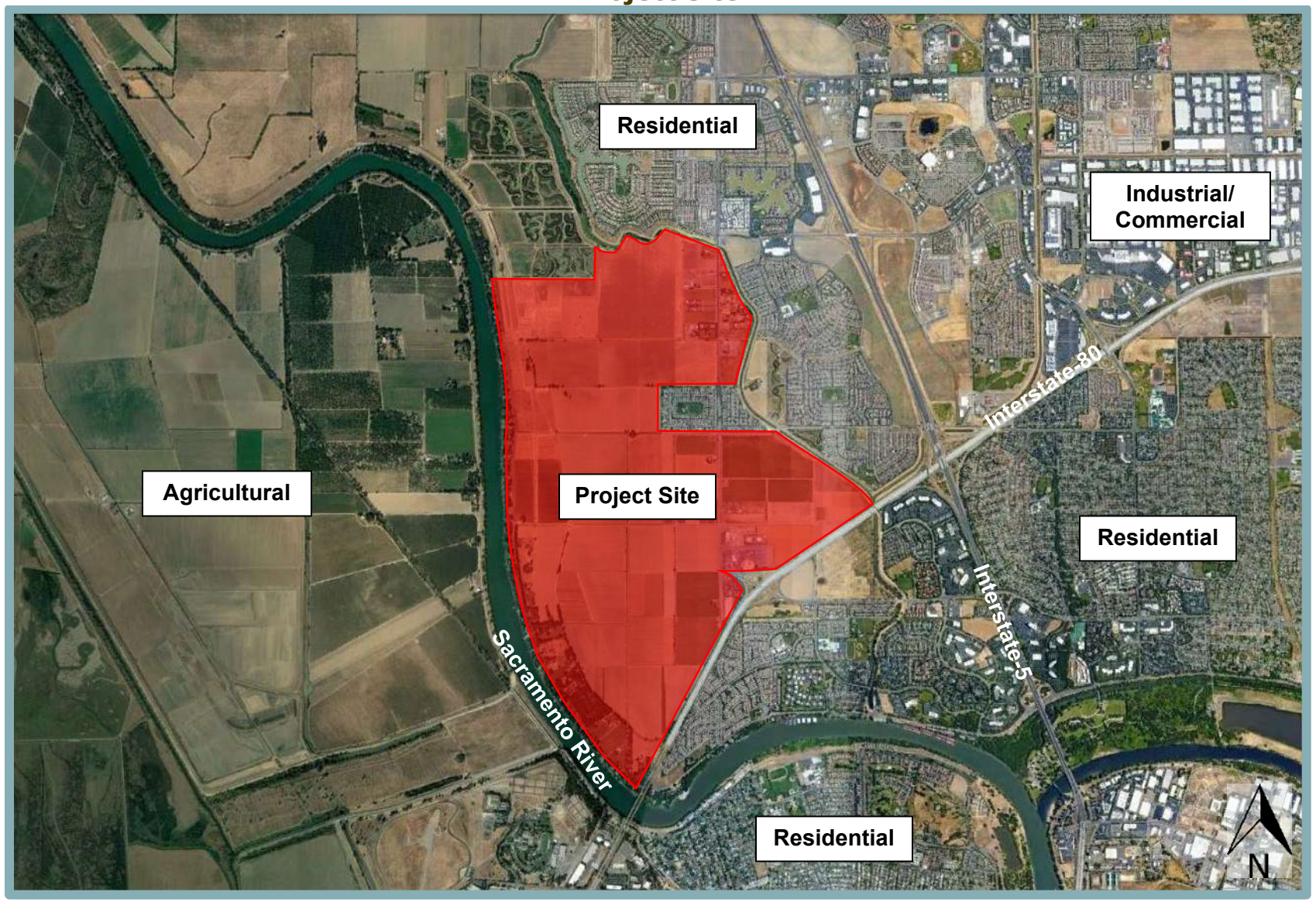
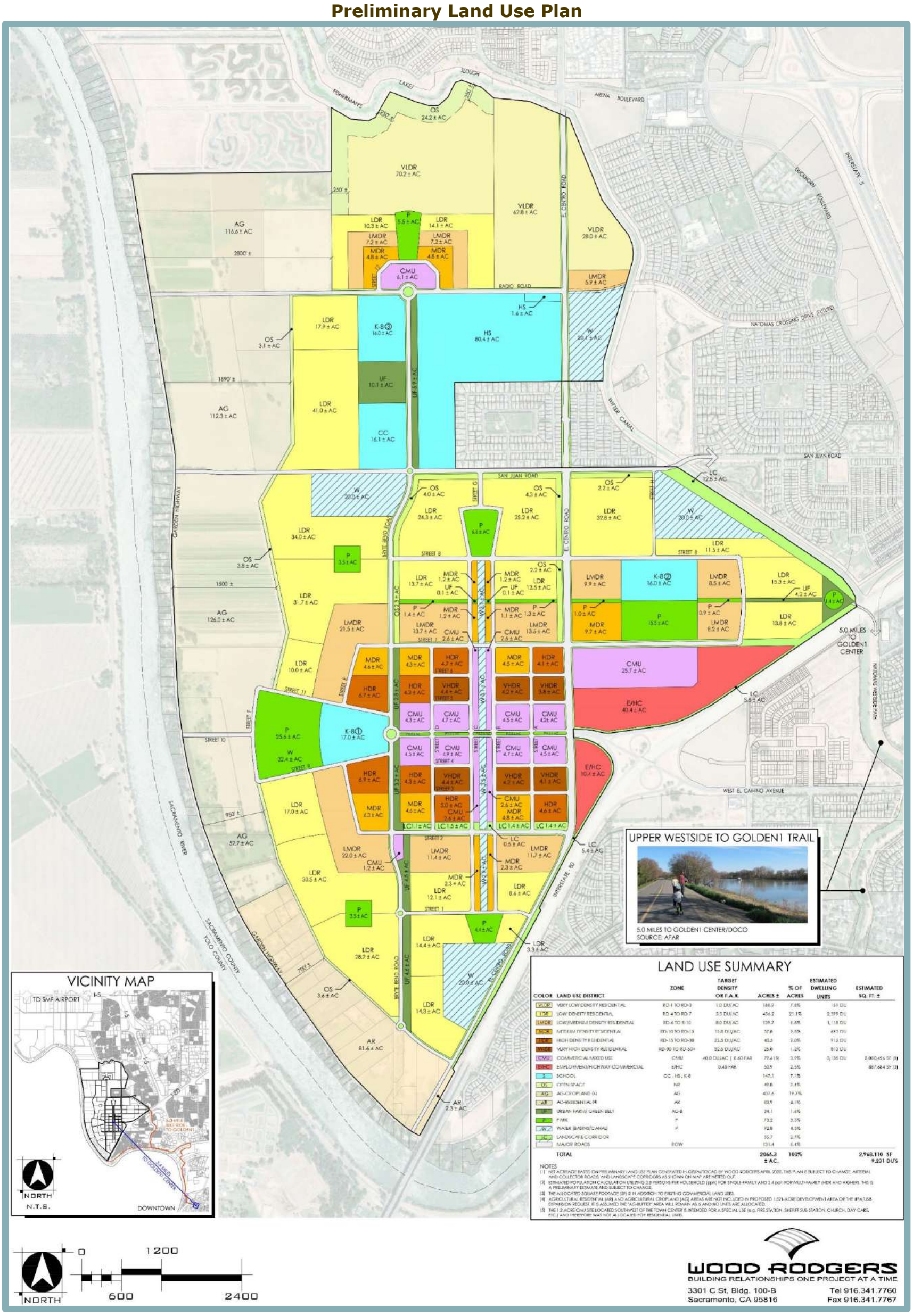


**Figure 3**
**Preliminary Land Use Plan**




## LAND USE SUMMARY

| COLOR | LAND USE DISTRICT | ZONE | TARGET DENSITY OR F.A.R. | ACRES ± | % OF ACRES | ESTIMATED DWELLING UNITS | ESTIMATED SQ. FT. ± |
|---|---|---|---|---|---|---|---|
| VLDR | VERY LOW DENSITY RESIDENTIAL | RD-1 TO RD-3 | 1.0 DU/AC | 160.9 | 7.8% | 161 DU | |
| LDR | LOW DENSITY RESIDENTIAL | RD-4 TO RD-7 | 5.5 DU/AC | 436.2 | 21.1% | 2,399 DU | |
| LMDR | LOW/MEDIUM DENSITY RESIDENTIAL | RD-6 TO R-10 | 8.0 DU/AC | 139.7 | 6.8% | 1,118 DU | |
| MDR | MEDIUM DENSITY RESIDENTIAL | RD-10 TO RD-15 | 13.0 DU/AC | 57.8 | 2.8% | 693 DU | |
| HDR | HIGH DENSITY RESIDENTIAL | RD-15 TO RD-30 | 22.5 DU/AC | 40.5 | 2.0% | 912 DU | |
| VHDR | VERY HIGH DENSITY RESIDENTIAL | RD-30 TO RD-50+ | 92.6 DU/AC | 25.8 | 1.2% | 913 DU | |
| CMU | COMMERCIAL MIXED USE | CMU | 40.0 DU/AC \| 0.60 FAR | 79.6 (5) | 3.9% | 3,136 DU | 2,080,456 SF (3) |
| E/HC | EMPLOYMENT/HIGHWAY COMMERCIAL | E/HC | 0.40 FAR | 50.9 | 2.5% | | 887,684 SF (3) |
| S | SCHOOL | CC, HS, K-8 | | 147.1 | 7.1% | | |
| OS | OPEN SPACE | NR | | 49.8 | 2.4% | | |
| AG | AG-CROPLAND (4) | AG | | 407.6 | 19.7% | | |
| AR | AG-RESIDENTIAL (4) | AR | | 83.9 | 4.1% | | |
| UF | URBAN FARM/ GREEN BELT | AG-B | | 34.1 | 1.6% | | |
| P | PARK | P | | 73.2 | 3.5% | | |
| W | WATER (BASINS/CANAL) | P | | 92.8 | 4.5% | | |
| LC | LANDSCAPE CORRIDOR | | | 55.7 | 2.7% | | |
| | MAJOR ROADS | ROW | | 131.4 | 6.4% | | |
| | TOTAL | | | 2066.3 ± AC. | 100% | | 2,968,140 SF 9,231 DU'S |

NOTES
(1) NET ACREAGE BASED ON PRELIMINARY LAND USE PLAN GENERATED IN GIS/AUTOCAD BY WOOD RODGERS APRIL 2020. THIS PLAN IS SUBJECT TO CHANGE. ARTERIAL AND COLLECTOR ROADS, AND LANDSCAPE CORRIDORS AS SHOWN ON MAP ARE NETTED OUT.
(2) ESTIMATED POPULATION CALCULATION UTILIZING 2.8 PERSONS PER HOUSEHOLD (PPH) FOR SINGLE-FAMILY, AND 2.4 PPH FOR MULTI-FAMILY (MDR AND HIGHER). THIS IS A PRELIMINARY ESTIMATE AND SUBJECT TO CHANGE.
(3) THE ALLOCATED SQUARE FOOTAGE (SF) IS IN ADDITION TO EXISTING COMMERCIAL LAND USES.
(4) AGRICULTURAL RESIDENTIAL (AR) AND AGRICULTURAL CROPLAND (AG) AREAS ARE NOT INCLUDED IN PROPOSED 1,521-ACRE DEVELOPMENT AREA OF THE UPA/SOI EXPANSION REQUEST. IT IS ASSUMED THE "AG-BUFFER" AREA WILL REMAIN AS IS AND NO UNITS ARE ALLOCATED.
(5) THE 1.2 ACRE CMU SITE LOCATED SOUTHWEST OF THE TOWN CENTER IS INTENDED FOR A SPECIAL USE (e.g. FIRE STATION, SHERIFF SUB STATION, CHURCH, DAY CARE, ETC.) AND THEREFORE WAS NOT ALLOCATED FOR RESIDENTIAL UNITS.

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME
3301 C St, Bldg. 100-B
Sacramento, CA 95816
Tel 916.341.7760
Fax 916.341.7767

The project would require County approval of the following entitlements:

1. **Amend the Urban Services Boundary** to include the Upper Westside Development Area.
2. **Amend the Urban Policy Area** to include the Upper Westside Plan Development Area.
3. **Amend the General Plan Land Use Element and Land Use Diagram** to change the land use designations for the Upper Westside Development Area (1,532-acres) from Agricultural Cropland (1,825.8± acres), Agriculture Residential (97.0± acres), Recreation (55.3±), and Commercial and Offices (49.5± acres) to Low Density Residential (805.4± acres), Medium Density Residential (41.4± acres), High Density Residential (25.4± acres), Commercial and Office (52.2± acres), Mixed Use (81.5± acres), Public/Quasi-Public (149.0± acres), Recreation (288.5± acres), Agricultural Cropland (407.6± acres)and Agricultural Residential (83.9± acres). The General Plan designations on parcels within the Ag Buffer area (534-acres) are proposed to remain unchanged.
4. **Amend the General Plan Transportation Plan Diagram** to include the roadway system as designated for the Upper Westside Plan Area by the Specific Plan document.
5. **Amend the General Plan Bicycle Master Plan Diagram** to include the bikeway system as designated for the Upper Westside Plan Area by the Specific Plan document.
6. **Amend General Plan Text.** Several policies within various elements of the General Plan are proposed for modification.
7. **Amend the Zoning Diagram** to change the Zoning Designations for the Participating Properties (292± acres) within the Development Area of the Upper Westside Plan Area from AG-40 to Special Planning Area (SPA).
8. **Adopt the Upper Westside Specific Plan** document to establish land use, zoning, and development standards for the parcels located within the Development Area.
9. **Adopt an Urban Services Plan** for the Upper Westside Plan Development Area.
10. **Adopt an Affordable Housing Strategy** for the Upper Westside Plan Development Area.
11. **Adopt a Water Supply Master Plan** for the Upper Westside Plan Development Area.
12. **Approve a Water Supply Assessment** for the Upper Westside Plan Development Area.
13. **Adopt a Public Facilities Financing Plan** for the Upper Westside Plan Development Area.
14. **Adopt a Reimbursement Fee** so that non-participating property owners within the Development Area can reimburse the sponsoring/participating property owners for the cost to prepare and process a Specific Plan and EIR for the Upper Westside Plan Area.
15. **Adopt a Development Agreement** for the sponsoring/participating property owners, controlling 295± acres, located within the Upper Westside Plan Development Area.

In addition to the above entitlements, separate Service District Annexation requests for the Upper Westside Plan Area are proposed to include:

- Annexation to County Service Area 10 (CSA-10) or the creation of a new CSA.
- Annexation to Sacramento Regional County Sanitation District (Regional San).
- Annexation to Sacramento Area Sewer District (SASD).

More detail regarding the components included as part of the proposed project can be found in the EIR.

## PURPOSE OF THE AQMP

CEQA requires that EIRs identify and evaluate any potential environmental impacts of a project. The analysis of potential effects must include both direct project impacts and indirect impacts. The analysis must then describe feasible measures that could reduce any potentially significant adverse impacts to less-than-significant levels. To assist in the evaluation of air quality impacts, the SMAQMD developed the CEQA Guide. The CEQA Guide outlines a methodology for calculating project emissions whereby a project is divided into separate construction and operational phases. For each phase, the CEQA Guide establishes significance thresholds related to elevated regional ambient ozone concentrations, which are considered a cumulative impact. Project emissions are compared to these significance thresholds, and mitigation measures are required for projects with emissions exceeding these thresholds.

As part of the CEQA process, project operational emissions are calculated and impacts are determined in the EIR. Any projects that generate emissions that exceed the adopted SMAQMD thresholds of significance for ozone precursor pollutants shall be deemed to have a significant environmental impact. According to SMAQMD, projects that generate a significant impact for ozone precursors should create an AQMP, subject to review and recommendation as to technical adequacy by SMAQMD, to minimize impacts. The AQMP shall consist of feasible measures to reduce operational ozone precursor emissions associated with the project and minimize impacts, which would be incorporated as mitigation into the project's EIR. Implementation of the measures set forth in this AQMP would be enforced by the County.

### Ozone Precursors

Ozone is a reactive gas consisting of three oxygen atoms. In the troposphere, ozone is a product of the photochemical process involving the sun's energy, and is a secondary pollutant formed as a result of a complex chemical reaction between reactive organic gases (ROG) and oxides of nitrogen ($NO_X$) emissions in the presence of sunlight. Ozone at the Earth's surface causes numerous adverse health effects and is a major component of smog. High concentrations of ground level ozone can adversely affect the human respiratory system and aggravate cardiovascular disease and many respiratory ailments. This AQMP focuses on two categories of ozone precursors, ROG and $NO_X$, which are discussed in further detail below.

#### Reactive Organic Gas

Reactive Organic Gas (ROG) refers to a group of reactive chemical gases composed of hydrocarbon compounds typically found in paints and solvents that contributes to the formation of smog and ozone by involvement in atmospheric chemical reactions. A separate health standard does not exist for ROG. However, some compounds that make up ROG are toxic, such as the carcinogen benzene.

#### Oxides of Nitrogen

Oxides of Nitrogen ($NO_X$) are a family of gaseous nitrogen compounds and are precursors to the formation of ozone and particulate matter. The major component of $NO_X$, nitrogen dioxide ($NO_2$), is a reddish-brown gas that discolors the air and is toxic at high concentrations. $NO_X$ results primarily from the combustion of fossil fuels under high temperature and pressure. On-road and off-road motor vehicles and fuel combustion are the major sources of $NO_X$. $NO_X$ reacts with ROG to form smog, which could result in adverse impacts to human health, damage the environment, and cause poor visibility. Additionally, $NO_X$ emissions are a major component of acid rain. Health effects related to $NO_X$ include lung irritation and lung damage and can cause increased risk of acute and chronic respiratory disease.

## METHODOLOGY

For this analysis, an unmitigated baseline and a mitigated operational scenario were modeled. The SMAQMD establishes the basis for the use of an unmitigated baseline scenario in the document *Recommended Guidance for Land Use Emission Reductions*, where the unmitigated baseline is considered to be development of the proposed project without consideration of any inherent design or site features (e.g., design enhancements, vehicle miles traveled [VMT] reductions, etc.). Although SMAQMD directs that the unmitigated baseline does not incorporate any design features of the project, the unmitigated baseline should incorporate any statewide regulations that may serve to reduce emissions. For instance, the California Building Standards Code (CBSC) requires that all single-family residential units of three stories or less be developed with on-site renewable energy systems sufficient to meet all electricity demands from the residences. The unmitigated baseline emissions estimates prepared for the project incorporate all relevant CBSC requirements, as all development in California is required to incorporate such features.

The unmitigated baseline was compared to the mitigated operational emissions that would result from the proposed project. The mitigated operational scenario includes mitigation measures and development strategies that would be incorporated as part of the proposed development. Both the unmitigated baseline and mitigated total ozone precursors for the proposed project were estimated using the California Emissions Estimator Model (CalEEMod) version 2020.4.0 software - a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions, including GHG emissions, from land use projects.[3] The model applies inherent default values for various land uses, including trip generation rates based on the Institute of Transportation Engineers (ITE) Manual, vehicle mix, trip length, average speed, etc. The emissions were modeled during the full buildout year, which was assumed to be 2045. All project modeling results are included as Attachment A.

### Required Air Quality Emissions Reduction Percentage

The SMAQMD has developed the *Recommended Guidance for Land use Emission Reductions Version 4.3*, dated February 2021, to instruct project proponents how to quantify, apply, and comply with various measures for projects within the SMAQMD jurisdictional area. Projects that are anticipated to emit 65 pounds or more of $NO_X$ or ROG per day, 80 pounds per day (or 14.6 tons/year) or more of $PM_{10}$, or 82 pounds per day (or 15 tons/year) or more of $PM_{2.5}$ are considered operationally significant for CEQA purposes and should apply feasible mitigation. SMAQMD guidance provides that the creation and implementation of an AQMP represents all feasible mitigation, provided a reduction of ozone precursors is illustrated to be below an unmitigated project by 15 percent for projects considered in the State Implementation Plan (SIP) and 35 percent for projects not considered in the SIP. For $PM_{10}$ and $PM_{2.5}$, SMAQMD does not recommend a percent reduction goal, and instead recommends incorporation of all feasible mitigation measures for projects that exceed the SMAQMD's PM thresholds. Consistent with the aforementioned requirements, preparation of an AQMP for the proposed project is required under Mitigation Measure AQ-1 of the project's Air Quality and Greenhouse Gas Impact Analysis.[4]

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[3] California Air Pollution Control Officers Association (CAPCOA). *California Emissions Estimator Model User's Guide Version 2020.4.0.* May 2021.

[4] Upper Westside LLC. *Air Quality and Greenhouse Gas Impact Analysis Upper Westside Specific Plan Project* [pg 46]. March 2022.

The most recent SIP for the Sacramento region is the *Sacramento Regional 2008 NAAQS 8-Hour Ozone Attainment and Reasonable Further Progress Plan*.[5] As the proposed project has not been anticipated by the County in the General Plan or other community plan, development of the project would not have been included in the growth assumptions of the SIP. Because the SIP takes into account growth assumptions to determine when and how air quality standards could be achieved, emissions that are not accounted for in the SIP have the potential to conflict with the attainment goals set forth in the SIP. As such, a reduction of 35 percent below unmitigated emissions of ozone precursors would be required for the proposed project. According to SMAQMD, a project's ozone precursor emissions reductions goals should be based on mobile emissions only; however, reductions of ozone precursors from non-mobile emission reduction measures (e.g., natural gas or energy reductions) may still be accounted for and applied.

Two types of mitigation measures may be applied - those that are included in CalEEMod (known as on-model measures) and those located solely within the SMAQMD's *Recommended Guidance for Land Use Emission Reductions* (called off-model measures). Many of the on- and off-model measures are based on the California Air Pollution Control Officers Association's (CAPCOA) guidelines *Quantifying Greenhouse Gas Mitigation Measures*.[6] Further clarification on the measures can be found in the CalEEMod User Guide and the CAPCOA Measures.

## OZONE PRECURSOR ANALYSIS

The unmitigated baseline and mitigated operational emissions are presented below, and compared, in order to determine if the proposed project would meet the 35 percent reduction requirement.

### Unmitigated Baseline Operational Emissions

Using CalEEMod, baseline emissions of ROG and $NO_X$ from operations following build-out of the proposed project were estimated. Results of the modeling are presented in Table 1.

**Table 1**
**Unmitigated Baseline Operational Ozone Precursor Emissions**

| Source | ROG (tons/yr) | $NO_X$ (tons/yr) |
|---|---|---|
| Area | 79.52 | 1.11 |
| Energy | 1.41 | 12.40 |
| Mobile | 34.45 | 39.55 |
| ***Total*** | ***115.38*** | ***53.06*** |

***Source: CalEEMod, July 2021 (see Attachment A).***

As noted above, the unmitigated baseline scenario includes compliance with statewide regulations, but does not include consideration of any specific project design or site features. In particular, improvements in energy efficiency due to the implementation of the 2019 CBSC, as well as reductions in the carbon intensity of grid supplied electricity due to SMUD's anticipated compliance with statewide RPS standards, were included in the unmitigated baseline emissions estimation.

[5] El Dorado Air Quality Management District, Feather River Air Quality Management District, Placer County Air Pollution Control District, Sacramento Metropolitan Air Quality Management District, Yolo-Solano Air Quality Management District. *Sacramento Regional 2008 NAAQS 8-Hour Ozone Attainment and Reasonable Further Progress Plan*. July 24, 2017.

[6] California Air Pollution Control Officers Association. *Quantifying Greenhouse Gas Mitigation Measures*. August 2010.

## Establishing Emissions Reduction Targets

For projects not considered in the State Implementation Plan (SIP), including the proposed project, the SMAQMD recommends a 35 percent reduction of ozone precursor mobile source emissions. Accordingly, the emissions reductions that would be required for the proposed project are presented in Table 2 below.

**Table 2**
**Required Emissions Reductions**

| Pollutant | Estimated Mobile Emissions (tons/yr) | Percent Reduction Required | Reduction Target (tons/yr) |
|---|---|---|---|
| ROG | 34.45 | 35 | 12.06 |
| $NO_X$ | 39.55 | 35 | 13.84 |

***Source: CalEEMod, July 2021 (see Attachment A).***

As shown in Table 2, ROG emissions must be reduced by 12.06 tons/yr, and $NO_X$ must be reduced by 13.84 tons/yr. This AQMP will show that the proposed project would achieve the aforementioned emissions reductions by implementing the measures presented herein.

## Summary of Mitigation Measures

The project includes the following on-model and off-model features inherent in the project design, which would contribute to the reduction in emissions in comparison to the unmitigated baseline condition:

### On-Model Mitigation Measures

As discussed above, on-model measures are those that are included in CalEEMod. Further detail regarding the proposed project's on-model measures are provided below.

The protocol within SMAQMD's *Recommended Guidance for Land use Emission Reductions* focuses on reducing ozone emissions through reductions in VMT. Because vehicles release ozone precursors during use, reducing VMT results in a reduction of vehicles usage, and thus a reduction in the emission of ozone precursors. Reducing VMT is typically achieved through encouraging alternative means of transportation, which reduces the use of single-passenger vehicles, designing new developments with efficient circulation networks, and various other methods that reduce existing and anticipated VMT.

VMT reductions often result from a mode shift, where a commuter who previously relied on a single-passenger vehicle for commuting begins to instead use other means of transportations such as walking, biking, carpooling or using public transit. In order for such mode shifts to occur, the infrastructure must be designed to accommodate such activities. For instance, new developments must include sidewalks while reducing barriers to pedestrians such as walls, slopes, and excessive landscaping. In addition, bike lanes, bicycle parking, and bicycle-related signage would be provided within the project area, as appropriate. By increasing pedestrian and bicycle access and interconnectivity, projects can decrease the amount of VMT typically associated with development.[7] Development in the project area would be required to include pedestrian infrastructure to help facilitate pedestrian access, provide bicycle infrastructure, and encourage mode shifts away from single-passenger vehicle use, thus reducing project-wide operational VMT.

[7] California Air Pollution Control Officers Association. *Quantifying Greenhouse Gas Mitigation Measures*. August 2010.

The following project features that would provide a reduction in ozone precursor emissions as a result of VMT reductions were applied as on-model measures in CalEEMod:

### *1. Update Trip Generation Rates (TS)*

Trip generation rates were updated pursuant to the project-specific Trip Generation Technical Memorandum prepared by Fehr and Peers.[8] Trip generation estimates were prepared using the Mixed-Use Trip Generation Model (MXD+), which is highly sensitive to project location. Site-specific inputs that are considered in the model include, but are not limited to, the presence of transit, percentage of project households within 0.25-mile of transit stops, percentage of total regional employment centers within a 30-minute transit trip, and number of jobs within a 1-mile radius of the project. Other inputs considered in MXD+ include rates of vehicle ownership in the project area as well as average household size. MXD+ also considers pedestrian network connectivity using a proxy of intersection density, which indicates whether the project site is located in a walkable, grid layout or a more suburban, curvi-linear layout.

Overall, the complementary nature of land uses within the project site, combined with the availability of transit and walking/biking, would result in an overall 25 percent reduction in gross daily vehicle trips.

### *2. Implement Trip Reduction Program (TRT-1 and TRT-2)*

Participation in a trip reduction program was applied as on-model measures TRT-1 and TRT-2. According to the SMAQMD's *Recommended Guidance for Land Use Emission Reductions*, a Transportation Management Association (TMA) is a formally incorporated organization that applies carefully selected approaches to facilitate the low and zero-emission movement of people within a given area. A TMA must be legally constituted as a non-profit organization, Property/Business Improvement District, or a government entity with a non-revocable funding mechanism, such as a community finance district, dedicated to TMA operations and services. The TMA must provide a minimum level of transportation demand management services (TDM) to employees and residents within the area covered by the AQMP sufficient to achieve the emission reductions claimed by the measure. Services must be enumerated and funded to the satisfaction of Sacramento County in consultation with the SMAQMD including but not limited to the following: guaranteed ride home program; safe routes to school program; yearly reporting to Sacramento County and the SMAQMD on TMA program statistics and progress, trip planning assistance; telework support; bike and pedestrian support, and advocacy.

The proposed project would be required to participate in a qualifying TMA as part of this AQMP, and enforced by Mitigation Measure AQ-1 of the project's Air Quality and Greenhouse Gas Analysis. One example is North Natomas Jibe, which is a TMA that was founded in 1999. The proposed project could annex into the Jibe service area. Membership funding for Jibe is included as a line item on annual property taxes and, thus, funding for this measure would be ensured. The cost of membership dues for properties within the project site would be negotiated at the time of annexation.[9] The proposed project could also implement a separate TMA, subject to approval by Sacramento County and the SMAQMD.

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[8] Fehr and Peers. *Draft Technical Memorandum #2: Upper Westside Specific Plan – Project Trip Generation*. December 8, 2020.

[9] Becky Heieck, Executive Director, North Natomas Jibe. Personal Communication [phone] with Briette Shea, Senior Associated/Air Quality Technician, Raney Planning and Management. March 9, 2022.

## Off-Model Mitigation Measures

The following measure that would provide reductions in ozone precursor emissions were included in off-model emissions reductions calculations for the proposed project (see Attachment B):

### *3. No Natural Gas in Residential Land Uses (M-n)*

Features of a structure's envelope that use natural gas, such as water heaters and space heaters, as well as appliances that use natural gas, such as cooking equipment and clothes dryers, emit $NO_X$ and ROG during operation. In order to reduce $NO_X$ and ROG, as well as GHG, emissions from project operations, installation of infrastructure necessary to supply natural gas to future on-site residential developments has been prohibited by Sacramento County. As a result, all proposed residential uses within the project site would be developed using all-electric appliances, as well as all-electric space heating systems and water heating systems. Compared to the on-site combustion of natural gas, the use of electricity for all future on-site appliances and building envelope features within residential developments represents a much less emissions-intensive source of energy. Reductions in the use of natural gas, through the replacement of appliances that would otherwise be fueled by natural gas with all-electric appliances, would result in increases in the consumption of electricity.[10] However, in order to comply with statewide RPS requirements, SMUD is continually reducing the emissions intensity of grid-supplied electricity through development of renewable energy systems; thus, electricity supplied by SMUD is anticipated to become less emissions-intensive with time, eventually being fully renewably sourced by the year 2045. Additionally, pursuant to the 2019 CBSC, the single-family residential component of the proposed project would be required to generate 100 percent renewable energy on-site and, thus, would not be expected to regularly rely on grid electricity from SMUD.[11] The net effect of prohibiting natural gas consumption on-site would be an eventual removal of $NO_X$ and ROG emissions from the use of natural gas in residential uses on-site (see Attachment B).

## Project On-Model Mitigated Operational Emissions

The above described on-model measures would result in total mitigated operational emissions of ozone precursors as shown in Table 3.

**Table 3**
**Project Operational Ozone Precursor Emissions**

| Source | ROG (tons/yr) | $NO_X$ (tons/yr) |
|---|---|---|
| Unmitigated Baseline | 115.38 | 53.06 |
| On-Model Total | 106.50 | 42.70 |
| ***Reduction Achieved*** | ***8.88*** | ***10.36*** |

***Source: CalEEMod, July 2021; and CalEEMod, March 2022 (see Attachment A).***

It should be noted that Table 3 compares emissions from all operational sources before and after the implementation of on-model mitigation measures. As discussed previously, per SMAQMD's *Recommended Guidance for Land Use Emission Reductions*, while emissions reductions targets should be set based solely on mobile-sourced emissions from project operations, the project's

[10] California Commercial. *End Use Survey, Annual Summary Statistics*. Available at: http://capabilities.itron.com/CeusWeb/Chart.aspx. Accessed February 2020.
California Energy Commission. *California Residential Appliance Saturation Study, Volume 2: Study Results*. Available at: https://webtools.dnvgl.com/RASS2009/Uploads/2009_RASS_Volume%202_FINAL _101310.pdf. Accessed April 2020.

[11] It is noted that the residences would still be connected to the SMUD grid, and would have the ability to utilize grid electricity in the case of emergency.

achieved emissions reductions should be calculated based on total project emissions.[12] Therefore, the estimated emissions and the achieved emissions reductions presented in Table 3 represent emissions from all operational sources, not just the mobile sourced emissions.

## Project Off-Model Mitigated Operational Emissions

The off-model measures would result in a further reduction of mitigated operational emissions as presented below:

- Net ROG Reduction: 0.81 tons/yr; and
- Net NOx Reduction: 6.93 tons/yr.

The off-model calculations, which consider the prohibition of natural gas in residential developments, are included as Attachment B.

## Project Overall Mitigated Operations Emissions

The on-model and off-model measures, described above, would result in a total reduction of mitigated operational emissions as presented in Table 4, below:

**Table 4**
**Project Operational Ozone Precursor Emissions**

| Source | ROG (tons/yr) | $NO_X$ (tons/yr) |
|---|---|---|
| Unmitigated Baseline | 115.38 | 53.06 |
| Project Total (On-Model + Off-Model Measures) | 105.69 | 35.77 |
| ***Reduction Achieved*** | ***9.69*** | ***17.29*** |
| ***Reduction Goal*** | ***12.06*** | ***13.84*** |
| **Target Achieved?** | **NO** | **YES** |

***Source: CalEEMod, July 2021; and CalEEMod, March 2022 (see Attachment A).***

As demonstrated in the table, the proposed project would overachieve the $NO_X$ target by 3.45 tons/yr, but would underachieve the ROG target by 2.37 tons/yr. Additionally, it is noted that no further feasible on-site ROG reductions are available for the proposed project.

In the preparation of AQMPs, SMAQMD allows the conversion of ozone precursors at a rate consistent with the most current SIP.[13] As noted previously, the most recent SIP for the Sacramento region is the *Sacramento Regional 2008 NAAQS 8-Hour Ozone Attainment and Reasonable Further Progress Plan*.[14] An updated SIP for the 2015 Federal Ozone Standard is still in development, but this analysis assumes that the Sacramento region non-attainment area will still be $NO_X$-limited. Because the Sacramento region is $NO_X$-limited, reductions in $NO_X$ emissions are more beneficial to achieving the ozone standard than ROG reductions. In other words, reducing a ton of $NO_X$ would result in the same or better regional ozone air quality benefits as reducing a ton of ROG.

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12 Sacramento Metropolitan Air Quality Management District. *Recommended Guidance for Land Use Emission Reductions Version 4.3 (for Operational Emissions)* [pg. 5]. February 10, 2021.

13 Sacramento Metropolitan Air Quality Management District. *Recommended Guidance for Land Use Emission Reductions Version 4.3 (for Operational Emissions)* [pg. 5]. February 10, 2021.

14 El Dorado Air Quality Management District, Feather River Air Quality Management District, Placer County Air Pollution Control District, Sacramento Metropolitan Air Quality Management District, Yolo-Solano Air Quality Management District. *Sacramento Regional 2008 NAAQS 8-Hour Ozone Attainment and Reasonable Further Progress Plan*. July 24, 2017.

Based on the above, a portion of the $NO_X$ reduction exceedance can be applied to the ROG reduction in order to achieve the required reduction goal.

## Ozone Precursor Conclusion

Based on the above analysis, and as presented in Table 5, the requirements of this AQMP would achieve the total reduction goal of 35 percent from unmitigated baseline mobile emissions for both ROG and $NO_X$.[15]

**Table 5**
**Project Operational Ozone Precursor Emissions**

| Source | ROG (tons/yr) | $NO_X$ (tons/yr) |
|---|---|---|
| Unmitigated Baseline | 115.38 | 53.06 |
| Project Total (On-Model + Off-Model Measures) | 105.69 | 35.77 |
| ***Reduction Achieved*** | ***9.69*** | ***17.29*** |
| ***Reduction Goal*** | ***12.06*** | ***13.84*** |
| **Target Achieved?** | **NO** | **YES** |
| ***Difference*** | ***2.37*** | ***3.45*** |
| *Reallocation of $NO_X$ to ROG* | *-2.37* | *+2.37* |
| ***Updated Difference*** | ***0*** | ***1.08*** |
| **Target Achieved?** | **YES** | **YES** |

***Source: CalEEMod, July 2021; and CalEEMod, March 2022 (see Attachment A).***

If one or more of the requirements of this AQMP are found to be infeasible at the time of development, the County shall allow for replacement mitigation measures to ensure that a minimum 35 percent overall reduction is achieved. For example, the County could require that trees used for landscaping within the project site are characterized as low-biogenic volatile organic compound (BVOC) species per the *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* prepared by SMAQMD.

Promoting the use of low BVOC trees is identified as a viable strategy for SMAQMD to achieve emissions reductions within the Sacramento Valley Air Basin, the air basin in which the project site is located, thus improving air quality for the air basin.[16] The project applicant, in coordination with the SMAQMD, shall work with future developers to ensure proper implementation of the measures included in this AQMP, as well as any future replacement mitigation measures. Examples of replacement mitigation measures include the installation of Electric Vehicle (EV) charging equipment in excess of CBSC standards and the implementation of off-site pedestrian and bicycle infrastructure improvements.

# PARTICULATE MATTER ANALYSIS

Although SMAQMD's *Recommended Guidance for Land Use Emission Reductions* only includes recommendations for reductions of the ozone precursors $NO_X$ and ROG, the District maintains thresholds for Particulate Matter (PM) pollution.

[15] As noted above, the updated SIP that addressed the 2015 Federal Ozone Standard has not yet been approved by the SMAQMD board, the CARB, nor the USEPA. If the updated SIP determines that the SFNA is ROG-limited, rather than $NO_X$-limited, the proposed project would be required to purchase and surrender 2.37 tons of ROG Emissions Reduction Credits (ERCs) to achieve the required ozone precursor reduction.

[16] Sacramento Metropolitan Air Quality Management District. *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan*. September 26, 2013.

PM is a complex mixture of extremely small particles and liquid droplets. The district maintains construction related and operational thresholds for particles that are 10 micrometers in diameter or smaller ($PM_{10}$) and particles that are 2.5 micrometers in diameter or smaller ($PM_{2.5}$). The District's Operational thresholds for PM pollution are presented in Table 6.

**Table 6**
**SMAQMD Operational Thresholds for PM**

| $PM_{10}$ (lbs/day) | $PM_{10}$ (tons/yr) | $PM_{2.5}$ (lbs/day) | $PM_{2.5}$ (tons/yr) |
|---|---|---|---|
| 80 | 14.6 | 82 | 15 |

Note: The foregoing thresholds of significance only apply when all feasible BACT/BMPs are applied. If all feasible BACT/BMPs are not applied, then the applicable threshold of significance for emissions of PM is zero.

***Source: SMAQMD Thresholds of Significance Table. April 2020.***

While SMAQMD's *Recommended Guidance for Land Use Emission Reductions* does not require AQMPs to include specific measures to reduce PM emissions, many of the on- and off-model measures discussed above would have the co-benefit of reducing PM pollution. To demonstrate the PM emissions reduction that would be achieved by this AQMD, the baseline PM emissions were estimated using the same methodology as described above for baseline ozone emissions estimation. The baseline PM emissions for buildout of the annexation area is presented in Table 7.

**Table 7**
**Baseline Operational PM Emissions**

| $PM_{10}$ (lbs/day) | $PM_{10}$ (tons/yr) | $PM_{2.5}$ (lbs/day) | $PM_{2.5}$ (tons/yr) |
|---|---|---|---|
| 651.27 | 102.04 | 181.87 | 28.58 |

***Source: CalEEMod, July 2021 (see Attachment A).***

Similar to ozone precursors, much of the PM emissions related to the project would be related to mobile sources of emissions. Therefore, the application of the on-model mitigation measures presented above would result in a total reduction of PM emissions as shown in Table 8 below. As shown in the table, on-model mitigation measures applied to the proposed project would achieve reductions in PM emissions.

**Table 8**
**Total Reduction of Emissions Due to On-Model Mitigation Measures**

| | $PM_{10}$ (lbs/day) | $PM_{10}$ (tons/year) | $PM_{2.5}$ (lbs/day) | $PM_{2.5}$ (tons/year) |
|---|---|---|---|---|
| Baseline Emissions | 651.27 | 102.04 | 181.87 | 28.58 |
| Mitigated Emissions | 427.52 | 74.97 | 121.81 | 21.29 |
| Total Reduction from Baseline | 223.75 | 27.07 | 60.06 | 7.29 |
| **PERCENT REDUCTION** | **34.36%** | **26.53%** | **33.02%** | **25.51%** |

***Source: CalEEMod, July 2021; and CalEEMod, March 2022 (see Attachment A).***

Adopted methodology for estimating off-model reductions from PM emissions is not available at this time. However, the consumption of natural gas is not known to result in emissions of PM and, thus, application of Off-Model Measure 3, No Natural Gas in Residential Land Uses (M-n), is not expected to result in any additional PM reductions.

## SOURCES

The following documents are referenced information sources used for the purposes of this AQMP:

1. California Air Pollution Control Officers Association (CAPCOA). *California Emissions Estimator Model User's Guide Version 2020.4.0.* May 2021.
2. California Air Pollution Control Officers Association. *Quantifying Greenhouse Gas Mitigation Measures*. August 2010.
3. California Commercial. *End Use Survey, Annual Summary Statistics*. Available at: http://capabilities.itron.com/CeusWeb/Chart.aspx. Accessed February 2020.
4. California Energy Commission. *California Residential Appliance Saturation Study, Volume 2: Study Results*. Available at: https://webtools.dnvgl.com/RASS2009/Uploads/2009_RASS_Volume%202_FINAL_101310.pdf. Accessed April 2020.
5. El Dorado Air Quality Management District, Feather River Air Quality Management District, Placer County Air Pollution Control District, Sacramento Metropolitan Air Quality Management District, Yolo-Solano Air Quality Management District. *Sacramento Regional 2008 NAAQS 8-Hour Ozone Attainment and Reasonable Further Progress Plan*. July 24, 2017.
6. Fehr and Peers. *Draft Technical Memorandum #2: Upper Westside Specific Plan – Project Trip Generation*. December 8, 2020.
7. Sacramento Metropolitan Air Quality Management District. *Recommended Guidance for Land Use Emission Reductions Version 4.3 (for Operational Emissions)*. February 10, 2021.
8. Sacramento Metropolitan Air Quality Management District. *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan*. September 26, 2013.
9. Upper Westside LLC. *Air Quality and Greenhouse Gas Impact Analysis Upper Westside Specific Plan Project*. March 2022.

# Attachment A

AQMP CalEEMod Modeling Outputs

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# UWSP - AQMP Baseline

**Sacramento Metropolitan AQMD Air District, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| General Office Building | 1,573.00 | 1000sqft | 36.11 | 1,573,000.00 | 0 |
| Government Office Building | 74.00 | 1000sqft | 1.70 | 74,000.00 | 0 |
| Medical Office Building | 41.60 | 1000sqft | 0.96 | 41,600.00 | 0 |
| High School | 1,500.00 | Student | 4.57 | 198,991.47 | 0 |
| Junior College (2yr) | 2,500.00 | Student | 2.51 | 208,000.00 | 0 |
| Junior High School | 3,000.00 | Student | 8.10 | 352,685.05 | 0 |
| Arena | 72.00 | 1000sqft | 23.14 | 72,000.00 | 0 |
| Fast Food Restaurant with Drive Thru | 24.00 | 1000sqft | 0.55 | 24,000.00 | 0 |
| Health Club | 65.00 | 1000sqft | 1.49 | 65,000.00 | 0 |
| High Turnover (Sit Down Restaurant) | 104.00 | 1000sqft | 2.39 | 104,000.00 | 0 |
| Hotel | 410.00 | Room | 13.67 | 595,320.00 | 0 |
| Hotel | 410.00 | Room | 13.67 | 595,320.00 | 0 |
| Apartments Mid Rise | 4,989.00 | Dwelling Unit | 131.29 | 4,989,000.00 | 13321 |
| Single Family Housing | 4,367.00 | Dwelling Unit | 1,417.86 | 7,860,600.00 | 11660 |
| Regional Shopping Center | 245.00 | 1000sqft | 5.62 | 245,000.00 | 0 |
| Supermarket | 65.00 | 1000sqft | 1.49 | 65,000.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 3.5 | **Precipitation Freq (Days)** | 58 |
| **Climate Zone** | 6 | | | **Operational Year** | 2045 |
| **Utility Company** | Sacramento Municipal Utility District | | | | |
| | | | | | AQMP - Baseline |
| **CO2 Intensity** | 0 | **CH4 Intensity** | 0.033 | **N2O Intensity** | 0.004 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**(lb/MWhr) (lb/MWhr) (lb/MWhr)**

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity factor adjusted to reflect SMUD's RPS projections.

Land Use - All land uses are consistent with the project-specific traffic report.

Construction Phase - construction not modeled.

Vehicle Trips -

Water Mitigation -

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 6,000.00 | 1.00 |
| tblLandUse | LandUseSquareFeet | 109,130.59 | 208,000.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 357.98 | 0 |

## 2.0 Emissions Summary

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.1 Overall Construction

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2023 | 1.3600e-003 | 0.0138 | 9.3300e-003 | 2.0000e-005 | 9.8900e-003 | 6.3000e-004 | 0.0105 | 5.0700e-003 | 5.8000e-004 | 5.6500e-003 | 0.0000 | 1.7256 | 1.7256 | 5.4000e-004 | 0.0000 | 1.7396 |
| **Maximum** | **1.3600e-003** | **0.0138** | **9.3300e-003** | **2.0000e-005** | **9.8900e-003** | **6.3000e-004** | **0.0105** | **5.0700e-003** | **5.8000e-004** | **5.6500e-003** | **0.0000** | **1.7256** | **1.7256** | **5.4000e-004** | **0.0000** | **1.7396** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2023 | 1.3600e-003 | 0.0138 | 9.3300e-003 | 2.0000e-005 | 9.8900e-003 | 6.3000e-004 | 0.0105 | 5.0700e-003 | 5.8000e-004 | 5.6500e-003 | 0.0000 | 1.7256 | 1.7256 | 5.4000e-004 | 0.0000 | 1.7396 |
| **Maximum** | **1.3600e-003** | **0.0138** | **9.3300e-003** | **2.0000e-005** | **9.8900e-003** | **6.3000e-004** | **0.0105** | **5.0700e-003** | **5.8000e-004** | **5.6500e-003** | **0.0000** | **1.7256** | **1.7256** | **5.4000e-004** | **0.0000** | **1.7396** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| 1 | 6-1-2023 | 8-31-2023 | 0.0108 | 0.0108 |
| | | Highest | 0.0108 | 0.0108 |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 79.5199 | 1.1100 | 96.1893 | 5.1000e-003 | | 0.5355 | 0.5355 | | 0.5355 | 0.5355 | 0.0000 | 157.8572 | 157.8572 | 0.1507 | 0.0000 | 161.6237 |
| Energy | 1.4127 | 12.4005 | 7.5461 | 0.0771 | | 0.9760 | 0.9760 | | 0.9760 | 0.9760 | 0.0000 | 13,980.6937 | 13,980.6937 | 1.8672 | 0.4502 | 14,161.5185 |
| Mobile | 34.4487 | 39.5473 | 346.7177 | 0.6950 | 100.1840 | 0.3407 | 100.5247 | 26.7463 | 0.3186 | 27.0649 | 0.0000 | 70,842.2144 | 70,842.2144 | 4.7046 | 3.4351 | 71,983.4876 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 2,580.0882 | 0.0000 | 2,580.0882 | 152.4789 | 0.0000 | 6,392.0594 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 371.1318 | 0.0000 | 371.1318 | 1.3887 | 0.8206 | 650.3796 |
| **Total** | **115.3812** | **53.0578** | **450.4530** | **0.7772** | **100.1840** | **1.8523** | **102.0363** | **26.7463** | **1.8302** | **28.5764** | **2,951.2200** | **84,980.7653** | **87,931.9853** | **160.5900** | **4.7058** | **93,349.0687** |

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.2 Overall Operational

**Mitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 79.5199 | 1.1100 | 96.1893 | 5.1000e-003 | | 0.5355 | 0.5355 | | 0.5355 | 0.5355 | 0.0000 | 157.8572 | 157.8572 | 0.1507 | 0.0000 | 161.6237 |
| Energy | 1.4127 | 12.4005 | 7.5461 | 0.0771 | | 0.9760 | 0.9760 | | 0.9760 | 0.9760 | 0.0000 | 13,980.6937 | 13,980.6937 | 1.8672 | 0.4502 | 14,161.5185 |
| Mobile | 34.4487 | 39.5473 | 346.7177 | 0.6950 | 100.1840 | 0.3407 | 100.5247 | 26.7463 | 0.3186 | 27.0649 | 0.0000 | 70,842.2144 | 70,842.2144 | 4.7046 | 3.4351 | 71,983.4876 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 2,580.0882 | 0.0000 | 2,580.0882 | 152.4789 | 0.0000 | 6,392.0594 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 371.1318 | 0.0000 | 371.1318 | 1.3887 | 0.8206 | 650.3796 |
| **Total** | **115.3812** | **53.0578** | **450.4530** | **0.7772** | **100.1840** | **1.8523** | **102.0363** | **26.7463** | **1.8302** | **28.5764** | **2,951.2200** | **84,980.7653** | **87,931.9853** | **160.5900** | **4.7058** | **93,349.0687** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 6/1/2023 | 6/1/2023 | 5 | 1 | |

**Acres of Grading (Site Preparation Phase): 1.5**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 7 | 18.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 9.8300e-003 | 0.0000 | 9.8300e-003 | 5.0500e-003 | 0.0000 | 5.0500e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.3300e-003 | 0.0138 | 9.1200e-003 | 2.0000e-005 | | 6.3000e-004 | 6.3000e-004 | | 5.8000e-004 | 5.8000e-004 | 0.0000 | 1.6725 | 1.6725 | 5.4000e-004 | 0.0000 | 1.6861 |
| **Total** | **1.3300e-003** | **0.0138** | **9.1200e-003** | **2.0000e-005** | **9.8300e-003** | **6.3000e-004** | **0.0105** | **5.0500e-003** | **5.8000e-004** | **5.6300e-003** | **0.0000** | **1.6725** | **1.6725** | **5.4000e-004** | **0.0000** | **1.6861** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.0000e-005 | 2.0000e-005 | 2.1000e-004 | 0.0000 | 7.0000e-005 | 0.0000 | 7.0000e-005 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0530 | 0.0530 | 0.0000 | 0.0000 | 0.0535 |
| **Total** | **3.0000e-005** | **2.0000e-005** | **2.1000e-004** | **0.0000** | **7.0000e-005** | **0.0000** | **7.0000e-005** | **2.0000e-005** | **0.0000** | **2.0000e-005** | **0.0000** | **0.0530** | **0.0530** | **0.0000** | **0.0000** | **0.0535** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 9.8300e-003 | 0.0000 | 9.8300e-003 | 5.0500e-003 | 0.0000 | 5.0500e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.3300e-003 | 0.0138 | 9.1200e-003 | 2.0000e-005 | | 6.3000e-004 | 6.3000e-004 | | 5.8000e-004 | 5.8000e-004 | 0.0000 | 1.6725 | 1.6725 | 5.4000e-004 | 0.0000 | 1.6861 |
| **Total** | **1.3300e-003** | **0.0138** | **9.1200e-003** | **2.0000e-005** | **9.8300e-003** | **6.3000e-004** | **0.0105** | **5.0500e-003** | **5.8000e-004** | **5.6300e-003** | **0.0000** | **1.6725** | **1.6725** | **5.4000e-004** | **0.0000** | **1.6861** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.0000e-005 | 2.0000e-005 | 2.1000e-004 | 0.0000 | 7.0000e-005 | 0.0000 | 7.0000e-005 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0530 | 0.0530 | 0.0000 | 0.0000 | 0.0535 |
| **Total** | **3.0000e-005** | **2.0000e-005** | **2.1000e-004** | **0.0000** | **7.0000e-005** | **0.0000** | **7.0000e-005** | **2.0000e-005** | **0.0000** | **2.0000e-005** | **0.0000** | **0.0530** | **0.0530** | **0.0000** | **0.0000** | **0.0535** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 34.4487 | 39.5473 | 346.7177 | 0.6950 | 100.1840 | 0.3407 | 100.5247 | 26.7463 | 0.3186 | 27.0649 | 0.0000 | 70,842.2144 | 70,842.2144 | 4.7046 | 3.4351 | 71,983.4876 |
| Unmitigated | 34.4487 | 39.5473 | 346.7177 | 0.6950 | 100.1840 | 0.3407 | 100.5247 | 26.7463 | 0.3186 | 27.0649 | 0.0000 | 70,842.2144 | 70,842.2144 | 4.7046 | 3.4351 | 71,983.4876 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments Mid Rise | 27,140.16 | 24,495.99 | 20405.01 | 66,206,272 | 66,206,272 |
| Arena | 771.12 | 771.12 | 771.12 | 1,084,591 | 1,084,591 |
| Fast Food Restaurant with Drive Thru | 11,302.80 | 14,786.88 | 11341.92 | 8,155,601 | 8,155,601 |
| General Office Building | 15,321.02 | 3,476.33 | 1101.10 | 23,950,052 | 23,950,052 |
| Government Office Building | 1,671.66 | 0.00 | 0.00 | 1,716,849 | 1,716,849 |
| Health Club | 2,140.45 | 1,356.55 | 1737.45 | 2,722,032 | 2,722,032 |
| High School | 3,045.00 | 870.00 | 375.00 | 6,128,331 | 6,128,331 |
| High Turnover (Sit Down Restaurant) | 11,666.72 | 12,729.60 | 14834.56 | 10,904,068 | 10,904,068 |
| Hotel | 3,427.60 | 3,357.90 | 2439.50 | 5,040,249 | 5,040,249 |
| Hotel | 3,427.60 | 3,357.90 | 2439.50 | 5,040,249 | 5,040,249 |
| Junior College (2yr) | 2,875.00 | 1,050.00 | 100.00 | 4,083,979 | 4,083,979 |
| Junior High School | 6,390.00 | 0.00 | 0.00 | 10,046,714 | 10,046,714 |
| Medical Office Building | 1,447.68 | 356.51 | 59.07 | 1,821,430 | 1,821,430 |
| Regional Shopping Center | 9,248.75 | 11,299.40 | 5169.50 | 12,518,386 | 12,518,386 |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Single Family Housing | 41,224.48 | 41,661.18 | 37337.85 | 104,521,810 | 104,521,810 |
| Supermarket | 6,940.70 | 11,545.30 | 10820.55 | 7,015,866 | 7,015,866 |
| Total | 148,040.74 | 131,114.66 | 108,932.13 | 270,956,479 | 270,956,479 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments Mid Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Arena | 10.00 | 5.00 | 6.50 | 0.00 | 81.00 | 19.00 | 66 | 28 | 6 |
| Fast Food Restaurant with Drive | 10.00 | 5.00 | 6.50 | 2.20 | 78.80 | 19.00 | 29 | 21 | 50 |
| General Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 77 | 19 | 4 |
| Government Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 62.00 | 5.00 | 50 | 34 | 16 |
| Health Club | 10.00 | 5.00 | 6.50 | 16.90 | 64.10 | 19.00 | 52 | 39 | 9 |
| High School | 10.00 | 5.00 | 6.50 | 77.80 | 17.20 | 5.00 | 75 | 19 | 6 |
| High Turnover (Sit Down | 10.00 | 5.00 | 6.50 | 8.50 | 72.50 | 19.00 | 37 | 20 | 43 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Junior College (2yr) | 10.00 | 5.00 | 6.50 | 6.40 | 88.60 | 5.00 | 92 | 7 | 1 |
| Junior High School | 10.00 | 5.00 | 6.50 | 72.80 | 22.20 | 5.00 | 63 | 25 | 12 |
| Medical Office Building | 10.00 | 5.00 | 6.50 | 29.60 | 51.40 | 19.00 | 60 | 30 | 10 |
| Regional Shopping Center | 10.00 | 5.00 | 6.50 | 16.30 | 64.70 | 19.00 | 54 | 35 | 11 |
| Single Family Housing | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Supermarket | 10.00 | 5.00 | 6.50 | 6.50 | 74.50 | 19.00 | 34 | 30 | 36 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apartments Mid Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Arena | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Fast Food Restaurant with Drive Thru | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| General Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Government Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Health Club | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High Turnover (Sit Down Restaurant) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Hotel | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Junior College (2yr) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Junior High School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Medical Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Regional Shopping Center | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Single Family Housing | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Supermarket | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 1.5992 | 0.1938 | 97.7445 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 1.5992 | 0.1938 | 97.7445 |
| NaturalGas Mitigated | 1.4127 | 12.4005 | 7.5461 | 0.0771 | | 0.9760 | 0.9760 | | 0.9760 | 0.9760 | 0.0000 | 13,980.6937 | 13,980.6937 | 0.2680 | 0.2563 | 14,063.7740 |
| NaturalGas Unmitigated | 1.4127 | 12.4005 | 7.5461 | 0.0771 | | 0.9760 | 0.9760 | | 0.9760 | 0.9760 | 0.0000 | 13,980.6937 | 13,980.6937 | 0.2680 | 0.2563 | 14,063.7740 |

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Apartments Mid Rise | 4.69776e+007 | 0.2533 | 2.1647 | 0.9211 | 0.0138 | | 0.1750 | 0.1750 | | 0.1750 | 0.1750 | 0.0000 | 2,506.9021 | 2,506.9021 | 0.0481 | 0.0460 | 2,521.7994 |
| Arena | 2.56104e+006 | 0.0138 | 0.1255 | 0.1055 | 7.5000e-004 | | 9.5400e-003 | 9.5400e-003 | | 9.5400e-003 | 9.5400e-003 | 0.0000 | 136.6669 | 136.6669 | 2.6200e-003 | 2.5100e-003 | 137.4790 |
| Fast Food Restaurant with Drive Thru | 4.25064e+006 | 0.0229 | 0.2084 | 0.1750 | 1.2500e-003 | | 0.0158 | 0.0158 | | 0.0158 | 0.0158 | 0.0000 | 226.8303 | 226.8303 | 4.3500e-003 | 4.1600e-003 | 228.1783 |
| General Office Building | 2.04175e+007 | 0.1101 | 1.0009 | 0.8407 | 6.0100e-003 | | 0.0761 | 0.0761 | | 0.0761 | 0.0761 | 0.0000 | 1,089.5577 | 1,089.5577 | 0.0209 | 0.0200 | 1,096.0324 |
| Government Office Building | 960520 | 5.1800e-003 | 0.0471 | 0.0396 | 2.8000e-004 | | 3.5800e-003 | 3.5800e-003 | | 3.5800e-003 | 3.5800e-003 | 0.0000 | 51.2570 | 51.2570 | 9.8000e-004 | 9.4000e-004 | 51.5616 |
| Health Club | 2.31205e+006 | 0.0125 | 0.1133 | 0.0952 | 6.8000e-004 | | 8.6100e-003 | 8.6100e-003 | | 8.6100e-003 | 8.6100e-003 | 0.0000 | 123.3798 | 123.3798 | 2.3600e-003 | 2.2600e-003 | 124.1130 |
| High School | 3.00875e+006 | 0.0162 | 0.1475 | 0.1239 | 8.8000e-004 | | 0.0112 | 0.0112 | | 0.0112 | 0.0112 | 0.0000 | 160.5584 | 160.5584 | 3.0800e-003 | 2.9400e-003 | 161.5125 |
| High Turnover (Sit Down Restaurant) | 1.84194e+007 | 0.0993 | 0.9029 | 0.7585 | 5.4200e-003 | | 0.0686 | 0.0686 | | 0.0686 | 0.0686 | 0.0000 | 982.9315 | 982.9315 | 0.0188 | 0.0180 | 988.7725 |
| Hotel | 2.2765e+007 | 0.2455 | 2.2319 | 1.8748 | 0.0134 | | 0.1696 | 0.1696 | | 0.1696 | 0.1696 | 0.0000 | 2,429.6581 | 2,429.6581 | 0.0466 | 0.0445 | 2,444.0964 |
| Junior College (2yr) | 5.40384e+006 | 0.0291 | 0.2649 | 0.2225 | 1.5900e-003 | | 0.0201 | 0.0201 | | 0.0201 | 0.0201 | 0.0000 | 288.3695 | 288.3695 | 5.5300e-003 | 5.2900e-003 | 290.0831 |
| Junior High School | 5.3326e+006 | 0.0288 | 0.2614 | 0.2196 | 1.5700e-003 | | 0.0199 | 0.0199 | | 0.0199 | 0.0199 | 0.0000 | 284.5677 | 284.5677 | 5.4500e-003 | 5.2200e-003 | 286.2588 |
| Medical Office Building | 539968 | 2.9100e-003 | 0.0265 | 0.0222 | 1.6000e-004 | | 2.0100e-003 | 2.0100e-003 | | 2.0100e-003 | 2.0100e-003 | 0.0000 | 28.8148 | 28.8148 | 5.5000e-004 | 5.3000e-004 | 28.9860 |
| Regional Shopping Center | 1.31565e+006 | 7.0900e-003 | 0.0645 | 0.0542 | 3.9000e-004 | | 4.9000e-003 | 4.9000e-003 | | 4.9000e-003 | 4.9000e-003 | 0.0000 | 70.2081 | 70.2081 | 1.3500e-003 | 1.2900e-003 | 70.6253 |
| Single Family Housing | 1.03318e+008 | 0.5571 | 4.7607 | 2.0258 | 0.0304 | | 0.3849 | 0.3849 | | 0.3849 | 0.3849 | 0.0000 | 5,513.4432 | 5,513.4432 | 0.1057 | 0.1011 | 5,546.2068 |
| Supermarket | 1.6406e+006 | 8.8500e-003 | 0.0804 | 0.0676 | 4.8000e-004 | | 6.1100e-003 | 6.1100e-003 | | 6.1100e-003 | 6.1100e-003 | 0.0000 | 87.5487 | 87.5487 | 1.6800e-003 | 1.6100e-003 | 88.0689 |
| **Total** | | **1.4127** | **12.4005** | **7.5461** | **0.0771** | | **0.9760** | **0.9760** | | **0.9760** | **0.9760** | **0.0000** | **13,980.6937** | **13,980.6937** | **0.2680** | **0.2563** | **14,063.7740** |

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Apartments Mid Rise | 4.69776e+007 | 0.2533 | 2.1647 | 0.9211 | 0.0138 | | 0.1750 | 0.1750 | | 0.1750 | 0.1750 | 0.0000 | 2,506.9021 | 2,506.9021 | 0.0481 | 0.0460 | 2,521.7994 |
| Arena | 2.56104e+006 | 0.0138 | 0.1255 | 0.1055 | 7.5000e-004 | | 9.5400e-003 | 9.5400e-003 | | 9.5400e-003 | 9.5400e-003 | 0.0000 | 136.6669 | 136.6669 | 2.6200e-003 | 2.5100e-003 | 137.4790 |
| Fast Food Restaurant with Drive Thru | 4.25064e+006 | 0.0229 | 0.2084 | 0.1750 | 1.2500e-003 | | 0.0158 | 0.0158 | | 0.0158 | 0.0158 | 0.0000 | 226.8303 | 226.8303 | 4.3500e-003 | 4.1600e-003 | 228.1783 |
| General Office Building | 2.04175e+007 | 0.1101 | 1.0009 | 0.8407 | 6.0100e-003 | | 0.0761 | 0.0761 | | 0.0761 | 0.0761 | 0.0000 | 1,089.5577 | 1,089.5577 | 0.0209 | 0.0200 | 1,096.0324 |
| Government Office Building | 960520 | 5.1800e-003 | 0.0471 | 0.0396 | 2.8000e-004 | | 3.5800e-003 | 3.5800e-003 | | 3.5800e-003 | 3.5800e-003 | 0.0000 | 51.2570 | 51.2570 | 9.8000e-004 | 9.4000e-004 | 51.5616 |
| Health Club | 2.31205e+006 | 0.0125 | 0.1133 | 0.0952 | 6.8000e-004 | | 8.6100e-003 | 8.6100e-003 | | 8.6100e-003 | 8.6100e-003 | 0.0000 | 123.3798 | 123.3798 | 2.3600e-003 | 2.2600e-003 | 124.1130 |
| High School | 3.00875e+006 | 0.0162 | 0.1475 | 0.1239 | 8.8000e-004 | | 0.0112 | 0.0112 | | 0.0112 | 0.0112 | 0.0000 | 160.5584 | 160.5584 | 3.0800e-003 | 2.9400e-003 | 161.5125 |
| High Turnover (Sit Down Restaurant) | 1.84194e+007 | 0.0993 | 0.9029 | 0.7585 | 5.4200e-003 | | 0.0686 | 0.0686 | | 0.0686 | 0.0686 | 0.0000 | 982.9315 | 982.9315 | 0.0188 | 0.0180 | 988.7725 |
| Hotel | 2.2765e+007 | 0.2455 | 2.2319 | 1.8748 | 0.0134 | | 0.1696 | 0.1696 | | 0.1696 | 0.1696 | 0.0000 | 2,429.6581 | 2,429.6581 | 0.0466 | 0.0445 | 2,444.0964 |
| Junior College (2yr) | 5.40384e+006 | 0.0291 | 0.2649 | 0.2225 | 1.5900e-003 | | 0.0201 | 0.0201 | | 0.0201 | 0.0201 | 0.0000 | 288.3695 | 288.3695 | 5.5300e-003 | 5.2900e-003 | 290.0831 |
| Junior High School | 5.3326e+006 | 0.0288 | 0.2614 | 0.2196 | 1.5700e-003 | | 0.0199 | 0.0199 | | 0.0199 | 0.0199 | 0.0000 | 284.5677 | 284.5677 | 5.4500e-003 | 5.2200e-003 | 286.2588 |
| Medical Office Building | 539968 | 2.9100e-003 | 0.0265 | 0.0222 | 1.6000e-004 | | 2.0100e-003 | 2.0100e-003 | | 2.0100e-003 | 2.0100e-003 | 0.0000 | 28.8148 | 28.8148 | 5.5000e-004 | 5.3000e-004 | 28.9860 |
| Regional Shopping Center | 1.31565e+006 | 7.0900e-003 | 0.0645 | 0.0542 | 3.9000e-004 | | 4.9000e-003 | 4.9000e-003 | | 4.9000e-003 | 4.9000e-003 | 0.0000 | 70.2081 | 70.2081 | 1.3500e-003 | 1.2900e-003 | 70.6253 |
| Single Family Housing | 1.03318e+008 | 0.5571 | 4.7607 | 2.0258 | 0.0304 | | 0.3849 | 0.3849 | | 0.3849 | 0.3849 | 0.0000 | 5,513.4432 | 5,513.4432 | 0.1057 | 0.1011 | 5,546.2068 |
| Supermarket | 1.6406e+006 | 8.8500e-003 | 0.0804 | 0.0676 | 4.8000e-004 | | 6.1100e-003 | 6.1100e-003 | | 6.1100e-003 | 6.1100e-003 | 0.0000 | 87.5487 | 87.5487 | 1.6800e-003 | 1.6100e-003 | 88.0689 |
| **Total** | | **1.4127** | **12.4005** | **7.5461** | **0.0771** | | **0.9760** | **0.9760** | | **0.9760** | **0.9760** | **0.0000** | **13,980.6937** | **13,980.6937** | **0.2680** | **0.2563** | **14,063.7740** |

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Apartments Mid Rise | 1.94258e+007 | 0.0000 | 0.2908 | 0.0353 | 17.7726 |
| Arena | 1.06704e+006 | 0.0000 | 0.0160 | 1.9400e-003 | 0.9762 |
| Fast Food Restaurant with Drive Thru | 978480 | 0.0000 | 0.0147 | 1.7800e-003 | 0.8952 |
| General Office Building | 2.18647e+007 | 0.0000 | 0.3273 | 0.0397 | 20.0039 |
| Government Office Building | 1.0286e+006 | 0.0000 | 0.0154 | 1.8700e-003 | 0.9411 |
| Health Club | 963300 | 0.0000 | 0.0144 | 1.7500e-003 | 0.8813 |
| High School | 1.41284e+006 | 0.0000 | 0.0212 | 2.5600e-003 | 1.2926 |
| High Turnover (Sit Down Restaurant) | 4.24008e+006 | 0.0000 | 0.0635 | 7.6900e-003 | 3.8792 |
| Hotel | 5.60791e+006 | 0.0000 | 0.1679 | 0.0204 | 10.2613 |
| Junior College (2yr) | 1.69104e+006 | 0.0000 | 0.0253 | 3.0700e-003 | 1.5471 |
| Junior High School | 2.50406e+006 | 0.0000 | 0.0375 | 4.5400e-003 | 2.2910 |
| Medical Office Building | 578240 | 0.0000 | 8.6600e-003 | 1.0500e-003 | 0.5290 |
| Regional Shopping Center | 2.7489e+006 | 0.0000 | 0.0412 | 4.9900e-003 | 2.5150 |
| Single Family Housing | 3.45316e+007 | 0.0000 | 0.5169 | 0.0627 | 31.5928 |
| Supermarket | 2.58635e+006 | 0.0000 | 0.0387 | 4.6900e-003 | 2.3662 |
| **Total** | | **0.0000** | **1.5992** | **0.1939** | **97.7445** |

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.3 Energy by Land Use - Electricity

**Mitigated**

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Apartments Mid Rise | 1.94258e+007 | 0.0000 | 0.2908 | 0.0353 | 17.7726 |
| Arena | 1.06704e+006 | 0.0000 | 0.0160 | 1.9400e-003 | 0.9762 |
| Fast Food Restaurant with Drive Thru | 978480 | 0.0000 | 0.0147 | 1.7800e-003 | 0.8952 |
| General Office Building | 2.18647e+007 | 0.0000 | 0.3273 | 0.0397 | 20.0039 |
| Government Office Building | 1.0286e+006 | 0.0000 | 0.0154 | 1.8700e-003 | 0.9411 |
| Health Club | 963300 | 0.0000 | 0.0144 | 1.7500e-003 | 0.8813 |
| High School | 1.41284e+006 | 0.0000 | 0.0212 | 2.5600e-003 | 1.2926 |
| High Turnover (Sit Down Restaurant) | 4.24008e+006 | 0.0000 | 0.0635 | 7.6900e-003 | 3.8792 |
| Hotel | 5.60791e+006 | 0.0000 | 0.1679 | 0.0204 | 10.2613 |
| Junior College (2yr) | 1.69104e+006 | 0.0000 | 0.0253 | 3.0700e-003 | 1.5471 |
| Junior High School | 2.50406e+006 | 0.0000 | 0.0375 | 4.5400e-003 | 2.2910 |
| Medical Office Building | 578240 | 0.0000 | 8.6600e-003 | 1.0500e-003 | 0.5290 |
| Regional Shopping Center | 2.7489e+006 | 0.0000 | 0.0412 | 4.9900e-003 | 2.5150 |
| Single Family Housing | 3.45316e+007 | 0.0000 | 0.5169 | 0.0627 | 31.5928 |
| Supermarket | 2.58635e+006 | 0.0000 | 0.0387 | 4.6900e-003 | 2.3662 |
| **Total** | | **0.0000** | **1.5992** | **0.1939** | **97.7445** |

## 6.0 Area Detail



### 6.1 Mitigation Measures Area

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 79.5199 | 1.1100 | 96.1893 | 5.1000e-003 | | 0.5355 | 0.5355 | | 0.5355 | 0.5355 | 0.0000 | 157.8572 | 157.8572 | 0.1507 | 0.0000 | 161.6237 |
| Unmitigated | 79.5199 | 1.1100 | 96.1893 | 5.1000e-003 | | 0.5355 | 0.5355 | | 0.5355 | 0.5355 | 0.0000 | 157.8572 | 157.8572 | 0.1507 | 0.0000 | 161.6237 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 9.9935 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 66.6416 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 2.8848 | 1.1100 | 96.1893 | 5.1000e-003 | | 0.5355 | 0.5355 | | 0.5355 | 0.5355 | 0.0000 | 157.8572 | 157.8572 | 0.1507 | 0.0000 | 161.6237 |
| **Total** | **79.5199** | **1.1100** | **96.1893** | **5.1000e-003** | | **0.5355** | **0.5355** | | **0.5355** | **0.5355** | **0.0000** | **157.8572** | **157.8572** | **0.1507** | **0.0000** | **161.6237** |

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 9.9935 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 66.6416 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 2.8848 | 1.1100 | 96.1893 | 5.1000e-003 | | 0.5355 | 0.5355 | | 0.5355 | 0.5355 | 0.0000 | 157.8572 | 157.8572 | 0.1507 | 0.0000 | 161.6237 |
| **Total** | **79.5199** | **1.1100** | **96.1893** | **5.1000e-003** | | **0.5355** | **0.5355** | | **0.5355** | **0.5355** | **0.0000** | **157.8572** | **157.8572** | **0.1507** | **0.0000** | **161.6237** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 371.1318 | 1.3887 | 0.8206 | 650.3796 |
| Unmitigated | 371.1318 | 1.3887 | 0.8206 | 650.3796 |

## 7.2 Water by Land Use

**Unmitigated**

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Apartments Mid Rise | 325.053 / 204.925 | 115.0044 | 0.4308 | 0.2543 | 201.5671 |
| Arena | 31.0154 / 1.97971 | 10.9733 | 0.0402 | 0.0242 | 19.1766 |
| Fast Food Restaurant with Drive Thru | 7.28481 / 0.464988 | 2.5774 | 9.4400e-003 | 5.6700e-003 | 4.5041 |
| General Office Building | 279.575 / 171.353 | 98.9141 | 0.3703 | 0.2187 | 173.3502 |
| Government Office Building | 14.7008 / 9.01018 | 5.2012 | 0.0195 | 0.0115 | 9.1152 |
| Health Club | 3.8443 / 2.35619 | 1.3601 | 5.0900e-003 | 3.0100e-003 | 2.3837 |
| High School | 6.60744 / 16.9906 | 2.3377 | 9.4300e-003 | 5.2500e-003 | 4.1384 |
| High Turnover (Sit Down Restaurant) | 31.5675 / 2.01495 | 11.1686 | 0.0409 | 0.0246 | 19.5179 |
| Hotel | 20.8008 / 2.31119 | 7.3593 | 0.0270 | 0.0162 | 12.8641 |
| Junior College (2yr) | 5.35275 / 8.37225 | 1.8938 | 7.3600e-003 | 4.2200e-003 | 3.3353 |
| Junior High School | 7.27272 / 18.7013 | 2.5731 | 0.0104 | 5.7800e-003 | 4.5551 |
| Medical Office Building | 5.21999 / 0.994284 | 1.8468 | 6.8000e-003 | 4.0700e-003 | 3.2296 |
| Regional Shopping Center | 18.1478 / 11.1228 | 6.4207 | 0.0240 | 0.0142 | 11.2525 |
| Single Family Housing | 284.528 / 179.376 | 100.6663 | 0.3771 | 0.2226 | 176.4369 |
| Supermarket | 8.01243 / 0.247807 | 2.8348 | 0.0104 | 6.2400e-003 | 4.9532 |
| **Total** | | **371.1318** | **1.3887** | **0.8206** | **650.3796** |

## 7.2 Water by Land Use

**Mitigated**

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Apartments Mid Rise | 325.053 / 204.925 | 115.0044 | 0.4308 | 0.2543 | 201.5671 |
| Arena | 31.0154 / 1.97971 | 10.9733 | 0.0402 | 0.0242 | 19.1766 |
| Fast Food Restaurant with Drive Thru | 7.28481 / 0.464988 | 2.5774 | 9.4400e-003 | 5.6700e-003 | 4.5041 |
| General Office Building | 279.575 / 171.353 | 98.9141 | 0.3703 | 0.2187 | 173.3502 |
| Government Office Building | 14.7008 / 9.01018 | 5.2012 | 0.0195 | 0.0115 | 9.1152 |
| Health Club | 3.8443 / 2.35619 | 1.3601 | 5.0900e-003 | 3.0100e-003 | 2.3837 |
| High School | 6.60744 / 16.9906 | 2.3377 | 9.4300e-003 | 5.2500e-003 | 4.1384 |
| High Turnover (Sit Down Restaurant) | 31.5675 / 2.01495 | 11.1686 | 0.0409 | 0.0246 | 19.5179 |
| Hotel | 20.8008 / 2.31119 | 7.3593 | 0.0270 | 0.0162 | 12.8641 |
| Junior College (2yr) | 5.35275 / 8.37225 | 1.8938 | 7.3600e-003 | 4.2200e-003 | 3.3353 |
| Junior High School | 7.27272 / 18.7013 | 2.5731 | 0.0104 | 5.7800e-003 | 4.5551 |
| Medical Office Building | 5.21999 / 0.994284 | 1.8468 | 6.8000e-003 | 4.0700e-003 | 3.2296 |
| Regional Shopping Center | 18.1478 / 11.1228 | 6.4207 | 0.0240 | 0.0142 | 11.2525 |
| Single Family Housing | 284.528 / 179.376 | 100.6663 | 0.3771 | 0.2226 | 176.4369 |
| Supermarket | 8.01243 / 0.247807 | 2.8348 | 0.0104 | 6.2400e-003 | 4.9532 |
| **Total** | | **371.1318** | **1.3887** | **0.8206** | **650.3796** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 8.0 Waste Detail

## 8.1 Mitigation Measures Waste

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 2,580.0882 | 152.4789 | 0.0000 | 6,392.0594 |
| Unmitigated | 2,580.0882 | 152.4789 | 0.0000 | 6,392.0594 |

## 8.2 Waste by Land Use

**Unmitigated**

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Apartments Mid Rise | 2294.94 | 465.8521 | 27.5311 | 0.0000 | 1,154.1288 |
| Arena | 1.98 | 0.4019 | 0.0238 | 0.0000 | 0.9958 |
| Fast Food Restaurant with Drive Thru | 276.45 | 56.1169 | 3.3164 | 0.0000 | 139.0271 |
| General Office Building | 1462.89 | 296.9535 | 17.5495 | 0.0000 | 735.6896 |
| Government Office Building | 68.82 | 13.9698 | 0.8256 | 0.0000 | 34.6097 |
| Health Club | 370.5 | 75.2082 | 4.4447 | 0.0000 | 186.3250 |
| High School | 273.75 | 55.5688 | 3.2840 | 0.0000 | 137.6693 |
| High Turnover (Sit Down Restaurant) | 1237.6 | 251.2216 | 14.8468 | 0.0000 | 622.3909 |
| Hotel | 448.95 | 91.1328 | 5.3858 | 0.0000 | 225.7776 |
| Junior College (2yr) | 456.25 | 92.6146 | 5.4734 | 0.0000 | 229.4488 |
| Junior High School | 547.5 | 111.1376 | 6.5680 | 0.0000 | 275.3386 |
| Medical Office Building | 449.28 | 91.1998 | 5.3898 | 0.0000 | 225.9436 |
| Regional Shopping Center | 257.25 | 52.2194 | 3.0861 | 0.0000 | 129.3714 |
| Single Family Housing | 4197.6 | 852.0749 | 50.3562 | 0.0000 | 2,110.9794 |
| Supermarket | 366.6 | 74.4165 | 4.3979 | 0.0000 | 184.3637 |
| **Total** | | **2,580.0882** | **152.4788** | **0.0000** | **6,392.0593** |

## 8.2 Waste by Land Use

**Mitigated**

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Apartments Mid Rise | 2294.94 | 465.8521 | 27.5311 | 0.0000 | 1,154.1288 |
| Arena | 1.98 | 0.4019 | 0.0238 | 0.0000 | 0.9958 |
| Fast Food Restaurant with Drive Thru | 276.45 | 56.1169 | 3.3164 | 0.0000 | 139.0271 |
| General Office Building | 1462.89 | 296.9535 | 17.5495 | 0.0000 | 735.6896 |
| Government Office Building | 68.82 | 13.9698 | 0.8256 | 0.0000 | 34.6097 |
| Health Club | 370.5 | 75.2082 | 4.4447 | 0.0000 | 186.3250 |
| High School | 273.75 | 55.5688 | 3.2840 | 0.0000 | 137.6693 |
| High Turnover (Sit Down Restaurant) | 1237.6 | 251.2216 | 14.8468 | 0.0000 | 622.3909 |
| Hotel | 448.95 | 91.1328 | 5.3858 | 0.0000 | 225.7776 |
| Junior College (2yr) | 456.25 | 92.6146 | 5.4734 | 0.0000 | 229.4488 |
| Junior High School | 547.5 | 111.1376 | 6.5680 | 0.0000 | 275.3386 |
| Medical Office Building | 449.28 | 91.1998 | 5.3898 | 0.0000 | 225.9436 |
| Regional Shopping Center | 257.25 | 52.2194 | 3.0861 | 0.0000 | 129.3714 |
| Single Family Housing | 4197.6 | 852.0749 | 50.3562 | 0.0000 | 2,110.9794 |
| Supermarket | 366.6 | 74.4165 | 4.3979 | 0.0000 | 184.3637 |
| **Total** | | **2,580.0882** | **152.4788** | **0.0000** | **6,392.0593** |

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# UWSP - AQMP Baseline

**Sacramento Metropolitan AQMD Air District, Summer**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| General Office Building | 1,573.00 | 1000sqft | 36.11 | 1,573,000.00 | 0 |
| Government Office Building | 74.00 | 1000sqft | 1.70 | 74,000.00 | 0 |
| Medical Office Building | 41.60 | 1000sqft | 0.96 | 41,600.00 | 0 |
| High School | 1,500.00 | Student | 4.57 | 198,991.47 | 0 |
| Junior College (2yr) | 2,500.00 | Student | 2.51 | 208,000.00 | 0 |
| Junior High School | 3,000.00 | Student | 8.10 | 352,685.05 | 0 |
| Arena | 72.00 | 1000sqft | 23.14 | 72,000.00 | 0 |
| Fast Food Restaurant with Drive Thru | 24.00 | 1000sqft | 0.55 | 24,000.00 | 0 |
| Health Club | 65.00 | 1000sqft | 1.49 | 65,000.00 | 0 |
| High Turnover (Sit Down Restaurant) | 104.00 | 1000sqft | 2.39 | 104,000.00 | 0 |
| Hotel | 410.00 | Room | 13.67 | 595,320.00 | 0 |
| Hotel | 410.00 | Room | 13.67 | 595,320.00 | 0 |
| Apartments Mid Rise | 4,989.00 | Dwelling Unit | 131.29 | 4,989,000.00 | 13321 |
| Single Family Housing | 4,367.00 | Dwelling Unit | 1,417.86 | 7,860,600.00 | 11660 |
| Regional Shopping Center | 245.00 | 1000sqft | 5.62 | 245,000.00 | 0 |
| Supermarket | 65.00 | 1000sqft | 1.49 | 65,000.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 3.5 | **Precipitation Freq (Days)** | 58 |
| **Climate Zone** | 6 | | | **Operational Year** | 2045 |
| **Utility Company** | Sacramento Municipal Utility District | | | | |
| | | | | | AQMP - Baseline |
| **CO2 Intensity** | 0 | **CH4 Intensity** | 0.033 | **N2O Intensity** | 0.004 |

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**(lb/MWhr) (lb/MWhr) (lb/MWhr)**

## 1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity factor adjusted to reflect SMUD's RPS projections.

Land Use - All land uses are consistent with the project-specific traffic report.

Construction Phase - construction not modeled.

Vehicle Trips -

Water Mitigation -

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 6,000.00 | 1.00 |
| tblLandUse | LandUseSquareFeet | 109,130.59 | 208,000.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 357.98 | 0 |

## 2.0 Emissions Summary

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 2.7201 | 27.5533 | 18.7349 | 0.0393 | 19.7939 | 1.2667 | 21.0607 | 10.1388 | 1.1654 | 11.3042 | 0.0000 | 3,815.4139 | 3,815.4139 | 1.1961 | 3.1500e-003 | 3,846.2531 |
| **Maximum** | **2.7201** | **27.5533** | **18.7349** | **0.0393** | **19.7939** | **1.2667** | **21.0607** | **10.1388** | **1.1654** | **11.3042** | **0.0000** | **3,815.4139** | **3,815.4139** | **1.1961** | **3.1500e-003** | **3,846.2531** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 2.7201 | 27.5533 | 18.7349 | 0.0393 | 19.7939 | 1.2667 | 21.0607 | 10.1388 | 1.1654 | 11.3042 | 0.0000 | 3,815.4139 | 3,815.4139 | 1.1961 | 3.1500e-003 | 3,846.2531 |
| **Maximum** | **2.7201** | **27.5533** | **18.7349** | **0.0393** | **19.7939** | **1.2667** | **21.0607** | **10.1388** | **1.1654** | **11.3042** | **0.0000** | **3,815.4139** | **3,815.4139** | **1.1961** | **3.1500e-003** | **3,846.2531** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 442.9965 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | 0.0000 | 1,392.0621 | 1,392.0621 | 1.3286 | 0.0000 | 1,425.2772 |
| Energy | 7.7407 | 67.9480 | 41.3484 | 0.4222 | | 5.3481 | 5.3481 | | 5.3481 | 5.3481 | | 84,444.2564 | 84,444.2564 | 1.6185 | 1.5481 | 84,946.0663 |
| Mobile | 274.3964 | 226.6810 | 2,268.3479 | 4.6116 | 639.5317 | 2.1098 | 641.6415 | 170.2646 | 1.9730 | 172.2376 | | 518,564.0652 | 518,564.0652 | 30.9931 | 22.6061 | 526,075.5057 |
| **Total** | **725.1336** | **303.5086** | **3,079.2103** | **5.0746** | **639.5317** | **11.7420** | **651.2737** | **170.2646** | **11.6052** | **181.8699** | **0.0000** | **604,400.3837** | **604,400.3837** | **33.9402** | **24.1542** | **612,446.8492** |

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 442.9965 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | 0.0000 | 1,392.0621 | 1,392.0621 | 1.3286 | 0.0000 | 1,425.2772 |
| Energy | 7.7407 | 67.9480 | 41.3484 | 0.4222 | | 5.3481 | 5.3481 | | 5.3481 | 5.3481 | | 84,444.2564 | 84,444.2564 | 1.6185 | 1.5481 | 84,946.0663 |
| Mobile | 274.3964 | 226.6810 | 2,268.3479 | 4.6116 | 639.5317 | 2.1098 | 641.6415 | 170.2646 | 1.9730 | 172.2376 | | 518,564.0652 | 518,564.0652 | 30.9931 | 22.6061 | 526,075.5057 |
| **Total** | **725.1336** | **303.5086** | **3,079.2103** | **5.0746** | **639.5317** | **11.7420** | **651.2737** | **170.2646** | **11.6052** | **181.8699** | **0.0000** | **604,400.3837** | **604,400.3837** | **33.9402** | **24.1542** | **612,446.8492** |

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 6/1/2023 | 6/1/2023 | 5 | 1 | |

**Acres of Grading (Site Preparation Phase): 1.5**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

### OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |

### Trips and VMT

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 7 | 18.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |



## 3.1 Mitigation Measures Construction

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.6595 | 27.5242 | 18.2443 | 0.0381 | | 1.2660 | 1.2660 | | 1.1647 | 1.1647 | | 3,687.3081 | 3,687.3081 | 1.1926 | | 3,717.1219 |
| **Total** | **2.6595** | **27.5242** | **18.2443** | **0.0381** | **19.6570** | **1.2660** | **20.9230** | **10.1025** | **1.1647** | **11.2672** | | **3,687.3081** | **3,687.3081** | **1.1926** | | **3,717.1219** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0607 | 0.0291 | 0.4906 | 1.2500e-003 | 0.1369 | 7.1000e-004 | 0.1376 | 0.0363 | 6.5000e-004 | 0.0370 | | 128.1058 | 128.1058 | 3.5200e-003 | 3.1500e-003 | 129.1312 |
| **Total** | **0.0607** | **0.0291** | **0.4906** | **1.2500e-003** | **0.1369** | **7.1000e-004** | **0.1376** | **0.0363** | **6.5000e-004** | **0.0370** | | **128.1058** | **128.1058** | **3.5200e-003** | **3.1500e-003** | **129.1312** |

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.6595 | 27.5242 | 18.2443 | 0.0381 | | 1.2660 | 1.2660 | | 1.1647 | 1.1647 | 0.0000 | 3,687.3081 | 3,687.3081 | 1.1926 | | 3,717.1219 |
| **Total** | **2.6595** | **27.5242** | **18.2443** | **0.0381** | **19.6570** | **1.2660** | **20.9230** | **10.1025** | **1.1647** | **11.2672** | **0.0000** | **3,687.3081** | **3,687.3081** | **1.1926** | | **3,717.1219** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0607 | 0.0291 | 0.4906 | 1.2500e-003 | 0.1369 | 7.1000e-004 | 0.1376 | 0.0363 | 6.5000e-004 | 0.0370 | | 128.1058 | 128.1058 | 3.5200e-003 | 3.1500e-003 | 129.1312 |
| **Total** | **0.0607** | **0.0291** | **0.4906** | **1.2500e-003** | **0.1369** | **7.1000e-004** | **0.1376** | **0.0363** | **6.5000e-004** | **0.0370** | | **128.1058** | **128.1058** | **3.5200e-003** | **3.1500e-003** | **129.1312** |

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 274.3964 | 226.6810 | 2,268.3479 | 4.6116 | 639.5317 | 2.1098 | 641.6415 | 170.2646 | 1.9730 | 172.2376 | | 518,564.0652 | 518,564.0652 | 30.9931 | 22.6061 | 526,075.5057 |
| Unmitigated | 274.3964 | 226.6810 | 2,268.3479 | 4.6116 | 639.5317 | 2.1098 | 641.6415 | 170.2646 | 1.9730 | 172.2376 | | 518,564.0652 | 518,564.0652 | 30.9931 | 22.6061 | 526,075.5057 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments Mid Rise | 27,140.16 | 24,495.99 | 20405.01 | 66,206,272 | 66,206,272 |
| Arena | 771.12 | 771.12 | 771.12 | 1,084,591 | 1,084,591 |
| Fast Food Restaurant with Drive Thru | 11,302.80 | 14,786.88 | 11341.92 | 8,155,601 | 8,155,601 |
| General Office Building | 15,321.02 | 3,476.33 | 1101.10 | 23,950,052 | 23,950,052 |
| Government Office Building | 1,671.66 | 0.00 | 0.00 | 1,716,849 | 1,716,849 |
| Health Club | 2,140.45 | 1,356.55 | 1737.45 | 2,722,032 | 2,722,032 |
| High School | 3,045.00 | 870.00 | 375.00 | 6,128,331 | 6,128,331 |
| High Turnover (Sit Down Restaurant) | 11,666.72 | 12,729.60 | 14834.56 | 10,904,068 | 10,904,068 |
| Hotel | 3,427.60 | 3,357.90 | 2439.50 | 5,040,249 | 5,040,249 |
| Hotel | 3,427.60 | 3,357.90 | 2439.50 | 5,040,249 | 5,040,249 |
| Junior College (2yr) | 2,875.00 | 1,050.00 | 100.00 | 4,083,979 | 4,083,979 |
| Junior High School | 6,390.00 | 0.00 | 0.00 | 10,046,714 | 10,046,714 |
| Medical Office Building | 1,447.68 | 356.51 | 59.07 | 1,821,430 | 1,821,430 |
| Regional Shopping Center | 9,248.75 | 11,299.40 | 5169.50 | 12,518,386 | 12,518,386 |

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Single Family Housing | 41,224.48 | 41,661.18 | 37337.85 | 104,521,810 | 104,521,810 |
| Supermarket | 6,940.70 | 11,545.30 | 10820.55 | 7,015,866 | 7,015,866 |
| Total | 148,040.74 | 131,114.66 | 108,932.13 | 270,956,479 | 270,956,479 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments Mid Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Arena | 10.00 | 5.00 | 6.50 | 0.00 | 81.00 | 19.00 | 66 | 28 | 6 |
| Fast Food Restaurant with Drive | 10.00 | 5.00 | 6.50 | 2.20 | 78.80 | 19.00 | 29 | 21 | 50 |
| General Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 77 | 19 | 4 |
| Government Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 62.00 | 5.00 | 50 | 34 | 16 |
| Health Club | 10.00 | 5.00 | 6.50 | 16.90 | 64.10 | 19.00 | 52 | 39 | 9 |
| High School | 10.00 | 5.00 | 6.50 | 77.80 | 17.20 | 5.00 | 75 | 19 | 6 |
| High Turnover (Sit Down | 10.00 | 5.00 | 6.50 | 8.50 | 72.50 | 19.00 | 37 | 20 | 43 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Junior College (2yr) | 10.00 | 5.00 | 6.50 | 6.40 | 88.60 | 5.00 | 92 | 7 | 1 |
| Junior High School | 10.00 | 5.00 | 6.50 | 72.80 | 22.20 | 5.00 | 63 | 25 | 12 |
| Medical Office Building | 10.00 | 5.00 | 6.50 | 29.60 | 51.40 | 19.00 | 60 | 30 | 10 |
| Regional Shopping Center | 10.00 | 5.00 | 6.50 | 16.30 | 64.70 | 19.00 | 54 | 35 | 11 |
| Single Family Housing | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Supermarket | 10.00 | 5.00 | 6.50 | 6.50 | 74.50 | 19.00 | 34 | 30 | 36 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apartments Mid Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Arena | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Fast Food Restaurant with Drive Thru | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| General Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Government Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Health Club | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High Turnover (Sit Down Restaurant) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Hotel | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Junior College (2yr) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Junior High School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Medical Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Regional Shopping Center | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Single Family Housing | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Supermarket | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 7.7407 | 67.9480 | 41.3484 | 0.4222 | | 5.3481 | 5.3481 | | 5.3481 | 5.3481 | | 84,444.2564 | 84,444.2564 | 1.6185 | 1.5481 | 84,946.0663 |
| NaturalGas Unmitigated | 7.7407 | 67.9480 | 41.3484 | 0.4222 | | 5.3481 | 5.3481 | | 5.3481 | 5.3481 | | 84,444.2564 | 84,444.2564 | 1.6185 | 1.5481 | 84,946.0663 |



### 5.2 Energy by Land Use - NaturalGas

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments Mid Rise | 128706 | 1.3880 | 11.8611 | 5.0473 | 0.0757 | | 0.9590 | 0.9590 | | 0.9590 | 0.9590 | | 15,141.8442 | 15,141.8442 | 0.2902 | 0.2776 | 15,231.8246 |
| Arena | 7016.55 | 0.0757 | 0.6879 | 0.5778 | 4.1300e-003 | | 0.0523 | 0.0523 | | 0.0523 | 0.0523 | | 825.4762 | 825.4762 | 0.0158 | 0.0151 | 830.3816 |
| Fast Food Restaurant with Drive Thru | 11645.6 | 0.1256 | 1.1417 | 0.9591 | 6.8500e-003 | | 0.0868 | 0.0868 | | 0.0868 | 0.0868 | | 1,370.0693 | 1,370.0693 | 0.0263 | 0.0251 | 1,378.2109 |
| General Office Building | 55938.5 | 0.6033 | 5.4842 | 4.6067 | 0.0329 | | 0.4168 | 0.4168 | | 0.4168 | 0.4168 | | 6,580.9960 | 6,580.9960 | 0.1261 | 0.1207 | 6,620.1035 |
| Government Office Building | 2631.56 | 0.0284 | 0.2580 | 0.2167 | 1.5500e-003 | | 0.0196 | 0.0196 | | 0.0196 | 0.0196 | | 309.5955 | 309.5955 | 5.9300e-003 | 5.6800e-003 | 311.4353 |
| Health Club | 6334.38 | 0.0683 | 0.6210 | 0.5217 | 3.7300e-003 | | 0.0472 | 0.0472 | | 0.0472 | 0.0472 | | 745.2216 | 745.2216 | 0.0143 | 0.0137 | 749.6501 |
| High School | 8243.15 | 0.0889 | 0.8082 | 0.6789 | 4.8500e-003 | | 0.0614 | 0.0614 | | 0.0614 | 0.0614 | | 969.7828 | 969.7828 | 0.0186 | 0.0178 | 975.5457 |
| High Turnover (Sit Down Restaurant) | 50464.2 | 0.5442 | 4.9475 | 4.1559 | 0.0297 | | 0.3760 | 0.3760 | | 0.3760 | 0.3760 | | 5,936.9670 | 5,936.9670 | 0.1138 | 0.1088 | 5,972.2474 |
| Hotel | 62370 | 1.3452 | 12.2294 | 10.2727 | 0.0734 | | 0.9294 | 0.9294 | | 0.9294 | 0.9294 | | 14,675.2856 | 14,675.2856 | 0.2813 | 0.2691 | 14,762.4935 |
| Junior College (2yr) | 14805 | 0.1597 | 1.4515 | 1.2192 | 8.7100e-003 | | 0.1103 | 0.1103 | | 0.1103 | 0.1103 | | 1,741.7695 | 1,741.7695 | 0.0334 | 0.0319 | 1,752.1200 |
| Junior High School | 14609.9 | 0.1576 | 1.4323 | 1.2032 | 8.5900e-003 | | 0.1089 | 0.1089 | | 0.1089 | 0.1089 | | 1,718.8068 | 1,718.8068 | 0.0329 | 0.0315 | 1,729.0208 |
| Medical Office Building | 1479.36 | 0.0160 | 0.1450 | 0.1218 | 8.7000e-004 | | 0.0110 | 0.0110 | | 0.0110 | 0.0110 | | 174.0429 | 174.0429 | 3.3400e-003 | 3.1900e-003 | 175.0771 |
| Regional Shopping Center | 3604.52 | 0.0389 | 0.3534 | 0.2968 | 2.1200e-003 | | 0.0269 | 0.0269 | | 0.0269 | 0.0269 | | 424.0612 | 424.0612 | 8.1300e-003 | 7.7700e-003 | 426.5812 |
| Single Family Housing | 283063 | 3.0526 | 26.0862 | 11.1005 | 0.1665 | | 2.1091 | 2.1091 | | 2.1091 | 2.1091 | | 33,301.5385 | 33,301.5385 | 0.6383 | 0.6105 | 33,499.4329 |
| Supermarket | 4494.79 | 0.0485 | 0.4407 | 0.3702 | 2.6400e-003 | | 0.0335 | 0.0335 | | 0.0335 | 0.0335 | | 528.7994 | 528.7994 | 0.0101 | 9.6900e-003 | 531.9418 |
| **Total** | | **7.7407** | **67.9480** | **41.3484** | **0.4222** | | **5.3481** | **5.3481** | | **5.3481** | **5.3481** | | **84,444.2564** | **84,444.2564** | **1.6185** | **1.5481** | **84,946.0664** |

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments Mid Rise | 128.706 | 1.3880 | 11.8611 | 5.0473 | 0.0757 | | 0.9590 | 0.9590 | | 0.9590 | 0.9590 | | 15,141.8442 | 15,141.8442 | 0.2902 | 0.2776 | 15,231.8246 |
| Arena | 7.01655 | 0.0757 | 0.6879 | 0.5778 | 4.1300e-003 | | 0.0523 | 0.0523 | | 0.0523 | 0.0523 | | 825.4762 | 825.4762 | 0.0158 | 0.0151 | 830.3816 |
| Fast Food Restaurant with Drive Thru | 11.6456 | 0.1256 | 1.1417 | 0.9591 | 6.8500e-003 | | 0.0868 | 0.0868 | | 0.0868 | 0.0868 | | 1,370.0693 | 1,370.0693 | 0.0263 | 0.0251 | 1,378.2109 |
| General Office Building | 55.9385 | 0.6033 | 5.4842 | 4.6067 | 0.0329 | | 0.4168 | 0.4168 | | 0.4168 | 0.4168 | | 6,580.9960 | 6,580.9960 | 0.1261 | 0.1207 | 6,620.1035 |
| Government Office Building | 2.63156 | 0.0284 | 0.2580 | 0.2167 | 1.5500e-003 | | 0.0196 | 0.0196 | | 0.0196 | 0.0196 | | 309.5955 | 309.5955 | 5.9300e-003 | 5.6800e-003 | 311.4353 |
| Health Club | 6.33438 | 0.0683 | 0.6210 | 0.5217 | 3.7300e-003 | | 0.0472 | 0.0472 | | 0.0472 | 0.0472 | | 745.2216 | 745.2216 | 0.0143 | 0.0137 | 749.6501 |
| High School | 8.24315 | 0.0889 | 0.8082 | 0.6789 | 4.8500e-003 | | 0.0614 | 0.0614 | | 0.0614 | 0.0614 | | 969.7828 | 969.7828 | 0.0186 | 0.0178 | 975.5457 |
| High Turnover (Sit Down Restaurant) | 50.4642 | 0.5442 | 4.9475 | 4.1559 | 0.0297 | | 0.3760 | 0.3760 | | 0.3760 | 0.3760 | | 5,936.9670 | 5,936.9670 | 0.1138 | 0.1088 | 5,972.2474 |
| Hotel | 62.37 | 1.3452 | 12.2294 | 10.2727 | 0.0734 | | 0.9294 | 0.9294 | | 0.9294 | 0.9294 | | 14,675.2856 | 14,675.2856 | 0.2813 | 0.2691 | 14,762.4935 |
| Junior College (2yr) | 14.805 | 0.1597 | 1.4515 | 1.2192 | 8.7100e-003 | | 0.1103 | 0.1103 | | 0.1103 | 0.1103 | | 1,741.7695 | 1,741.7695 | 0.0334 | 0.0319 | 1,752.1200 |
| Junior High School | 14.6099 | 0.1576 | 1.4323 | 1.2032 | 8.5900e-003 | | 0.1089 | 0.1089 | | 0.1089 | 0.1089 | | 1,718.8068 | 1,718.8068 | 0.0329 | 0.0315 | 1,729.0208 |
| Medical Office Building | 1.47936 | 0.0160 | 0.1450 | 0.1218 | 8.7000e-004 | | 0.0110 | 0.0110 | | 0.0110 | 0.0110 | | 174.0429 | 174.0429 | 3.3400e-003 | 3.1900e-003 | 175.0771 |
| Regional Shopping Center | 3.60452 | 0.0389 | 0.3534 | 0.2968 | 2.1200e-003 | | 0.0269 | 0.0269 | | 0.0269 | 0.0269 | | 424.0612 | 424.0612 | 8.1300e-003 | 7.7700e-003 | 426.5812 |
| Single Family Housing | 283.063 | 3.0526 | 26.0862 | 11.1005 | 0.1665 | | 2.1091 | 2.1091 | | 2.1091 | 2.1091 | | 33,301.5385 | 33,301.5385 | 0.6383 | 0.6105 | 33,499.4329 |
| Supermarket | 4.49479 | 0.0485 | 0.4407 | 0.3702 | 2.6400e-003 | | 0.0335 | 0.0335 | | 0.0335 | 0.0335 | | 528.7994 | 528.7994 | 0.0101 | 9.6900e-003 | 531.9418 |
| **Total** | | **7.7407** | **67.9480** | **41.3484** | **0.4222** | | **5.3481** | **5.3481** | | **5.3481** | **5.3481** | | **84,444.2564** | **84,444.2564** | **1.6185** | **1.5481** | **84,946.0664** |

## 6.0 Area Detail



### 6.1 Mitigation Measures Area

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 442.9965 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | 0.0000 | 1,392.0621 | 1,392.0621 | 1.3286 | 0.0000 | 1,425.2772 |
| Unmitigated | 442.9965 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | 0.0000 | 1,392.0621 | 1,392.0621 | 1.3286 | 0.0000 | 1,425.2772 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 54.7587 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 365.1593 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 23.0785 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | | 1,392.0621 | 1,392.0621 | 1.3286 | | 1,425.2772 |
| **Total** | **442.9965** | **8.8796** | **769.5140** | **0.0408** | | **4.2841** | **4.2841** | | **4.2841** | **4.2841** | **0.0000** | **1,392.0621** | **1,392.0621** | **1.3286** | **0.0000** | **1,425.2772** |

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 54.7587 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 365.1593 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 23.0785 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | | 1,392.0621 | 1,392.0621 | 1.3286 | | 1,425.2772 |
| **Total** | **442.9965** | **8.8796** | **769.5140** | **0.0408** | | **4.2841** | **4.2841** | | **4.2841** | **4.2841** | **0.0000** | **1,392.0621** | **1,392.0621** | **1.3286** | **0.0000** | **1,425.2772** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# UWSP - AQMP Baseline

**Sacramento Metropolitan AQMD Air District, Winter**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| General Office Building | 1,573.00 | 1000sqft | 36.11 | 1,573,000.00 | 0 |
| Government Office Building | 74.00 | 1000sqft | 1.70 | 74,000.00 | 0 |
| Medical Office Building | 41.60 | 1000sqft | 0.96 | 41,600.00 | 0 |
| High School | 1,500.00 | Student | 4.57 | 198,991.47 | 0 |
| Junior College (2yr) | 2,500.00 | Student | 2.51 | 208,000.00 | 0 |
| Junior High School | 3,000.00 | Student | 8.10 | 352,685.05 | 0 |
| Arena | 72.00 | 1000sqft | 23.14 | 72,000.00 | 0 |
| Fast Food Restaurant with Drive Thru | 24.00 | 1000sqft | 0.55 | 24,000.00 | 0 |
| Health Club | 65.00 | 1000sqft | 1.49 | 65,000.00 | 0 |
| High Turnover (Sit Down Restaurant) | 104.00 | 1000sqft | 2.39 | 104,000.00 | 0 |
| Hotel | 410.00 | Room | 13.67 | 595,320.00 | 0 |
| Hotel | 410.00 | Room | 13.67 | 595,320.00 | 0 |
| Apartments Mid Rise | 4,989.00 | Dwelling Unit | 131.29 | 4,989,000.00 | 13321 |
| Single Family Housing | 4,367.00 | Dwelling Unit | 1,417.86 | 7,860,600.00 | 11660 |
| Regional Shopping Center | 245.00 | 1000sqft | 5.62 | 245,000.00 | 0 |
| Supermarket | 65.00 | 1000sqft | 1.49 | 65,000.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 3.5 | **Precipitation Freq (Days)** | 58 |
| **Climate Zone** | 6 | | | **Operational Year** | 2045 |
| **Utility Company** | Sacramento Municipal Utility District | | | | |
| | | | | | AQMP - Baseline |
| **CO2 Intensity** | 0 | **CH4 Intensity** | 0.033 | **N2O Intensity** | 0.004 |

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**(lb/MWhr) (lb/MWhr) (lb/MWhr)**

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity factor adjusted to reflect SMUD's RPS projections.

Land Use - All land uses are consistent with the project-specific traffic report.

Construction Phase - construction not modeled.

Vehicle Trips -

Water Mitigation -

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 6,000.00 | 1.00 |
| tblLandUse | LandUseSquareFeet | 109,130.59 | 208,000.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 357.98 | 0 |

## 2.0 Emissions Summary

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 2.7132 | 27.5599 | 18.6716 | 0.0392 | 19.7939 | 1.2667 | 21.0607 | 10.1388 | 1.1654 | 11.3042 | 0.0000 | 3,801.2622 | 3,801.2622 | 1.1966 | 3.6100e-003 | 3,832.2524 |
| **Maximum** | **2.7132** | **27.5599** | **18.6716** | **0.0392** | **19.7939** | **1.2667** | **21.0607** | **10.1388** | **1.1654** | **11.3042** | **0.0000** | **3,801.2622** | **3,801.2622** | **1.1966** | **3.6100e-003** | **3,832.2524** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 2.7132 | 27.5599 | 18.6716 | 0.0392 | 19.7939 | 1.2667 | 21.0607 | 10.1388 | 1.1654 | 11.3042 | 0.0000 | 3,801.2622 | 3,801.2622 | 1.1966 | 3.6100e-003 | 3,832.2524 |
| **Maximum** | **2.7132** | **27.5599** | **18.6716** | **0.0392** | **19.7939** | **1.2667** | **21.0607** | **10.1388** | **1.1654** | **11.3042** | **0.0000** | **3,801.2622** | **3,801.2622** | **1.1966** | **3.6100e-003** | **3,832.2524** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 442.9965 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | 0.0000 | 1,392.0621 | 1,392.0621 | 1.3286 | 0.0000 | 1,425.2772 |
| Energy | 7.7407 | 67.9480 | 41.3484 | 0.4222 | | 5.3481 | 5.3481 | | 5.3481 | 5.3481 | | 84,444.2564 | 84,444.2564 | 1.6185 | 1.5481 | 84,946.0663 |
| Mobile | 202.9249 | 263.0707 | 2,327.9166 | 4.2128 | 639.5317 | 2.1118 | 641.6435 | 170.2646 | 1.9750 | 172.2396 | | 473,293.1532 | 473,293.1532 | 34.1476 | 24.7012 | 481,507.7914 |
| **Total** | **653.6621** | **339.8983** | **3,138.7790** | **4.6759** | **639.5317** | **11.7441** | **651.2758** | **170.2646** | **11.6072** | **181.8719** | **0.0000** | **559,129.4717** | **559,129.4717** | **37.0947** | **26.2493** | **567,879.1349** |

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 442.9965 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | 0.0000 | 1,392.0621 | 1,392.0621 | 1.3286 | 0.0000 | 1,425.2772 |
| Energy | 7.7407 | 67.9480 | 41.3484 | 0.4222 | | 5.3481 | 5.3481 | | 5.3481 | 5.3481 | | 84,444.2564 | 84,444.2564 | 1.6185 | 1.5481 | 84,946.0663 |
| Mobile | 202.9249 | 263.0707 | 2,327.9166 | 4.2128 | 639.5317 | 2.1118 | 641.6435 | 170.2646 | 1.9750 | 172.2396 | | 473,293.1532 | 473,293.1532 | 34.1476 | 24.7012 | 481,507.7914 |
| **Total** | **653.6621** | **339.8983** | **3,138.7790** | **4.6759** | **639.5317** | **11.7441** | **651.2758** | **170.2646** | **11.6072** | **181.8719** | **0.0000** | **559,129.4717** | **559,129.4717** | **37.0947** | **26.2493** | **567,879.1349** |

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 6/1/2023 | 6/1/2023 | 5 | 1 | |

**Acres of Grading (Site Preparation Phase): 1.5**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

### OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |

### Trips and VMT

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 7 | 18.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |



## 3.1 Mitigation Measures Construction

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.6595 | 27.5242 | 18.2443 | 0.0381 | | 1.2660 | 1.2660 | | 1.1647 | 1.1647 | | 3,687.3081 | 3,687.3081 | 1.1926 | | 3,717.1219 |
| **Total** | **2.6595** | **27.5242** | **18.2443** | **0.0381** | **19.6570** | **1.2660** | **20.9230** | **10.1025** | **1.1647** | **11.2672** | | **3,687.3081** | **3,687.3081** | **1.1926** | | **3,717.1219** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0537 | 0.0358 | 0.4272 | 1.1100e-003 | 0.1369 | 7.1000e-004 | 0.1376 | 0.0363 | 6.5000e-004 | 0.0370 | | 113.9541 | 113.9541 | 4.0500e-003 | 3.6100e-003 | 115.1305 |
| **Total** | **0.0537** | **0.0358** | **0.4272** | **1.1100e-003** | **0.1369** | **7.1000e-004** | **0.1376** | **0.0363** | **6.5000e-004** | **0.0370** | | **113.9541** | **113.9541** | **4.0500e-003** | **3.6100e-003** | **115.1305** |

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.6595 | 27.5242 | 18.2443 | 0.0381 | | 1.2660 | 1.2660 | | 1.1647 | 1.1647 | 0.0000 | 3,687.3081 | 3,687.3081 | 1.1926 | | 3,717.1219 |
| **Total** | **2.6595** | **27.5242** | **18.2443** | **0.0381** | **19.6570** | **1.2660** | **20.9230** | **10.1025** | **1.1647** | **11.2672** | **0.0000** | **3,687.3081** | **3,687.3081** | **1.1926** | | **3,717.1219** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0537 | 0.0358 | 0.4272 | 1.1100e-003 | 0.1369 | 7.1000e-004 | 0.1376 | 0.0363 | 6.5000e-004 | 0.0370 | | 113.9541 | 113.9541 | 4.0500e-003 | 3.6100e-003 | 115.1305 |
| **Total** | **0.0537** | **0.0358** | **0.4272** | **1.1100e-003** | **0.1369** | **7.1000e-004** | **0.1376** | **0.0363** | **6.5000e-004** | **0.0370** | | **113.9541** | **113.9541** | **4.0500e-003** | **3.6100e-003** | **115.1305** |

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 202.9249 | 263.0707 | 2,327.9166 | 4.2128 | 639.5317 | 2.1118 | 641.6435 | 170.2646 | 1.9750 | 172.2396 | | 473,293.1532 | 473,293.1532 | 34.1476 | 24.7012 | 481,507.7914 |
| Unmitigated | 202.9249 | 263.0707 | 2,327.9166 | 4.2128 | 639.5317 | 2.1118 | 641.6435 | 170.2646 | 1.9750 | 172.2396 | | 473,293.1532 | 473,293.1532 | 34.1476 | 24.7012 | 481,507.7914 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments Mid Rise | 27,140.16 | 24,495.99 | 20405.01 | 66,206,272 | 66,206,272 |
| Arena | 771.12 | 771.12 | 771.12 | 1,084,591 | 1,084,591 |
| Fast Food Restaurant with Drive Thru | 11,302.80 | 14,786.88 | 11341.92 | 8,155,601 | 8,155,601 |
| General Office Building | 15,321.02 | 3,476.33 | 1101.10 | 23,950,052 | 23,950,052 |
| Government Office Building | 1,671.66 | 0.00 | 0.00 | 1,716,849 | 1,716,849 |
| Health Club | 2,140.45 | 1,356.55 | 1737.45 | 2,722,032 | 2,722,032 |
| High School | 3,045.00 | 870.00 | 375.00 | 6,128,331 | 6,128,331 |
| High Turnover (Sit Down Restaurant) | 11,666.72 | 12,729.60 | 14834.56 | 10,904,068 | 10,904,068 |
| Hotel | 3,427.60 | 3,357.90 | 2439.50 | 5,040,249 | 5,040,249 |
| Hotel | 3,427.60 | 3,357.90 | 2439.50 | 5,040,249 | 5,040,249 |
| Junior College (2yr) | 2,875.00 | 1,050.00 | 100.00 | 4,083,979 | 4,083,979 |
| Junior High School | 6,390.00 | 0.00 | 0.00 | 10,046,714 | 10,046,714 |
| Medical Office Building | 1,447.68 | 356.51 | 59.07 | 1,821,430 | 1,821,430 |
| Regional Shopping Center | 9,248.75 | 11,299.40 | 5169.50 | 12,518,386 | 12,518,386 |

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Single Family Housing | 41,224.48 | 41,661.18 | 37337.85 | 104,521,810 | 104,521,810 |
| Supermarket | 6,940.70 | 11,545.30 | 10820.55 | 7,015,866 | 7,015,866 |
| Total | 148,040.74 | 131,114.66 | 108,932.13 | 270,956,479 | 270,956,479 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments Mid Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Arena | 10.00 | 5.00 | 6.50 | 0.00 | 81.00 | 19.00 | 66 | 28 | 6 |
| Fast Food Restaurant with Drive | 10.00 | 5.00 | 6.50 | 2.20 | 78.80 | 19.00 | 29 | 21 | 50 |
| General Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 77 | 19 | 4 |
| Government Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 62.00 | 5.00 | 50 | 34 | 16 |
| Health Club | 10.00 | 5.00 | 6.50 | 16.90 | 64.10 | 19.00 | 52 | 39 | 9 |
| High School | 10.00 | 5.00 | 6.50 | 77.80 | 17.20 | 5.00 | 75 | 19 | 6 |
| High Turnover (Sit Down | 10.00 | 5.00 | 6.50 | 8.50 | 72.50 | 19.00 | 37 | 20 | 43 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Junior College (2yr) | 10.00 | 5.00 | 6.50 | 6.40 | 88.60 | 5.00 | 92 | 7 | 1 |
| Junior High School | 10.00 | 5.00 | 6.50 | 72.80 | 22.20 | 5.00 | 63 | 25 | 12 |
| Medical Office Building | 10.00 | 5.00 | 6.50 | 29.60 | 51.40 | 19.00 | 60 | 30 | 10 |
| Regional Shopping Center | 10.00 | 5.00 | 6.50 | 16.30 | 64.70 | 19.00 | 54 | 35 | 11 |
| Single Family Housing | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Supermarket | 10.00 | 5.00 | 6.50 | 6.50 | 74.50 | 19.00 | 34 | 30 | 36 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apartments Mid Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Arena | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Fast Food Restaurant with Drive Thru | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| General Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Government Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Health Club | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High Turnover (Sit Down Restaurant) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Hotel | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Junior College (2yr) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Junior High School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Medical Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Regional Shopping Center | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Single Family Housing | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Supermarket | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 7.7407 | 67.9480 | 41.3484 | 0.4222 | | 5.3481 | 5.3481 | | 5.3481 | 5.3481 | | 84,444.2564 | 84,444.2564 | 1.6185 | 1.5481 | 84,946.0663 |
| NaturalGas Unmitigated | 7.7407 | 67.9480 | 41.3484 | 0.4222 | | 5.3481 | 5.3481 | | 5.3481 | 5.3481 | | 84,444.2564 | 84,444.2564 | 1.6185 | 1.5481 | 84,946.0663 |



### 5.2 Energy by Land Use - NaturalGas

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments Mid Rise | 128706 | 1.3880 | 11.8611 | 5.0473 | 0.0757 | | 0.9590 | 0.9590 | | 0.9590 | 0.9590 | | 15,141.8442 | 15,141.8442 | 0.2902 | 0.2776 | 15,231.8246 |
| Arena | 7016.55 | 0.0757 | 0.6879 | 0.5778 | 4.1300e-003 | | 0.0523 | 0.0523 | | 0.0523 | 0.0523 | | 825.4762 | 825.4762 | 0.0158 | 0.0151 | 830.3816 |
| Fast Food Restaurant with Drive Thru | 11645.6 | 0.1256 | 1.1417 | 0.9591 | 6.8500e-003 | | 0.0868 | 0.0868 | | 0.0868 | 0.0868 | | 1,370.0693 | 1,370.0693 | 0.0263 | 0.0251 | 1,378.2109 |
| General Office Building | 55938.5 | 0.6033 | 5.4842 | 4.6067 | 0.0329 | | 0.4168 | 0.4168 | | 0.4168 | 0.4168 | | 6,580.9960 | 6,580.9960 | 0.1261 | 0.1207 | 6,620.1035 |
| Government Office Building | 2631.56 | 0.0284 | 0.2580 | 0.2167 | 1.5500e-003 | | 0.0196 | 0.0196 | | 0.0196 | 0.0196 | | 309.5955 | 309.5955 | 5.9300e-003 | 5.6800e-003 | 311.4353 |
| Health Club | 6334.38 | 0.0683 | 0.6210 | 0.5217 | 3.7300e-003 | | 0.0472 | 0.0472 | | 0.0472 | 0.0472 | | 745.2216 | 745.2216 | 0.0143 | 0.0137 | 749.6501 |
| High School | 8243.15 | 0.0889 | 0.8082 | 0.6789 | 4.8500e-003 | | 0.0614 | 0.0614 | | 0.0614 | 0.0614 | | 969.7828 | 969.7828 | 0.0186 | 0.0178 | 975.5457 |
| High Turnover (Sit Down Restaurant) | 50464.2 | 0.5442 | 4.9475 | 4.1559 | 0.0297 | | 0.3760 | 0.3760 | | 0.3760 | 0.3760 | | 5,936.9670 | 5,936.9670 | 0.1138 | 0.1088 | 5,972.2474 |
| Hotel | 62370 | 1.3452 | 12.2294 | 10.2727 | 0.0734 | | 0.9294 | 0.9294 | | 0.9294 | 0.9294 | | 14,675.2856 | 14,675.2856 | 0.2813 | 0.2691 | 14,762.4935 |
| Junior College (2yr) | 14805 | 0.1597 | 1.4515 | 1.2192 | 8.7100e-003 | | 0.1103 | 0.1103 | | 0.1103 | 0.1103 | | 1,741.7695 | 1,741.7695 | 0.0334 | 0.0319 | 1,752.1200 |
| Junior High School | 14609.9 | 0.1576 | 1.4323 | 1.2032 | 8.5900e-003 | | 0.1089 | 0.1089 | | 0.1089 | 0.1089 | | 1,718.8068 | 1,718.8068 | 0.0329 | 0.0315 | 1,729.0208 |
| Medical Office Building | 1479.36 | 0.0160 | 0.1450 | 0.1218 | 8.7000e-004 | | 0.0110 | 0.0110 | | 0.0110 | 0.0110 | | 174.0429 | 174.0429 | 3.3400e-003 | 3.1900e-003 | 175.0771 |
| Regional Shopping Center | 3604.52 | 0.0389 | 0.3534 | 0.2968 | 2.1200e-003 | | 0.0269 | 0.0269 | | 0.0269 | 0.0269 | | 424.0612 | 424.0612 | 8.1300e-003 | 7.7700e-003 | 426.5812 |
| Single Family Housing | 283063 | 3.0526 | 26.0862 | 11.1005 | 0.1665 | | 2.1091 | 2.1091 | | 2.1091 | 2.1091 | | 33,301.5385 | 33,301.5385 | 0.6383 | 0.6105 | 33,499.4329 |
| Supermarket | 4494.79 | 0.0485 | 0.4407 | 0.3702 | 2.6400e-003 | | 0.0335 | 0.0335 | | 0.0335 | 0.0335 | | 528.7994 | 528.7994 | 0.0101 | 9.6900e-003 | 531.9418 |
| **Total** | | **7.7407** | **67.9480** | **41.3484** | **0.4222** | | **5.3481** | **5.3481** | | **5.3481** | **5.3481** | | **84,444.2564** | **84,444.2564** | **1.6185** | **1.5481** | **84,946.0664** |

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments Mid Rise | 128.706 | 1.3880 | 11.8611 | 5.0473 | 0.0757 | | 0.9590 | 0.9590 | | 0.9590 | 0.9590 | | 15,141.8442 | 15,141.8442 | 0.2902 | 0.2776 | 15,231.8246 |
| Arena | 7.01655 | 0.0757 | 0.6879 | 0.5778 | 4.1300e-003 | | 0.0523 | 0.0523 | | 0.0523 | 0.0523 | | 825.4762 | 825.4762 | 0.0158 | 0.0151 | 830.3816 |
| Fast Food Restaurant with Drive Thru | 11.6456 | 0.1256 | 1.1417 | 0.9591 | 6.8500e-003 | | 0.0868 | 0.0868 | | 0.0868 | 0.0868 | | 1,370.0693 | 1,370.0693 | 0.0263 | 0.0251 | 1,378.2109 |
| General Office Building | 55.9385 | 0.6033 | 5.4842 | 4.6067 | 0.0329 | | 0.4168 | 0.4168 | | 0.4168 | 0.4168 | | 6,580.9960 | 6,580.9960 | 0.1261 | 0.1207 | 6,620.1035 |
| Government Office Building | 2.63156 | 0.0284 | 0.2580 | 0.2167 | 1.5500e-003 | | 0.0196 | 0.0196 | | 0.0196 | 0.0196 | | 309.5955 | 309.5955 | 5.9300e-003 | 5.6800e-003 | 311.4353 |
| Health Club | 6.33438 | 0.0683 | 0.6210 | 0.5217 | 3.7300e-003 | | 0.0472 | 0.0472 | | 0.0472 | 0.0472 | | 745.2216 | 745.2216 | 0.0143 | 0.0137 | 749.6501 |
| High School | 8.24315 | 0.0889 | 0.8082 | 0.6789 | 4.8500e-003 | | 0.0614 | 0.0614 | | 0.0614 | 0.0614 | | 969.7828 | 969.7828 | 0.0186 | 0.0178 | 975.5457 |
| High Turnover (Sit Down Restaurant) | 50.4642 | 0.5442 | 4.9475 | 4.1559 | 0.0297 | | 0.3760 | 0.3760 | | 0.3760 | 0.3760 | | 5,936.9670 | 5,936.9670 | 0.1138 | 0.1088 | 5,972.2474 |
| Hotel | 62.37 | 1.3452 | 12.2294 | 10.2727 | 0.0734 | | 0.9294 | 0.9294 | | 0.9294 | 0.9294 | | 14,675.2856 | 14,675.2856 | 0.2813 | 0.2691 | 14,762.4935 |
| Junior College (2yr) | 14.805 | 0.1597 | 1.4515 | 1.2192 | 8.7100e-003 | | 0.1103 | 0.1103 | | 0.1103 | 0.1103 | | 1,741.7695 | 1,741.7695 | 0.0334 | 0.0319 | 1,752.1200 |
| Junior High School | 14.6099 | 0.1576 | 1.4323 | 1.2032 | 8.5900e-003 | | 0.1089 | 0.1089 | | 0.1089 | 0.1089 | | 1,718.8068 | 1,718.8068 | 0.0329 | 0.0315 | 1,729.0208 |
| Medical Office Building | 1.47936 | 0.0160 | 0.1450 | 0.1218 | 8.7000e-004 | | 0.0110 | 0.0110 | | 0.0110 | 0.0110 | | 174.0429 | 174.0429 | 3.3400e-003 | 3.1900e-003 | 175.0771 |
| Regional Shopping Center | 3.60452 | 0.0389 | 0.3534 | 0.2968 | 2.1200e-003 | | 0.0269 | 0.0269 | | 0.0269 | 0.0269 | | 424.0612 | 424.0612 | 8.1300e-003 | 7.7700e-003 | 426.5812 |
| Single Family Housing | 283.063 | 3.0526 | 26.0862 | 11.1005 | 0.1665 | | 2.1091 | 2.1091 | | 2.1091 | 2.1091 | | 33,301.5385 | 33,301.5385 | 0.6383 | 0.6105 | 33,499.4329 |
| Supermarket | 4.49479 | 0.0485 | 0.4407 | 0.3702 | 2.6400e-003 | | 0.0335 | 0.0335 | | 0.0335 | 0.0335 | | 528.7994 | 528.7994 | 0.0101 | 9.6900e-003 | 531.9418 |
| **Total** | | **7.7407** | **67.9480** | **41.3484** | **0.4222** | | **5.3481** | **5.3481** | | **5.3481** | **5.3481** | | **84,444.2564** | **84,444.2564** | **1.6185** | **1.5481** | **84,946.0664** |

## 6.0 Area Detail



### 6.1 Mitigation Measures Area

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 442.9965 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | 0.0000 | 1,392.0621 | 1,392.0621 | 1.3286 | 0.0000 | 1,425.2772 |
| Unmitigated | 442.9965 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | 0.0000 | 1,392.0621 | 1,392.0621 | 1.3286 | 0.0000 | 1,425.2772 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 54.7587 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 365.1593 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 23.0785 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | | 1,392.0621 | 1,392.0621 | 1.3286 | | 1,425.2772 |
| **Total** | **442.9965** | **8.8796** | **769.5140** | **0.0408** | | **4.2841** | **4.2841** | | **4.2841** | **4.2841** | **0.0000** | **1,392.0621** | **1,392.0621** | **1.3286** | **0.0000** | **1,425.2772** |

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 54.7587 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 365.1593 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 23.0785 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | | 1,392.0621 | 1,392.0621 | 1.3286 | | 1,425.2772 |
| **Total** | **442.9965** | **8.8796** | **769.5140** | **0.0408** | | **4.2841** | **4.2841** | | **4.2841** | **4.2841** | **0.0000** | **1,392.0621** | **1,392.0621** | **1.3286** | **0.0000** | **1,425.2772** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

UWSP - AQMP Baseline - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

# UWSP - AQMP Baseline

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## Sacramento Metropolitan AQMD Air District, Mitigation Report

### Construction Mitigation Summary

| Phase | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Site Preparation | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

### OFFROAD Equipment Mitigation

| Equipment Type | Fuel Type | Tier | Number Mitigated | Total Number of Equipment | DPF | Oxidation Catalyst |
|---|---|---|---|---|---|---|
| Rubber Tired Dozers | Diesel | No Change | 0 | 6 | No Change | 0.00 |
| Tractors/Loaders/Backhoes | Diesel | No Change | 0 | 8 | No Change | 0.00 |

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Unmitigated tons/yr | | | | | | Unmitigated mt/yr | | | | | |
| Rubber Tired Dozers | 1.03000E-003 | 1.06900E-002 | 4.66000E-003 | 1.00000E-005 | 4.80000E-004 | 4.40000E-004 | 0.00000E+000 | 1.12536E+000 | 1.12536E+000 | 3.60000E-004 | 0.00000E+000 | 1.13446E+000 |
| Tractors/Loaders/ Backhoes | 3.00000E-004 | 3.07000E-003 | 4.46000E-003 | 1.00000E-005 | 1.50000E-004 | 1.40000E-004 | 0.00000E+000 | 5.47170E-001 | 5.47170E-001 | 1.80000E-004 | 0.00000E+000 | 5.51600E-001 |

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mitigated tons/yr | | | | | | Mitigated mt/yr | | | | | |
| Rubber Tired Dozers | 1.03000E-003 | 1.06900E-002 | 4.66000E-003 | 1.00000E-005 | 4.80000E-004 | 4.40000E-004 | 0.00000E+000 | 1.12536E+000 | 1.12536E+000 | 3.60000E-004 | 0.00000E+000 | 1.13446E+000 |
| Tractors/Loaders/Backhoes | 3.00000E-004 | 3.07000E-003 | 4.46000E-003 | 1.00000E-005 | 1.50000E-004 | 1.40000E-004 | 0.00000E+000 | 5.47170E-001 | 5.47170E-001 | 1.80000E-004 | 0.00000E+000 | 5.51590E-001 |

# UWSP - AQMP Baseline

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Rubber Tired Dozers | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |
| Tractors/Loaders/Backhoes | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.81291E-005 |

## Fugitive Dust Mitigation

| Yes/No | Mitigation Measure | Mitigation Input | | Mitigation Input | | Mitigation Input | |
|---|---|---|---|---|---|---|---|
| No | Soil Stabilizer for unpaved Roads | PM10 Reduction | | PM2.5 Reduction | | | |
| No | Replace Ground Cover of Area Disturbed | PM10 Reduction | | PM2.5 Reduction | | | |
| No | Water Exposed Area | PM10 Reduction | | PM2.5 Reduction | | Frequency (per day) | |
| No | Unpaved Road Mitigation | Moisture Content % | | Vehicle Speed (mph) | 0.00 | | |
| No | Clean Paved Road | % PM Reduction | 0.00 | | | | |

| | | Unmitigated | | Mitigated | | Percent Reduction | |
|---|---|---|---|---|---|---|---|
| Phase | Source | PM10 | PM2.5 | PM10 | PM2.5 | PM10 | PM2.5 |
| Site Preparation | Fugitive Dust | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 |
| Site Preparation | Roads | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

# UWSP - AQMP Baseline

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

### Operational Percent Reduction Summary

| Category | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Architectural Coating | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Consumer Products | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hearth | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mobile | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Natural Gas | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water Indoor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water Outdoor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

### Operational Mobile Mitigation

Project Setting:

| Mitigation | Category | Measure | % Reduction | Input Value 1 | Input Value 2 | Input Value 3 |
|---|---|---|---|---|---|---|
| No | Land Use | Increase Density | 0.00 | | | |
| No | Land Use | Increase Diversity | 0.30 | 0.76 | | |
| No | Land Use | Improve Walkability Design | 0.00 | | | |
| No | Land Use | Improve Destination Accessibility | 0.00 | | | |
| No | Land Use | Increase Transit Accessibility | 0.25 | | | |

# UWSP - AQMP Baseline

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| | | | | | | |
|---|---|---|---|---|---|---|
| No | Land Use | Integrate Below Market Rate Housing | 0.00 | | | |
| | Land Use | Land Use SubTotal | 0.00 | | | |
| No | Neighborhood Enhancements | Improve Pedestrian Network | | | | |
| No | Neighborhood Enhancements | Provide Traffic Calming Measures | | | | |
| No | Neighborhood Enhancements | Implement NEV Network | 0.00 | | | |
| | Neighborhood Enhancements | Neighborhood Enhancements Subtotal | 0.00 | | | |
| No | Parking Policy Pricing | Limit Parking Supply | 0.00 | | | |
| No | Parking Policy Pricing | Unbundle Parking Costs | 0.00 | | | |
| No | Parking Policy Pricing | On-street Market Pricing | 0.00 | | | |
| | Parking Policy Pricing | Parking Policy Pricing Subtotal | 0.00 | | | |
| No | Transit Improvements | Provide BRT System | 0.00 | | | |
| No | Transit Improvements | Expand Transit Network | 0.00 | | | |
| No | Transit Improvements | Increase Transit Frequency | 0.00 | | | |
| | Transit Improvements | Transit Improvements Subtotal | 0.00 | | | |
| | | Land Use and Site Enhancement Subtotal | 0.00 | | | |
| No | Commute | Implement Trip Reduction Program | | | | |
| No | Commute | Transit Subsidy | | | | |
| No | Commute | Implement Employee Parking "Cash Out" | | | | |
| No | Commute | Workplace Parking Charge | | | | |
| No | Commute | Encourage Telecommuting and Alternative Work Schedules | 0.00 | | | |

# UWSP - AQMP Baseline

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | |
|---|---|---|---|---|---|---|
| No | Commute | Market Commute Trip Reduction Option | 0.00 | | | |
| No | Commute | Employee Vanpool/Shuttle | 0.00 | | 2.00 | |
| No | Commute | Provide Ride Sharing Program | | | | |
| | Commute | Commute Subtotal | 0.00 | | | |
| No | School Trip | Implement School Bus Program | 0.00 | | | |
| | | Total VMT Reduction | 0.00 | | | |

## Area Mitigation

| Measure Implemented | Mitigation Measure | Input Value |
|---|---|---|
| No | Only Natural Gas Hearth | |
| No | No Hearth | |
| No | Use Low VOC Cleaning Supplies | |
| No | Use Low VOC Paint (Residential Interior) | 100.00 |
| No | Use Low VOC Paint (Residential Exterior) | 100.00 |
| No | Use Low VOC Paint (Non-residential Interior) | 100.00 |
| No | Use Low VOC Paint (Non-residential Exterior) | 100.00 |
| No | Use Low VOC Paint (Parking) | 100.00 |
| No | % Electric Lawnmower | |
| No | % Electric Leafblower | |
| No | % Electric Chainsaw | |

## Energy Mitigation Measures

# UWSP - AQMP Baseline

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Measure Implemented | Mitigation Measure | Input Value 1 | Input Value 2 |
|---|---|---|---|
| No | Exceed Title 24 | | |
| No | Install High Efficiency Lighting | | |
| No | On-site Renewable | | |

| Appliance Type | Land Use Subtype | % Improvement |
|---|---|---|
| ClothWasher | | 30.00 |
| DishWasher | | 15.00 |
| Fan | | 50.00 |
| Refrigerator | | 15.00 |

## Water Mitigation Measures

| Measure Implemented | Mitigation Measure | Input Value 1 | Input Value 2 |
|---|---|---|---|
| No | Apply Water Conservation on Strategy | | |
| No | Use Reclaimed Water | 0.00 | 0.00 |
| No | Use Grey Water | 0.00 | |
| No | Install low-flow bathroom faucet | 32.00 | |
| No | Install low-flow Kitchen faucet | 18.00 | |
| No | Install low-flow Toilet | 20.00 | |
| No | Install low-flow Shower | 20.00 | |
| No | Turf Reduction | 0.00 | |
| No | Use Water Efficient Irrigation Systems | 6.10 | |

# UWSP - AQMP Baseline

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| No | Water Efficient Landscape | 0.00 | 0.00 |

## Solid Waste Mitigation

| Mitigation Measures | Input Value |
|---|---|
| Institute Recycling and Composting Services<br>Percent Reduction in Waste Disposed | |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# UWSP - Proposed Project

**Sacramento Metropolitan AQMD Air District, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| General Office Building | 1,573.00 | 1000sqft | 36.11 | 1,573,000.00 | 0 |
| Government Office Building | 74.00 | 1000sqft | 1.70 | 74,000.00 | 0 |
| Medical Office Building | 41.60 | 1000sqft | 0.96 | 41,600.00 | 0 |
| High School | 1,500.00 | Student | 4.57 | 198,991.47 | 0 |
| Junior College (2yr) | 2,500.00 | Student | 2.51 | 208,000.00 | 0 |
| Junior High School | 3,000.00 | Student | 8.10 | 352,685.05 | 0 |
| Arena | 72.00 | 1000sqft | 23.14 | 72,000.00 | 0 |
| Fast Food Restaurant with Drive Thru | 24.00 | 1000sqft | 0.55 | 24,000.00 | 0 |
| Health Club | 65.00 | 1000sqft | 1.49 | 65,000.00 | 0 |
| High Turnover (Sit Down Restaurant) | 104.00 | 1000sqft | 2.39 | 104,000.00 | 0 |
| Hotel | 410.00 | Room | 13.67 | 595,320.00 | 0 |
| Hotel | 410.00 | Room | 13.67 | 595,320.00 | 0 |
| Apartments Mid Rise | 4,989.00 | Dwelling Unit | 131.29 | 4,989,000.00 | 13321 |
| Single Family Housing | 4,367.00 | Dwelling Unit | 1,417.86 | 7,860,600.00 | 11660 |
| Regional Shopping Center | 245.00 | 1000sqft | 5.62 | 245,000.00 | 0 |
| Supermarket | 65.00 | 1000sqft | 1.49 | 65,000.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 3.5 | **Precipitation Freq (Days)** | 58 |
| **Climate Zone** | 6 | | | **Operational Year** | 2045 |
| **Utility Company** | Sacramento Municipal Utility District | | | | |
| | | | | | AQMP - Project Features |
| **CO2 Intensity** | 0 | **CH4 Intensity** | 0.033 | **N2O Intensity** | 0.004 |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**(lb/MWhr) (lb/MWhr) (lb/MWhr)**

## 1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity factor adjusted to reflect SMUD's RPS projections.

Land Use - All land uses are consistent with the project-specific traffic report.

Construction Phase - construction not modeled.

Vehicle Trips - Trip rates adjusted per the project-specific traffic report from F&P.

Mobile Land Use Mitigation -

Area Mitigation -

Water Mitigation - Water conservation strategy applied to reflect project compliance with MWELO.

Mobile Commute Mitigation -

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 6,000.00 | 1.00 |
| tblLandUse | LandUseSquareFeet | 109,130.59 | 208,000.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 357.98 | 0 |
| tblVehicleTrips | ST_TR | 4.91 | 3.69 |
| tblVehicleTrips | ST_TR | 10.71 | 19.54 |
| tblVehicleTrips | ST_TR | 616.12 | 319.28 |
| tblVehicleTrips | ST_TR | 2.21 | 6.75 |
| tblVehicleTrips | ST_TR | 0.00 | 15.40 |
| tblVehicleTrips | ST_TR | 20.87 | 18.04 |
| tblVehicleTrips | ST_TR | 0.58 | 1.38 |
| tblVehicleTrips | ST_TR | 122.40 | 75.90 |
| tblVehicleTrips | ST_TR | 8.19 | 4.20 |
| tblVehicleTrips | ST_TR | 0.42 | 1.92 |
| tblVehicleTrips | ST_TR | 0.00 | 1.44 |
| tblVehicleTrips | ST_TR | 8.57 | 24.62 |
| tblVehicleTrips | ST_TR | 46.12 | 37.49 |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblVehicleTrips | ST_TR | 9.54 | 6.40 |
| tblVehicleTrips | ST_TR | 177.62 | 66.32 |
| tblVehicleTrips | SU_TR | 4.09 | 3.69 |
| tblVehicleTrips | SU_TR | 10.71 | 19.54 |
| tblVehicleTrips | SU_TR | 472.58 | 319.28 |
| tblVehicleTrips | SU_TR | 0.70 | 6.75 |
| tblVehicleTrips | SU_TR | 0.00 | 15.40 |
| tblVehicleTrips | SU_TR | 26.73 | 18.04 |
| tblVehicleTrips | SU_TR | 0.25 | 1.38 |
| tblVehicleTrips | SU_TR | 142.64 | 75.90 |
| tblVehicleTrips | SU_TR | 5.95 | 4.20 |
| tblVehicleTrips | SU_TR | 0.04 | 1.92 |
| tblVehicleTrips | SU_TR | 0.00 | 1.44 |
| tblVehicleTrips | SU_TR | 1.42 | 24.62 |
| tblVehicleTrips | SU_TR | 21.10 | 37.49 |
| tblVehicleTrips | SU_TR | 8.55 | 6.40 |
| tblVehicleTrips | SU_TR | 166.47 | 66.32 |
| tblVehicleTrips | WD_TR | 5.44 | 3.69 |
| tblVehicleTrips | WD_TR | 10.71 | 19.54 |
| tblVehicleTrips | WD_TR | 470.95 | 319.28 |
| tblVehicleTrips | WD_TR | 9.74 | 6.75 |
| tblVehicleTrips | WD_TR | 22.59 | 15.40 |
| tblVehicleTrips | WD_TR | 32.93 | 18.04 |
| tblVehicleTrips | WD_TR | 2.03 | 1.38 |
| tblVehicleTrips | WD_TR | 112.18 | 75.90 |
| tblVehicleTrips | WD_TR | 8.36 | 4.20 |
| tblVehicleTrips | WD_TR | 1.15 | 1.92 |
| tblVehicleTrips | WD_TR | 2.13 | 1.44 |
| tblVehicleTrips | WD_TR | 34.80 | 24.62 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblVehicleTrips | WD_TR | 37.75 | 37.49 |
| tblVehicleTrips | WD_TR | 9.44 | 6.40 |
| tblVehicleTrips | WD_TR | 106.78 | 66.32 |

## 2.0 Emissions Summary

### 2.1 Overall Construction

**Unmitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2023 | 1.3600e-003 | 0.0138 | 9.3300e-003 | 2.0000e-005 | 9.8900e-003 | 6.3000e-004 | 0.0105 | 5.0700e-003 | 5.8000e-004 | 5.6500e-003 | 0.0000 | 1.7256 | 1.7256 | 5.4000e-004 | 0.0000 | 1.7396 |
| **Maximum** | **1.3600e-003** | **0.0138** | **9.3300e-003** | **2.0000e-005** | **9.8900e-003** | **6.3000e-004** | **0.0105** | **5.0700e-003** | **5.8000e-004** | **5.6500e-003** | **0.0000** | **1.7256** | **1.7256** | **5.4000e-004** | **0.0000** | **1.7396** |

**Mitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2023 | 1.3600e-003 | 0.0138 | 9.3300e-003 | 2.0000e-005 | 9.8900e-003 | 6.3000e-004 | 0.0105 | 5.0700e-003 | 5.8000e-004 | 5.6500e-003 | 0.0000 | 1.7256 | 1.7256 | 5.4000e-004 | 0.0000 | 1.7396 |
| **Maximum** | **1.3600e-003** | **0.0138** | **9.3300e-003** | **2.0000e-005** | **9.8900e-003** | **6.3000e-004** | **0.0105** | **5.0700e-003** | **5.8000e-004** | **5.6500e-003** | **0.0000** | **1.7256** | **1.7256** | **5.4000e-004** | **0.0000** | **1.7396** |

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| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| **1** | **6-1-2023** | **8-31-2023** | 0.0108 | 0.0108 |
| | | **Highest** | 0.0108 | 0.0108 |

## 2.2 Overall Operational

**Unmitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 79.5199 | 1.1100 | 96.1893 | 5.1000e-003 | | 0.5355 | 0.5355 | | 0.5355 | 0.5355 | 0.0000 | 157.8572 | 157.8572 | 0.1507 | 0.0000 | 161.6237 |
| Energy | 1.4127 | 12.4005 | 7.5461 | 0.0771 | | 0.9760 | 0.9760 | | 0.9760 | 0.9760 | 0.0000 | 13,980.6937 | 13,980.6937 | 1.8672 | 0.4502 | 14,161.5185 |
| Mobile | 26.0378 | 29.9396 | 262.5933 | 0.5275 | 76.0629 | 0.2584 | 76.3213 | 20.3066 | 0.2417 | 20.5483 | 0.0000 | 53,767.9104 | 53,767.9104 | 3.5637 | 2.6016 | 54,632.2733 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 2,580.0882 | 0.0000 | 2,580.0882 | 152.4789 | 0.0000 | 6,392.0594 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 371.1318 | 0.0000 | 371.1318 | 1.3887 | 0.8206 | 650.3796 |
| **Total** | **106.9703** | **43.4500** | **366.3287** | **0.6097** | **76.0629** | **1.7699** | **77.8329** | **20.3066** | **1.7532** | **22.0598** | **2,951.2200** | **67,906.4612** | **70,857.6813** | **159.4490** | **3.8723** | **75,997.8544** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.2 Overall Operational

**Mitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 79.5199 | 1.1100 | 96.1893 | 5.1000e-003 | | 0.5355 | 0.5355 | | 0.5355 | 0.5355 | 0.0000 | 157.8572 | 157.8572 | 0.1507 | 0.0000 | 161.6237 |
| Energy | 1.4127 | 12.4005 | 7.5461 | 0.0771 | | 0.9760 | 0.9760 | | 0.9760 | 0.9760 | 0.0000 | 13,980.6937 | 13,980.6937 | 1.8672 | 0.4502 | 14,161.5185 |
| Mobile | 25.5656 | 29.1877 | 255.5277 | 0.5085 | 73.2063 | 0.2499 | 73.4562 | 19.5440 | 0.2337 | 19.7777 | 0.0000 | 51,825.4818 | 51,825.4818 | 3.4655 | 2.5318 | 52,666.5970 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 2,580.0882 | 0.0000 | 2,580.0882 | 152.4789 | 0.0000 | 6,392.0594 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 371.1318 | 0.0000 | 371.1318 | 1.3821 | 0.8198 | 649.9760 |
| **Total** | **106.4982** | **42.6981** | **359.2630** | **0.5906** | **73.2063** | **1.7615** | **74.9677** | **19.5440** | **1.7453** | **21.2892** | **2,951.2200** | **65,964.0327** | **68,915.2527** | **159.3442** | **3.8017** | **74,031.7746** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.44** | **1.73** | **1.93** | **3.12** | **3.76** | **0.48** | **3.68** | **3.76** | **0.45** | **3.49** | **0.00** | **2.86** | **2.74** | **0.07** | **1.82** | **2.59** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 6/1/2023 | 6/1/2023 | 5 | 1 | |

**Acres of Grading (Site Preparation Phase): 1.5**

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**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 7 | 18.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

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## 3.2 Site Preparation - 2023

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 9.8300e-003 | 0.0000 | 9.8300e-003 | 5.0500e-003 | 0.0000 | 5.0500e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.3300e-003 | 0.0138 | 9.1200e-003 | 2.0000e-005 | | 6.3000e-004 | 6.3000e-004 | | 5.8000e-004 | 5.8000e-004 | 0.0000 | 1.6725 | 1.6725 | 5.4000e-004 | 0.0000 | 1.6861 |
| **Total** | **1.3300e-003** | **0.0138** | **9.1200e-003** | **2.0000e-005** | **9.8300e-003** | **6.3000e-004** | **0.0105** | **5.0500e-003** | **5.8000e-004** | **5.6300e-003** | **0.0000** | **1.6725** | **1.6725** | **5.4000e-004** | **0.0000** | **1.6861** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.0000e-005 | 2.0000e-005 | 2.1000e-004 | 0.0000 | 7.0000e-005 | 0.0000 | 7.0000e-005 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0530 | 0.0530 | 0.0000 | 0.0000 | 0.0535 |
| **Total** | **3.0000e-005** | **2.0000e-005** | **2.1000e-004** | **0.0000** | **7.0000e-005** | **0.0000** | **7.0000e-005** | **2.0000e-005** | **0.0000** | **2.0000e-005** | **0.0000** | **0.0530** | **0.0530** | **0.0000** | **0.0000** | **0.0535** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 9.8300e-003 | 0.0000 | 9.8300e-003 | 5.0500e-003 | 0.0000 | 5.0500e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.3300e-003 | 0.0138 | 9.1200e-003 | 2.0000e-005 | | 6.3000e-004 | 6.3000e-004 | | 5.8000e-004 | 5.8000e-004 | 0.0000 | 1.6725 | 1.6725 | 5.4000e-004 | 0.0000 | 1.6861 |
| **Total** | **1.3300e-003** | **0.0138** | **9.1200e-003** | **2.0000e-005** | **9.8300e-003** | **6.3000e-004** | **0.0105** | **5.0500e-003** | **5.8000e-004** | **5.6300e-003** | **0.0000** | **1.6725** | **1.6725** | **5.4000e-004** | **0.0000** | **1.6861** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.0000e-005 | 2.0000e-005 | 2.1000e-004 | 0.0000 | 7.0000e-005 | 0.0000 | 7.0000e-005 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0530 | 0.0530 | 0.0000 | 0.0000 | 0.0535 |
| **Total** | **3.0000e-005** | **2.0000e-005** | **2.1000e-004** | **0.0000** | **7.0000e-005** | **0.0000** | **7.0000e-005** | **2.0000e-005** | **0.0000** | **2.0000e-005** | **0.0000** | **0.0530** | **0.0530** | **0.0000** | **0.0000** | **0.0535** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

Implement Trip Reduction Program

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 25.5656 | 29.1877 | 255.5277 | 0.5085 | 73.2063 | 0.2499 | 73.4562 | 19.5440 | 0.2337 | 19.7777 | 0.0000 | 51,825.4818 | 51,825.4818 | 3.4655 | 2.5318 | 52,666.5970 |
| Unmitigated | 26.0378 | 29.9396 | 262.5933 | 0.5275 | 76.0629 | 0.2584 | 76.3213 | 20.3066 | 0.2417 | 20.5483 | 0.0000 | 53,767.9104 | 53,767.9104 | 3.5637 | 2.6016 | 54,632.2733 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments Mid Rise | 18,409.41 | 18,409.41 | 18409.41 | 47,240,553 | 45,746,716 |
| Arena | 1,406.88 | 1,406.88 | 1406.88 | 1,978,797 | 1,896,904 |
| Fast Food Restaurant with Drive Thru | 7,662.72 | 7,662.72 | 7662.72 | 5,293,366 | 5,072,665 |
| General Office Building | 10,617.75 | 10,617.75 | 10617.75 | 21,926,757 | 20,953,580 |
| Government Office Building | 1,139.60 | 1,139.60 | 1139.60 | 1,638,569 | 1,554,363 |
| Health Club | 1,172.60 | 1,172.60 | 1172.60 | 1,619,497 | 1,549,660 |
| High School | 2,070.00 | 2,070.00 | 2070.00 | 5,391,592 | 5,111,004 |
| High Turnover (Sit Down Restaurant) | 7,893.60 | 7,893.60 | 7893.60 | 7,014,228 | 6,717,207 |
| Hotel | 1,722.00 | 1,722.00 | 1722.00 | 2,648,969 | 2,534,167 |
| Hotel | 1,722.00 | 1,722.00 | 1722.00 | 2,648,969 | 2,534,167 |
| Junior College (2yr) | 4,800.00 | 4,800.00 | 4800.00 | 8,838,757 | 8,390,216 |
| Junior High School | 4,320.00 | 4,320.00 | 4320.00 | 9,509,003 | 9,014,679 |
| Medical Office Building | 1,024.19 | 1,024.19 | 1024.19 | 1,706,100 | 1,630,791 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Regional Shopping Center | 9,185.05 | 9,185.05 | 9185.05 | 12,834,316 | 12,281,553 |
| Single Family Housing | 27,948.80 | 27,948.80 | 27948.80 | 71,719,667 | 69,451,754 |
| Supermarket | 4,310.80 | 4,310.80 | 4310.80 | 3,709,662 | 3,553,347 |
| Total | 105,405.40 | 105,405.40 | 105,405.40 | 205,718,801 | 197,992,772 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments Mid Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Arena | 10.00 | 5.00 | 6.50 | 0.00 | 81.00 | 19.00 | 66 | 28 | 6 |
| Fast Food Restaurant with Drive | 10.00 | 5.00 | 6.50 | 2.20 | 78.80 | 19.00 | 29 | 21 | 50 |
| General Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 77 | 19 | 4 |
| Government Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 62.00 | 5.00 | 50 | 34 | 16 |
| Health Club | 10.00 | 5.00 | 6.50 | 16.90 | 64.10 | 19.00 | 52 | 39 | 9 |
| High School | 10.00 | 5.00 | 6.50 | 77.80 | 17.20 | 5.00 | 75 | 19 | 6 |
| High Turnover (Sit Down | 10.00 | 5.00 | 6.50 | 8.50 | 72.50 | 19.00 | 37 | 20 | 43 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Junior College (2yr) | 10.00 | 5.00 | 6.50 | 6.40 | 88.60 | 5.00 | 92 | 7 | 1 |
| Junior High School | 10.00 | 5.00 | 6.50 | 72.80 | 22.20 | 5.00 | 63 | 25 | 12 |
| Medical Office Building | 10.00 | 5.00 | 6.50 | 29.60 | 51.40 | 19.00 | 60 | 30 | 10 |
| Regional Shopping Center | 10.00 | 5.00 | 6.50 | 16.30 | 64.70 | 19.00 | 54 | 35 | 11 |
| Single Family Housing | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Supermarket | 10.00 | 5.00 | 6.50 | 6.50 | 74.50 | 19.00 | 34 | 30 | 36 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apartments Mid Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Arena | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Fast Food Restaurant with Drive Thru | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| General Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Government Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Health Club | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High Turnover (Sit Down Restaurant) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Hotel | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Junior College (2yr) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Junior High School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Medical Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Regional Shopping Center | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Single Family Housing | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Supermarket | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 1.5992 | 0.1938 | 97.7445 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 1.5992 | 0.1938 | 97.7445 |
| NaturalGas Mitigated | 1.4127 | 12.4005 | 7.5461 | 0.0771 | | 0.9760 | 0.9760 | | 0.9760 | 0.9760 | 0.0000 | 13,980.6937 | 13,980.6937 | 0.2680 | 0.2563 | 14,063.7740 |
| NaturalGas Unmitigated | 1.4127 | 12.4005 | 7.5461 | 0.0771 | | 0.9760 | 0.9760 | | 0.9760 | 0.9760 | 0.0000 | 13,980.6937 | 13,980.6937 | 0.2680 | 0.2563 | 14,063.7740 |

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Apartments Mid Rise | 4.69776e+007 | 0.2533 | 2.1647 | 0.9211 | 0.0138 | | 0.1750 | 0.1750 | | 0.1750 | 0.1750 | 0.0000 | 2,506.9021 | 2,506.9021 | 0.0481 | 0.0460 | 2,521.7994 |
| Arena | 2.56104e+006 | 0.0138 | 0.1255 | 0.1055 | 7.5000e-004 | | 9.5400e-003 | 9.5400e-003 | | 9.5400e-003 | 9.5400e-003 | 0.0000 | 136.6669 | 136.6669 | 2.6200e-003 | 2.5100e-003 | 137.4790 |
| Fast Food Restaurant with Drive Thru | 4.25064e+006 | 0.0229 | 0.2084 | 0.1750 | 1.2500e-003 | | 0.0158 | 0.0158 | | 0.0158 | 0.0158 | 0.0000 | 226.8303 | 226.8303 | 4.3500e-003 | 4.1600e-003 | 228.1783 |
| General Office Building | 2.04175e+007 | 0.1101 | 1.0009 | 0.8407 | 6.0100e-003 | | 0.0761 | 0.0761 | | 0.0761 | 0.0761 | 0.0000 | 1,089.5577 | 1,089.5577 | 0.0209 | 0.0200 | 1,096.0324 |
| Government Office Building | 960520 | 5.1800e-003 | 0.0471 | 0.0396 | 2.8000e-004 | | 3.5800e-003 | 3.5800e-003 | | 3.5800e-003 | 3.5800e-003 | 0.0000 | 51.2570 | 51.2570 | 9.8000e-004 | 9.4000e-004 | 51.5616 |
| Health Club | 2.31205e+006 | 0.0125 | 0.1133 | 0.0952 | 6.8000e-004 | | 8.6100e-003 | 8.6100e-003 | | 8.6100e-003 | 8.6100e-003 | 0.0000 | 123.3798 | 123.3798 | 2.3600e-003 | 2.2600e-003 | 124.1130 |
| High School | 3.00875e+006 | 0.0162 | 0.1475 | 0.1239 | 8.8000e-004 | | 0.0112 | 0.0112 | | 0.0112 | 0.0112 | 0.0000 | 160.5584 | 160.5584 | 3.0800e-003 | 2.9400e-003 | 161.5125 |
| High Turnover (Sit Down Restaurant) | 1.84194e+007 | 0.0993 | 0.9029 | 0.7585 | 5.4200e-003 | | 0.0686 | 0.0686 | | 0.0686 | 0.0686 | 0.0000 | 982.9315 | 982.9315 | 0.0188 | 0.0180 | 988.7725 |
| Hotel | 2.2765e+007 | 0.2455 | 2.2319 | 1.8748 | 0.0134 | | 0.1696 | 0.1696 | | 0.1696 | 0.1696 | 0.0000 | 2,429.6581 | 2,429.6581 | 0.0466 | 0.0445 | 2,444.0964 |
| Junior College (2yr) | 5.40384e+006 | 0.0291 | 0.2649 | 0.2225 | 1.5900e-003 | | 0.0201 | 0.0201 | | 0.0201 | 0.0201 | 0.0000 | 288.3695 | 288.3695 | 5.5300e-003 | 5.2900e-003 | 290.0831 |
| Junior High School | 5.3326e+006 | 0.0288 | 0.2614 | 0.2196 | 1.5700e-003 | | 0.0199 | 0.0199 | | 0.0199 | 0.0199 | 0.0000 | 284.5677 | 284.5677 | 5.4500e-003 | 5.2200e-003 | 286.2588 |
| Medical Office Building | 539968 | 2.9100e-003 | 0.0265 | 0.0222 | 1.6000e-004 | | 2.0100e-003 | 2.0100e-003 | | 2.0100e-003 | 2.0100e-003 | 0.0000 | 28.8148 | 28.8148 | 5.5000e-004 | 5.3000e-004 | 28.9860 |
| Regional Shopping Center | 1.31565e+006 | 7.0900e-003 | 0.0645 | 0.0542 | 3.9000e-004 | | 4.9000e-003 | 4.9000e-003 | | 4.9000e-003 | 4.9000e-003 | 0.0000 | 70.2081 | 70.2081 | 1.3500e-003 | 1.2900e-003 | 70.6253 |
| Single Family Housing | 1.03318e+008 | 0.5571 | 4.7607 | 2.0258 | 0.0304 | | 0.3849 | 0.3849 | | 0.3849 | 0.3849 | 0.0000 | 5,513.4432 | 5,513.4432 | 0.1057 | 0.1011 | 5,546.2068 |
| Supermarket | 1.6406e+006 | 8.8500e-003 | 0.0804 | 0.0676 | 4.8000e-004 | | 6.1100e-003 | 6.1100e-003 | | 6.1100e-003 | 6.1100e-003 | 0.0000 | 87.5487 | 87.5487 | 1.6800e-003 | 1.6100e-003 | 88.0689 |
| **Total** | | **1.4127** | **12.4005** | **7.5461** | **0.0771** | | **0.9760** | **0.9760** | | **0.9760** | **0.9760** | **0.0000** | **13,980.6937** | **13,980.6937** | **0.2680** | **0.2563** | **14,063.7740** |

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

AQMP - Project Features

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Apartments Mid Rise | 4.69776e+007 | 0.2533 | 2.1647 | 0.9211 | 0.0138 | | 0.1750 | 0.1750 | | 0.1750 | 0.1750 | 0.0000 | 2,506.9021 | 2,506.9021 | 0.0481 | 0.0460 | 2,521.7994 |
| Arena | 2.56104e+006 | 0.0138 | 0.1255 | 0.1055 | 7.5000e-004 | | 9.5400e-003 | 9.5400e-003 | | 9.5400e-003 | 9.5400e-003 | 0.0000 | 136.6669 | 136.6669 | 2.6200e-003 | 2.5100e-003 | 137.4790 |
| Fast Food Restaurant with Drive Thru | 4.25064e+006 | 0.0229 | 0.2084 | 0.1750 | 1.2500e-003 | | 0.0158 | 0.0158 | | 0.0158 | 0.0158 | 0.0000 | 226.8303 | 226.8303 | 4.3500e-003 | 4.1600e-003 | 228.1783 |
| General Office Building | 2.04175e+007 | 0.1101 | 1.0009 | 0.8407 | 6.0100e-003 | | 0.0761 | 0.0761 | | 0.0761 | 0.0761 | 0.0000 | 1,089.5577 | 1,089.5577 | 0.0209 | 0.0200 | 1,096.0324 |
| Government Office Building | 960520 | 5.1800e-003 | 0.0471 | 0.0396 | 2.8000e-004 | | 3.5800e-003 | 3.5800e-003 | | 3.5800e-003 | 3.5800e-003 | 0.0000 | 51.2570 | 51.2570 | 9.8000e-004 | 9.4000e-004 | 51.5616 |
| Health Club | 2.31205e+006 | 0.0125 | 0.1133 | 0.0952 | 6.8000e-004 | | 8.6100e-003 | 8.6100e-003 | | 8.6100e-003 | 8.6100e-003 | 0.0000 | 123.3798 | 123.3798 | 2.3600e-003 | 2.2600e-003 | 124.1130 |
| High School | 3.00875e+006 | 0.0162 | 0.1475 | 0.1239 | 8.8000e-004 | | 0.0112 | 0.0112 | | 0.0112 | 0.0112 | 0.0000 | 160.5584 | 160.5584 | 3.0800e-003 | 2.9400e-003 | 161.5125 |
| High Turnover (Sit Down Restaurant) | 1.84194e+007 | 0.0993 | 0.9029 | 0.7585 | 5.4200e-003 | | 0.0686 | 0.0686 | | 0.0686 | 0.0686 | 0.0000 | 982.9315 | 982.9315 | 0.0188 | 0.0180 | 988.7725 |
| Hotel | 2.2765e+007 | 0.2455 | 2.2319 | 1.8748 | 0.0134 | | 0.1696 | 0.1696 | | 0.1696 | 0.1696 | 0.0000 | 2,429.6581 | 2,429.6581 | 0.0466 | 0.0445 | 2,444.0964 |
| Junior College (2yr) | 5.40384e+006 | 0.0291 | 0.2649 | 0.2225 | 1.5900e-003 | | 0.0201 | 0.0201 | | 0.0201 | 0.0201 | 0.0000 | 288.3695 | 288.3695 | 5.5300e-003 | 5.2900e-003 | 290.0831 |
| Junior High School | 5.3326e+006 | 0.0288 | 0.2614 | 0.2196 | 1.5700e-003 | | 0.0199 | 0.0199 | | 0.0199 | 0.0199 | 0.0000 | 284.5677 | 284.5677 | 5.4500e-003 | 5.2200e-003 | 286.2588 |
| Medical Office Building | 539968 | 2.9100e-003 | 0.0265 | 0.0222 | 1.6000e-004 | | 2.0100e-003 | 2.0100e-003 | | 2.0100e-003 | 2.0100e-003 | 0.0000 | 28.8148 | 28.8148 | 5.5000e-004 | 5.3000e-004 | 28.9860 |
| Regional Shopping Center | 1.31565e+006 | 7.0900e-003 | 0.0645 | 0.0542 | 3.9000e-004 | | 4.9000e-003 | 4.9000e-003 | | 4.9000e-003 | 4.9000e-003 | 0.0000 | 70.2081 | 70.2081 | 1.3500e-003 | 1.2900e-003 | 70.6253 |
| Single Family Housing | 1.03318e+008 | 0.5571 | 4.7607 | 2.0258 | 0.0304 | | 0.3849 | 0.3849 | | 0.3849 | 0.3849 | 0.0000 | 5,513.4432 | 5,513.4432 | 0.1057 | 0.1011 | 5,546.2068 |
| Supermarket | 1.6406e+006 | 8.8500e-003 | 0.0804 | 0.0676 | 4.8000e-004 | | 6.1100e-003 | 6.1100e-003 | | 6.1100e-003 | 6.1100e-003 | 0.0000 | 87.5487 | 87.5487 | 1.6800e-003 | 1.6100e-003 | 88.0689 |
| **Total** | | **1.4127** | **12.4005** | **7.5461** | **0.0771** | | **0.9760** | **0.9760** | | **0.9760** | **0.9760** | **0.0000** | **13,980.6937** | **13,980.6937** | **0.2680** | **0.2563** | **14,063.7740** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Apartments Mid Rise | 1.94258e+007 | 0.0000 | 0.2908 | 0.0353 | 17.7726 |
| Arena | 1.06704e+006 | 0.0000 | 0.0160 | 1.9400e-003 | 0.9762 |
| Fast Food Restaurant with Drive Thru | 978480 | 0.0000 | 0.0147 | 1.7800e-003 | 0.8952 |
| General Office Building | 2.18647e+007 | 0.0000 | 0.3273 | 0.0397 | 20.0039 |
| Government Office Building | 1.0286e+006 | 0.0000 | 0.0154 | 1.8700e-003 | 0.9411 |
| Health Club | 963300 | 0.0000 | 0.0144 | 1.7500e-003 | 0.8813 |
| High School | 1.41284e+006 | 0.0000 | 0.0212 | 2.5600e-003 | 1.2926 |
| High Turnover (Sit Down Restaurant) | 4.24008e+006 | 0.0000 | 0.0635 | 7.6900e-003 | 3.8792 |
| Hotel | 5.60791e+006 | 0.0000 | 0.1679 | 0.0204 | 10.2613 |
| Junior College (2yr) | 1.69104e+006 | 0.0000 | 0.0253 | 3.0700e-003 | 1.5471 |
| Junior High School | 2.50406e+006 | 0.0000 | 0.0375 | 4.5400e-003 | 2.2910 |
| Medical Office Building | 578240 | 0.0000 | 8.6600e-003 | 1.0500e-003 | 0.5290 |
| Regional Shopping Center | 2.7489e+006 | 0.0000 | 0.0412 | 4.9900e-003 | 2.5150 |
| Single Family Housing | 3.45316e+007 | 0.0000 | 0.5169 | 0.0627 | 31.5928 |
| Supermarket | 2.58635e+006 | 0.0000 | 0.0387 | 4.6900e-003 | 2.3662 |
| **Total** | | **0.0000** | **1.5992** | **0.1939** | **97.7445** |

## 5.3 Energy by Land Use - Electricity

**Mitigated**

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Apartments Mid Rise | 1.94258e+007 | 0.0000 | 0.2908 | 0.0353 | 17.7726 |
| Arena | 1.06704e+006 | 0.0000 | 0.0160 | 1.9400e-003 | 0.9762 |
| Fast Food Restaurant with Drive Thru | 978480 | 0.0000 | 0.0147 | 1.7800e-003 | 0.8952 |
| General Office Building | 2.18647e+007 | 0.0000 | 0.3273 | 0.0397 | 20.0039 |
| Government Office Building | 1.0286e+006 | 0.0000 | 0.0154 | 1.8700e-003 | 0.9411 |
| Health Club | 963300 | 0.0000 | 0.0144 | 1.7500e-003 | 0.8813 |
| High School | 1.41284e+006 | 0.0000 | 0.0212 | 2.5600e-003 | 1.2926 |
| High Turnover (Sit Down Restaurant) | 4.24008e+006 | 0.0000 | 0.0635 | 7.6900e-003 | 3.8792 |
| Hotel | 5.60791e+006 | 0.0000 | 0.1679 | 0.0204 | 10.2613 |
| Junior College (2yr) | 1.69104e+006 | 0.0000 | 0.0253 | 3.0700e-003 | 1.5471 |
| Junior High School | 2.50406e+006 | 0.0000 | 0.0375 | 4.5400e-003 | 2.2910 |
| Medical Office Building | 578240 | 0.0000 | 8.6600e-003 | 1.0500e-003 | 0.5290 |
| Regional Shopping Center | 2.7489e+006 | 0.0000 | 0.0412 | 4.9900e-003 | 2.5150 |
| Single Family Housing | 3.45316e+007 | 0.0000 | 0.5169 | 0.0627 | 31.5928 |
| Supermarket | 2.58635e+006 | 0.0000 | 0.0387 | 4.6900e-003 | 2.3662 |
| **Total** | | **0.0000** | **1.5992** | **0.1939** | **97.7445** |

## 6.0 Area Detail



### 6.1 Mitigation Measures Area

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 79.5199 | 1.1100 | 96.1893 | 5.1000e-003 | | 0.5355 | 0.5355 | | 0.5355 | 0.5355 | 0.0000 | 157.8572 | 157.8572 | 0.1507 | 0.0000 | 161.6237 |
| Unmitigated | 79.5199 | 1.1100 | 96.1893 | 5.1000e-003 | | 0.5355 | 0.5355 | | 0.5355 | 0.5355 | 0.0000 | 157.8572 | 157.8572 | 0.1507 | 0.0000 | 161.6237 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 9.9935 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 66.6416 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 2.8848 | 1.1100 | 96.1893 | 5.1000e-003 | | 0.5355 | 0.5355 | | 0.5355 | 0.5355 | 0.0000 | 157.8572 | 157.8572 | 0.1507 | 0.0000 | 161.6237 |
| **Total** | **79.5199** | **1.1100** | **96.1893** | **5.1000e-003** | | **0.5355** | **0.5355** | | **0.5355** | **0.5355** | **0.0000** | **157.8572** | **157.8572** | **0.1507** | **0.0000** | **161.6237** |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 9.9935 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 66.6416 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 2.8848 | 1.1100 | 96.1893 | 5.1000e-003 | | 0.5355 | 0.5355 | | 0.5355 | 0.5355 | 0.0000 | 157.8572 | 157.8572 | 0.1507 | 0.0000 | 161.6237 |
| **Total** | **79.5199** | **1.1100** | **96.1893** | **5.1000e-003** | | **0.5355** | **0.5355** | | **0.5355** | **0.5355** | **0.0000** | **157.8572** | **157.8572** | **0.1507** | **0.0000** | **161.6237** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

Apply Water Conservation Strategy

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 371.1318 | 1.3821 | 0.8198 | 649.9760 |
| Unmitigated | 371.1318 | 1.3887 | 0.8206 | 650.3796 |

## 7.2 Water by Land Use

**Unmitigated**

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Apartments Mid Rise | 325.053 / 204.925 | 115.0044 | 0.4308 | 0.2543 | 201.5671 |
| Arena | 31.0154 / 1.97971 | 10.9733 | 0.0402 | 0.0242 | 19.1766 |
| Fast Food Restaurant with Drive Thru | 7.28481 / 0.464988 | 2.5774 | 9.4400e-003 | 5.6700e-003 | 4.5041 |
| General Office Building | 279.575 / 171.353 | 98.9141 | 0.3703 | 0.2187 | 173.3502 |
| Government Office Building | 14.7008 / 9.01018 | 5.2012 | 0.0195 | 0.0115 | 9.1152 |
| Health Club | 3.8443 / 2.35619 | 1.3601 | 5.0900e-003 | 3.0100e-003 | 2.3837 |
| High School | 6.60744 / 16.9906 | 2.3377 | 9.4300e-003 | 5.2500e-003 | 4.1384 |
| High Turnover (Sit Down Restaurant) | 31.5675 / 2.01495 | 11.1686 | 0.0409 | 0.0246 | 19.5179 |
| Hotel | 20.8008 / 2.31119 | 7.3593 | 0.0270 | 0.0162 | 12.8641 |
| Junior College (2yr) | 5.35275 / 8.37225 | 1.8938 | 7.3600e-003 | 4.2200e-003 | 3.3353 |
| Junior High School | 7.27272 / 18.7013 | 2.5731 | 0.0104 | 5.7800e-003 | 4.5551 |
| Medical Office Building | 5.21999 / 0.994284 | 1.8468 | 6.8000e-003 | 4.0700e-003 | 3.2296 |
| Regional Shopping Center | 18.1478 / 11.1228 | 6.4207 | 0.0240 | 0.0142 | 11.2525 |
| Single Family Housing | 284.528 / 179.376 | 100.6663 | 0.3771 | 0.2226 | 176.4369 |
| Supermarket | 8.01243 / 0.247807 | 2.8348 | 0.0104 | 6.2400e-003 | 4.9532 |
| **Total** | | **371.1318** | **1.3887** | **0.8206** | **650.3796** |

## 7.2 Water by Land Use

**Mitigated**

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Apartments Mid Rise | 325.053 / 163.94 | 115.0044 | 0.4287 | 0.2541 | 201.4359 |
| Arena | 31.0154 / 1.58377 | 10.9733 | 0.0402 | 0.0242 | 19.1753 |
| Fast Food Restaurant with Drive Thru | 7.28481 / 0.37199 | 2.5774 | 9.4300e-003 | 5.6700e-003 | 4.5038 |
| General Office Building | 279.575 / 137.082 | 98.9141 | 0.3685 | 0.2185 | 173.2404 |
| Government Office Building | 14.7008 / 7.20814 | 5.2012 | 0.0194 | 0.0115 | 9.1095 |
| Health Club | 3.8443 / 1.88495 | 1.3601 | 5.0700e-003 | 3.0000e-003 | 2.3822 |
| High School | 6.60744 / 13.5924 | 2.3377 | 9.2500e-003 | 5.2300e-003 | 4.1275 |
| High Turnover (Sit Down Restaurant) | 31.5675 / 1.61196 | 11.1686 | 0.0409 | 0.0246 | 19.5166 |
| Hotel | 20.8008 / 1.84896 | 7.3593 | 0.0270 | 0.0162 | 12.8626 |
| Junior College (2yr) | 5.35275 / 6.6978 | 1.8938 | 7.2700e-003 | 4.2100e-003 | 3.3299 |
| Junior High School | 7.27272 / 14.961 | 2.5731 | 0.0102 | 5.7600e-003 | 4.5431 |
| Medical Office Building | 5.21999 / 0.795427 | 1.8468 | 6.7900e-003 | 4.0700e-003 | 3.2290 |
| Regional Shopping Center | 18.1478 / 8.89826 | 6.4207 | 0.0239 | 0.0142 | 11.2454 |
| Single Family Housing | 284.528 / 143.501 | 100.6663 | 0.3752 | 0.2224 | 176.3220 |
| Supermarket | 8.01243 / 0.198246 | 2.8348 | 0.0104 | 6.2400e-003 | 4.9530 |
| **Total** | | **371.1318** | **1.3821** | **0.8198** | **649.9760** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 8.0 Waste Detail

## 8.1 Mitigation Measures Waste

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 2,580.0882 | 152.4789 | 0.0000 | 6,392.0594 |
| Unmitigated | 2,580.0882 | 152.4789 | 0.0000 | 6,392.0594 |

## 8.2 Waste by Land Use

**Unmitigated**

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Apartments Mid Rise | 2294.94 | 465.8521 | 27.5311 | 0.0000 | 1,154.1288 |
| Arena | 1.98 | 0.4019 | 0.0238 | 0.0000 | 0.9958 |
| Fast Food Restaurant with Drive Thru | 276.45 | 56.1169 | 3.3164 | 0.0000 | 139.0271 |
| General Office Building | 1462.89 | 296.9535 | 17.5495 | 0.0000 | 735.6896 |
| Government Office Building | 68.82 | 13.9698 | 0.8256 | 0.0000 | 34.6097 |
| Health Club | 370.5 | 75.2082 | 4.4447 | 0.0000 | 186.3250 |
| High School | 273.75 | 55.5688 | 3.2840 | 0.0000 | 137.6693 |
| High Turnover (Sit Down Restaurant) | 1237.6 | 251.2216 | 14.8468 | 0.0000 | 622.3909 |
| Hotel | 448.95 | 91.1328 | 5.3858 | 0.0000 | 225.7776 |
| Junior College (2yr) | 456.25 | 92.6146 | 5.4734 | 0.0000 | 229.4488 |
| Junior High School | 547.5 | 111.1376 | 6.5680 | 0.0000 | 275.3386 |
| Medical Office Building | 449.28 | 91.1998 | 5.3898 | 0.0000 | 225.9436 |
| Regional Shopping Center | 257.25 | 52.2194 | 3.0861 | 0.0000 | 129.3714 |
| Single Family Housing | 4197.6 | 852.0749 | 50.3562 | 0.0000 | 2,110.9794 |
| Supermarket | 366.6 | 74.4165 | 4.3979 | 0.0000 | 184.3637 |
| **Total** | | **2,580.0882** | **152.4788** | **0.0000** | **6,392.0593** |

## 8.2 Waste by Land Use

**Mitigated**

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Apartments Mid Rise | 2294.94 | 465.8521 | 27.5311 | 0.0000 | 1,154.1288 |
| Arena | 1.98 | 0.4019 | 0.0238 | 0.0000 | 0.9958 |
| Fast Food Restaurant with Drive Thru | 276.45 | 56.1169 | 3.3164 | 0.0000 | 139.0271 |
| General Office Building | 1462.89 | 296.9535 | 17.5495 | 0.0000 | 735.6896 |
| Government Office Building | 68.82 | 13.9698 | 0.8256 | 0.0000 | 34.6097 |
| Health Club | 370.5 | 75.2082 | 4.4447 | 0.0000 | 186.3250 |
| High School | 273.75 | 55.5688 | 3.2840 | 0.0000 | 137.6693 |
| High Turnover (Sit Down Restaurant) | 1237.6 | 251.2216 | 14.8468 | 0.0000 | 622.3909 |
| Hotel | 448.95 | 91.1328 | 5.3858 | 0.0000 | 225.7776 |
| Junior College (2yr) | 456.25 | 92.6146 | 5.4734 | 0.0000 | 229.4488 |
| Junior High School | 547.5 | 111.1376 | 6.5680 | 0.0000 | 275.3386 |
| Medical Office Building | 449.28 | 91.1998 | 5.3898 | 0.0000 | 225.9436 |
| Regional Shopping Center | 257.25 | 52.2194 | 3.0861 | 0.0000 | 129.3714 |
| Single Family Housing | 4197.6 | 852.0749 | 50.3562 | 0.0000 | 2,110.9794 |
| Supermarket | 366.6 | 74.4165 | 4.3979 | 0.0000 | 184.3637 |
| **Total** | | **2,580.0882** | **152.4788** | **0.0000** | **6,392.0593** |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# UWSP - Proposed Project

**Sacramento Metropolitan AQMD Air District, Summer**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| General Office Building | 1,573.00 | 1000sqft | 36.11 | 1,573,000.00 | 0 |
| Government Office Building | 74.00 | 1000sqft | 1.70 | 74,000.00 | 0 |
| Medical Office Building | 41.60 | 1000sqft | 0.96 | 41,600.00 | 0 |
| High School | 1,500.00 | Student | 4.57 | 198,991.47 | 0 |
| Junior College (2yr) | 2,500.00 | Student | 2.51 | 208,000.00 | 0 |
| Junior High School | 3,000.00 | Student | 8.10 | 352,685.05 | 0 |
| Arena | 72.00 | 1000sqft | 23.14 | 72,000.00 | 0 |
| Fast Food Restaurant with Drive Thru | 24.00 | 1000sqft | 0.55 | 24,000.00 | 0 |
| Health Club | 65.00 | 1000sqft | 1.49 | 65,000.00 | 0 |
| High Turnover (Sit Down Restaurant) | 104.00 | 1000sqft | 2.39 | 104,000.00 | 0 |
| Hotel | 410.00 | Room | 13.67 | 595,320.00 | 0 |
| Hotel | 410.00 | Room | 13.67 | 595,320.00 | 0 |
| Apartments Mid Rise | 4,989.00 | Dwelling Unit | 131.29 | 4,989,000.00 | 13321 |
| Single Family Housing | 4,367.00 | Dwelling Unit | 1,417.86 | 7,860,600.00 | 11660 |
| Regional Shopping Center | 245.00 | 1000sqft | 5.62 | 245,000.00 | 0 |
| Supermarket | 65.00 | 1000sqft | 1.49 | 65,000.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 3.5 | **Precipitation Freq (Days)** | 58 |
| **Climate Zone** | 6 | | | **Operational Year** | 2045 |
| **Utility Company** | Sacramento Municipal Utility District | | | | |
| | | | | | AQMP - Project Features |
| **CO2 Intensity** | 0 | **CH4 Intensity** | 0.033 | **N2O Intensity** | 0.004 |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**(lb/MWhr) (lb/MWhr) (lb/MWhr)**

## 1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity factor adjusted to reflect SMUD's RPS projections.

Land Use - All land uses are consistent with the project-specific traffic report.

Construction Phase - construction not modeled.

Vehicle Trips - Trip rates adjusted per the project-specific traffic report from F&P.

Mobile Land Use Mitigation -

Area Mitigation -

Water Mitigation - Water conservation strategy applied to reflect project compliance with MWELO.

Mobile Commute Mitigation -

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 6,000.00 | 1.00 |
| tblLandUse | LandUseSquareFeet | 109,130.59 | 208,000.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 357.98 | 0 |
| tblVehicleTrips | ST_TR | 4.91 | 3.69 |
| tblVehicleTrips | ST_TR | 10.71 | 19.54 |
| tblVehicleTrips | ST_TR | 616.12 | 319.28 |
| tblVehicleTrips | ST_TR | 2.21 | 6.75 |
| tblVehicleTrips | ST_TR | 0.00 | 15.40 |
| tblVehicleTrips | ST_TR | 20.87 | 18.04 |
| tblVehicleTrips | ST_TR | 0.58 | 1.38 |
| tblVehicleTrips | ST_TR | 122.40 | 75.90 |
| tblVehicleTrips | ST_TR | 8.19 | 4.20 |
| tblVehicleTrips | ST_TR | 0.42 | 1.92 |
| tblVehicleTrips | ST_TR | 0.00 | 1.44 |
| tblVehicleTrips | ST_TR | 8.57 | 24.62 |
| tblVehicleTrips | ST_TR | 46.12 | 37.49 |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblVehicleTrips | ST_TR | 9.54 | 6.40 |
| tblVehicleTrips | ST_TR | 177.62 | 66.32 |
| tblVehicleTrips | SU_TR | 4.09 | 3.69 |
| tblVehicleTrips | SU_TR | 10.71 | 19.54 |
| tblVehicleTrips | SU_TR | 472.58 | 319.28 |
| tblVehicleTrips | SU_TR | 0.70 | 6.75 |
| tblVehicleTrips | SU_TR | 0.00 | 15.40 |
| tblVehicleTrips | SU_TR | 26.73 | 18.04 |
| tblVehicleTrips | SU_TR | 0.25 | 1.38 |
| tblVehicleTrips | SU_TR | 142.64 | 75.90 |
| tblVehicleTrips | SU_TR | 5.95 | 4.20 |
| tblVehicleTrips | SU_TR | 0.04 | 1.92 |
| tblVehicleTrips | SU_TR | 0.00 | 1.44 |
| tblVehicleTrips | SU_TR | 1.42 | 24.62 |
| tblVehicleTrips | SU_TR | 21.10 | 37.49 |
| tblVehicleTrips | SU_TR | 8.55 | 6.40 |
| tblVehicleTrips | SU_TR | 166.47 | 66.32 |
| tblVehicleTrips | WD_TR | 5.44 | 3.69 |
| tblVehicleTrips | WD_TR | 10.71 | 19.54 |
| tblVehicleTrips | WD_TR | 470.95 | 319.28 |
| tblVehicleTrips | WD_TR | 9.74 | 6.75 |
| tblVehicleTrips | WD_TR | 22.59 | 15.40 |
| tblVehicleTrips | WD_TR | 32.93 | 18.04 |
| tblVehicleTrips | WD_TR | 2.03 | 1.38 |
| tblVehicleTrips | WD_TR | 112.18 | 75.90 |
| tblVehicleTrips | WD_TR | 8.36 | 4.20 |
| tblVehicleTrips | WD_TR | 1.15 | 1.92 |
| tblVehicleTrips | WD_TR | 2.13 | 1.44 |
| tblVehicleTrips | WD_TR | 34.80 | 24.62 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblVehicleTrips | WD_TR | 37.75 | 37.49 |
| tblVehicleTrips | WD_TR | 9.44 | 6.40 |
| tblVehicleTrips | WD_TR | 106.78 | 66.32 |

## 2.0 Emissions Summary

### 2.1 Overall Construction (Maximum Daily Emission)

**Unmitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 2.7201 | 27.5533 | 18.7349 | 0.0393 | 19.7939 | 1.2667 | 21.0607 | 10.1388 | 1.1654 | 11.3042 | 0.0000 | 3,815.4139 | 3,815.4139 | 1.1961 | 3.1500e-003 | 3,846.2531 |
| **Maximum** | **2.7201** | **27.5533** | **18.7349** | **0.0393** | **19.7939** | **1.2667** | **21.0607** | **10.1388** | **1.1654** | **11.3042** | **0.0000** | **3,815.4139** | **3,815.4139** | **1.1961** | **3.1500e-003** | **3,846.2531** |

**Mitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 2.7201 | 27.5533 | 18.7349 | 0.0393 | 19.7939 | 1.2667 | 21.0607 | 10.1388 | 1.1654 | 11.3042 | 0.0000 | 3,815.4139 | 3,815.4139 | 1.1961 | 3.1500e-003 | 3,846.2531 |
| **Maximum** | **2.7201** | **27.5533** | **18.7349** | **0.0393** | **19.7939** | **1.2667** | **21.0607** | **10.1388** | **1.1654** | **11.3042** | **0.0000** | **3,815.4139** | **3,815.4139** | **1.1961** | **3.1500e-003** | **3,846.2531** |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 442.9965 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | 0.0000 | 1,392.0621 | 1,392.0621 | 1.3286 | 0.0000 | 1,425.2772 |
| Energy | 7.7407 | 67.9480 | 41.3484 | 0.4222 | | 5.3481 | 5.3481 | | 5.3481 | 5.3481 | | 84,444.2564 | 84,444.2564 | 1.6185 | 1.5481 | 84,946.0663 |
| Mobile | 181.3189 | 151.3874 | 1,521.6022 | 3.1164 | 432.7699 | 1.4208 | 434.1907 | 115.2178 | 1.3288 | 116.5466 | | 350,437.2847 | 350,437.2847 | 20.7844 | 15.1307 | 355,465.8392 |
| **Total** | **632.0561** | **228.2150** | **2,332.4646** | **3.5795** | **432.7699** | **11.0531** | **443.8230** | **115.2178** | **10.9611** | **126.1788** | **0.0000** | **436,273.6032** | **436,273.6032** | **23.7315** | **16.6788** | **441,837.1827** |

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 442.9965 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | 0.0000 | 1,392.0621 | 1,392.0621 | 1.3286 | 0.0000 | 1,425.2772 |
| Energy | 7.7407 | 67.9480 | 41.3484 | 0.4222 | | 5.3481 | 5.3481 | | 5.3481 | 5.3481 | | 84,444.2564 | 84,444.2564 | 1.6185 | 1.5481 | 84,946.0663 |
| Mobile | 178.7503 | 147.6522 | 1,477.4622 | 3.0035 | 416.5167 | 1.3741 | 417.8908 | 110.8906 | 1.2850 | 112.1756 | | 337,736.7849 | 337,736.7849 | 20.1870 | 14.7245 | 342,629.3684 |
| **Total** | **629.4875** | **224.4798** | **2,288.3246** | **3.4665** | **416.5167** | **11.0064** | **427.5230** | **110.8906** | **10.9173** | **121.8079** | **0.0000** | **423,573.1034** | **423,573.1034** | **23.1341** | **16.2727** | **429,000.7119** |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | 0.41 | 1.64 | 1.89 | 3.15 | 3.76 | 0.42 | 3.67 | 3.76 | 0.40 | 3.46 | 0.00 | 2.91 | 2.91 | 2.52 | 2.44 | 2.91 |

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 6/1/2023 | 6/1/2023 | 5 | 1 | |

**Acres of Grading (Site Preparation Phase): 1.5**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

### OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |

### Trips and VMT

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 7 | 18.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |



## 3.1 Mitigation Measures Construction

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.6595 | 27.5242 | 18.2443 | 0.0381 | | 1.2660 | 1.2660 | | 1.1647 | 1.1647 | | 3,687.3081 | 3,687.3081 | 1.1926 | | 3,717.1219 |
| **Total** | **2.6595** | **27.5242** | **18.2443** | **0.0381** | **19.6570** | **1.2660** | **20.9230** | **10.1025** | **1.1647** | **11.2672** | | **3,687.3081** | **3,687.3081** | **1.1926** | | **3,717.1219** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0607 | 0.0291 | 0.4906 | 1.2500e-003 | 0.1369 | 7.1000e-004 | 0.1376 | 0.0363 | 6.5000e-004 | 0.0370 | | 128.1058 | 128.1058 | 3.5200e-003 | 3.1500e-003 | 129.1312 |
| **Total** | **0.0607** | **0.0291** | **0.4906** | **1.2500e-003** | **0.1369** | **7.1000e-004** | **0.1376** | **0.0363** | **6.5000e-004** | **0.0370** | | **128.1058** | **128.1058** | **3.5200e-003** | **3.1500e-003** | **129.1312** |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.6595 | 27.5242 | 18.2443 | 0.0381 | | 1.2660 | 1.2660 | | 1.1647 | 1.1647 | 0.0000 | 3,687.3081 | 3,687.3081 | 1.1926 | | 3,717.1219 |
| **Total** | **2.6595** | **27.5242** | **18.2443** | **0.0381** | **19.6570** | **1.2660** | **20.9230** | **10.1025** | **1.1647** | **11.2672** | **0.0000** | **3,687.3081** | **3,687.3081** | **1.1926** | | **3,717.1219** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0607 | 0.0291 | 0.4906 | 1.2500e-003 | 0.1369 | 7.1000e-004 | 0.1376 | 0.0363 | 6.5000e-004 | 0.0370 | | 128.1058 | 128.1058 | 3.5200e-003 | 3.1500e-003 | 129.1312 |
| **Total** | **0.0607** | **0.0291** | **0.4906** | **1.2500e-003** | **0.1369** | **7.1000e-004** | **0.1376** | **0.0363** | **6.5000e-004** | **0.0370** | | **128.1058** | **128.1058** | **3.5200e-003** | **3.1500e-003** | **129.1312** |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

Implement Trip Reduction Program

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 178.7503 | 147.6522 | 1,477.4622 | 3.0035 | 416.5167 | 1.3741 | 417.8908 | 110.8906 | 1.2850 | 112.1756 | | 337,736.7849 | 337,736.7849 | 20.1870 | 14.7245 | 342,629.3684 |
| Unmitigated | 181.3189 | 151.3874 | 1,521.6022 | 3.1164 | 432.7699 | 1.4208 | 434.1907 | 115.2178 | 1.3288 | 116.5466 | | 350,437.2847 | 350,437.2847 | 20.7844 | 15.1307 | 355,465.8392 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments Mid Rise | 18,409.41 | 18,409.41 | 18409.41 | 47,240,553 | 45,746,716 |
| Arena | 1,406.88 | 1,406.88 | 1406.88 | 1,978,797 | 1,896,904 |
| Fast Food Restaurant with Drive Thru | 7,662.72 | 7,662.72 | 7662.72 | 5,293,366 | 5,072,665 |
| General Office Building | 10,617.75 | 10,617.75 | 10617.75 | 21,926,757 | 20,953,580 |
| Government Office Building | 1,139.60 | 1,139.60 | 1139.60 | 1,638,569 | 1,554,363 |
| Health Club | 1,172.60 | 1,172.60 | 1172.60 | 1,619,497 | 1,549,660 |
| High School | 2,070.00 | 2,070.00 | 2070.00 | 5,391,592 | 5,111,004 |
| High Turnover (Sit Down Restaurant) | 7,893.60 | 7,893.60 | 7893.60 | 7,014,228 | 6,717,207 |
| Hotel | 1,722.00 | 1,722.00 | 1722.00 | 2,648,969 | 2,534,167 |
| Hotel | 1,722.00 | 1,722.00 | 1722.00 | 2,648,969 | 2,534,167 |
| Junior College (2yr) | 4,800.00 | 4,800.00 | 4800.00 | 8,838,757 | 8,390,216 |
| Junior High School | 4,320.00 | 4,320.00 | 4320.00 | 9,509,003 | 9,014,679 |
| Medical Office Building | 1,024.19 | 1,024.19 | 1024.19 | 1,706,100 | 1,630,791 |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Regional Shopping Center | 9,185.05 | 9,185.05 | 9185.05 | 12,834,316 | 12,281,553 |
| Single Family Housing | 27,948.80 | 27,948.80 | 27948.80 | 71,719,667 | 69,451,754 |
| Supermarket | 4,310.80 | 4,310.80 | 4310.80 | 3,709,662 | 3,553,347 |
| Total | 105,405.40 | 105,405.40 | 105,405.40 | 205,718,801 | 197,992,772 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments Mid Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Arena | 10.00 | 5.00 | 6.50 | 0.00 | 81.00 | 19.00 | 66 | 28 | 6 |
| Fast Food Restaurant with Drive | 10.00 | 5.00 | 6.50 | 2.20 | 78.80 | 19.00 | 29 | 21 | 50 |
| General Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 77 | 19 | 4 |
| Government Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 62.00 | 5.00 | 50 | 34 | 16 |
| Health Club | 10.00 | 5.00 | 6.50 | 16.90 | 64.10 | 19.00 | 52 | 39 | 9 |
| High School | 10.00 | 5.00 | 6.50 | 77.80 | 17.20 | 5.00 | 75 | 19 | 6 |
| High Turnover (Sit Down | 10.00 | 5.00 | 6.50 | 8.50 | 72.50 | 19.00 | 37 | 20 | 43 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Junior College (2yr) | 10.00 | 5.00 | 6.50 | 6.40 | 88.60 | 5.00 | 92 | 7 | 1 |
| Junior High School | 10.00 | 5.00 | 6.50 | 72.80 | 22.20 | 5.00 | 63 | 25 | 12 |
| Medical Office Building | 10.00 | 5.00 | 6.50 | 29.60 | 51.40 | 19.00 | 60 | 30 | 10 |
| Regional Shopping Center | 10.00 | 5.00 | 6.50 | 16.30 | 64.70 | 19.00 | 54 | 35 | 11 |
| Single Family Housing | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Supermarket | 10.00 | 5.00 | 6.50 | 6.50 | 74.50 | 19.00 | 34 | 30 | 36 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apartments Mid Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Arena | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Fast Food Restaurant with Drive Thru | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| General Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Government Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Health Club | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High Turnover (Sit Down Restaurant) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Hotel | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Junior College (2yr) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Junior High School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Medical Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Regional Shopping Center | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Single Family Housing | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Supermarket | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 7.7407 | 67.9480 | 41.3484 | 0.4222 | | 5.3481 | 5.3481 | | 5.3481 | 5.3481 | | 84,444.2564 | 84,444.2564 | 1.6185 | 1.5481 | 84,946.0663 |
| NaturalGas Unmitigated | 7.7407 | 67.9480 | 41.3484 | 0.4222 | | 5.3481 | 5.3481 | | 5.3481 | 5.3481 | | 84,444.2564 | 84,444.2564 | 1.6185 | 1.5481 | 84,946.0663 |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments Mid Rise | 128706 | 1.3880 | 11.8611 | 5.0473 | 0.0757 | | 0.9590 | 0.9590 | | 0.9590 | 0.9590 | | 15,141.8442 | 15,141.8442 | 0.2902 | 0.2776 | 15,231.8246 |
| Arena | 7016.55 | 0.0757 | 0.6879 | 0.5778 | 4.1300e-003 | | 0.0523 | 0.0523 | | 0.0523 | 0.0523 | | 825.4762 | 825.4762 | 0.0158 | 0.0151 | 830.3816 |
| Fast Food Restaurant with Drive Thru | 11645.6 | 0.1256 | 1.1417 | 0.9591 | 6.8500e-003 | | 0.0868 | 0.0868 | | 0.0868 | 0.0868 | | 1,370.0693 | 1,370.0693 | 0.0263 | 0.0251 | 1,378.2109 |
| General Office Building | 55938.5 | 0.6033 | 5.4842 | 4.6067 | 0.0329 | | 0.4168 | 0.4168 | | 0.4168 | 0.4168 | | 6,580.9960 | 6,580.9960 | 0.1261 | 0.1207 | 6,620.1035 |
| Government Office Building | 2631.56 | 0.0284 | 0.2580 | 0.2167 | 1.5500e-003 | | 0.0196 | 0.0196 | | 0.0196 | 0.0196 | | 309.5955 | 309.5955 | 5.9300e-003 | 5.6800e-003 | 311.4353 |
| Health Club | 6334.38 | 0.0683 | 0.6210 | 0.5217 | 3.7300e-003 | | 0.0472 | 0.0472 | | 0.0472 | 0.0472 | | 745.2216 | 745.2216 | 0.0143 | 0.0137 | 749.6501 |
| High School | 8243.15 | 0.0889 | 0.8082 | 0.6789 | 4.8500e-003 | | 0.0614 | 0.0614 | | 0.0614 | 0.0614 | | 969.7828 | 969.7828 | 0.0186 | 0.0178 | 975.5457 |
| High Turnover (Sit Down Restaurant) | 50464.2 | 0.5442 | 4.9475 | 4.1559 | 0.0297 | | 0.3760 | 0.3760 | | 0.3760 | 0.3760 | | 5,936.9670 | 5,936.9670 | 0.1138 | 0.1088 | 5,972.2474 |
| Hotel | 62370 | 1.3452 | 12.2294 | 10.2727 | 0.0734 | | 0.9294 | 0.9294 | | 0.9294 | 0.9294 | | 14,675.2856 | 14,675.2856 | 0.2813 | 0.2691 | 14,762.4935 |
| Junior College (2yr) | 14805 | 0.1597 | 1.4515 | 1.2192 | 8.7100e-003 | | 0.1103 | 0.1103 | | 0.1103 | 0.1103 | | 1,741.7695 | 1,741.7695 | 0.0334 | 0.0319 | 1,752.1200 |
| Junior High School | 14609.9 | 0.1576 | 1.4323 | 1.2032 | 8.5900e-003 | | 0.1089 | 0.1089 | | 0.1089 | 0.1089 | | 1,718.8068 | 1,718.8068 | 0.0329 | 0.0315 | 1,729.0208 |
| Medical Office Building | 1479.36 | 0.0160 | 0.1450 | 0.1218 | 8.7000e-004 | | 0.0110 | 0.0110 | | 0.0110 | 0.0110 | | 174.0429 | 174.0429 | 3.3400e-003 | 3.1900e-003 | 175.0771 |
| Regional Shopping Center | 3604.52 | 0.0389 | 0.3534 | 0.2968 | 2.1200e-003 | | 0.0269 | 0.0269 | | 0.0269 | 0.0269 | | 424.0612 | 424.0612 | 8.1300e-003 | 7.7700e-003 | 426.5812 |
| Single Family Housing | 283063 | 3.0526 | 26.0862 | 11.1005 | 0.1665 | | 2.1091 | 2.1091 | | 2.1091 | 2.1091 | | 33,301.5385 | 33,301.5385 | 0.6383 | 0.6105 | 33,499.4329 |
| Supermarket | 4494.79 | 0.0485 | 0.4407 | 0.3702 | 2.6400e-003 | | 0.0335 | 0.0335 | | 0.0335 | 0.0335 | | 528.7994 | 528.7994 | 0.0101 | 9.6900e-003 | 531.9418 |
| **Total** | | **7.7407** | **67.9480** | **41.3484** | **0.4222** | | **5.3481** | **5.3481** | | **5.3481** | **5.3481** | | **84,444.2564** | **84,444.2564** | **1.6185** | **1.5481** | **84,946.0664** |

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments Mid Rise | 128.706 | 1.3880 | 11.8611 | 5.0473 | 0.0757 | | 0.9590 | 0.9590 | | 0.9590 | 0.9590 | | 15,141.8442 | 15,141.8442 | 0.2902 | 0.2776 | 15,231.8246 |
| Arena | 7.01655 | 0.0757 | 0.6879 | 0.5778 | 4.1300e-003 | | 0.0523 | 0.0523 | | 0.0523 | 0.0523 | | 825.4762 | 825.4762 | 0.0158 | 0.0151 | 830.3816 |
| Fast Food Restaurant with Drive Thru | 11.6456 | 0.1256 | 1.1417 | 0.9591 | 6.8500e-003 | | 0.0868 | 0.0868 | | 0.0868 | 0.0868 | | 1,370.0693 | 1,370.0693 | 0.0263 | 0.0251 | 1,378.2109 |
| General Office Building | 55.9385 | 0.6033 | 5.4842 | 4.6067 | 0.0329 | | 0.4168 | 0.4168 | | 0.4168 | 0.4168 | | 6,580.9960 | 6,580.9960 | 0.1261 | 0.1207 | 6,620.1035 |
| Government Office Building | 2.63156 | 0.0284 | 0.2580 | 0.2167 | 1.5500e-003 | | 0.0196 | 0.0196 | | 0.0196 | 0.0196 | | 309.5955 | 309.5955 | 5.9300e-003 | 5.6800e-003 | 311.4353 |
| Health Club | 6.33438 | 0.0683 | 0.6210 | 0.5217 | 3.7300e-003 | | 0.0472 | 0.0472 | | 0.0472 | 0.0472 | | 745.2216 | 745.2216 | 0.0143 | 0.0137 | 749.6501 |
| High School | 8.24315 | 0.0889 | 0.8082 | 0.6789 | 4.8500e-003 | | 0.0614 | 0.0614 | | 0.0614 | 0.0614 | | 969.7828 | 969.7828 | 0.0186 | 0.0178 | 975.5457 |
| High Turnover (Sit Down Restaurant) | 50.4642 | 0.5442 | 4.9475 | 4.1559 | 0.0297 | | 0.3760 | 0.3760 | | 0.3760 | 0.3760 | | 5,936.9670 | 5,936.9670 | 0.1138 | 0.1088 | 5,972.2474 |
| Hotel | 62.37 | 1.3452 | 12.2294 | 10.2727 | 0.0734 | | 0.9294 | 0.9294 | | 0.9294 | 0.9294 | | 14,675.2856 | 14,675.2856 | 0.2813 | 0.2691 | 14,762.4935 |
| Junior College (2yr) | 14.805 | 0.1597 | 1.4515 | 1.2192 | 8.7100e-003 | | 0.1103 | 0.1103 | | 0.1103 | 0.1103 | | 1,741.7695 | 1,741.7695 | 0.0334 | 0.0319 | 1,752.1200 |
| Junior High School | 14.6099 | 0.1576 | 1.4323 | 1.2032 | 8.5900e-003 | | 0.1089 | 0.1089 | | 0.1089 | 0.1089 | | 1,718.8068 | 1,718.8068 | 0.0329 | 0.0315 | 1,729.0208 |
| Medical Office Building | 1.47936 | 0.0160 | 0.1450 | 0.1218 | 8.7000e-004 | | 0.0110 | 0.0110 | | 0.0110 | 0.0110 | | 174.0429 | 174.0429 | 3.3400e-003 | 3.1900e-003 | 175.0771 |
| Regional Shopping Center | 3.60452 | 0.0389 | 0.3534 | 0.2968 | 2.1200e-003 | | 0.0269 | 0.0269 | | 0.0269 | 0.0269 | | 424.0612 | 424.0612 | 8.1300e-003 | 7.7700e-003 | 426.5812 |
| Single Family Housing | 283.063 | 3.0526 | 26.0862 | 11.1005 | 0.1665 | | 2.1091 | 2.1091 | | 2.1091 | 2.1091 | | 33,301.5385 | 33,301.5385 | 0.6383 | 0.6105 | 33,499.4329 |
| Supermarket | 4.49479 | 0.0485 | 0.4407 | 0.3702 | 2.6400e-003 | | 0.0335 | 0.0335 | | 0.0335 | 0.0335 | | 528.7994 | 528.7994 | 0.0101 | 9.6900e-003 | 531.9418 |
| **Total** | | **7.7407** | **67.9480** | **41.3484** | **0.4222** | | **5.3481** | **5.3481** | | **5.3481** | **5.3481** | | **84,444.2564** | **84,444.2564** | **1.6185** | **1.5481** | **84,946.0664** |

## 6.0 Area Detail

AQMP - Project Features

### 6.1 Mitigation Measures Area

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 442.9965 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | 0.0000 | 1,392.0621 | 1,392.0621 | 1.3286 | 0.0000 | 1,425.2772 |
| Unmitigated | 442.9965 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | 0.0000 | 1,392.0621 | 1,392.0621 | 1.3286 | 0.0000 | 1,425.2772 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 54.7587 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 365.1593 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 23.0785 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | | 1,392.0621 | 1,392.0621 | 1.3286 | | 1,425.2772 |
| **Total** | **442.9965** | **8.8796** | **769.5140** | **0.0408** | | **4.2841** | **4.2841** | | **4.2841** | **4.2841** | **0.0000** | **1,392.0621** | **1,392.0621** | **1.3286** | **0.0000** | **1,425.2772** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 54.7587 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 365.1593 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 23.0785 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | | 1,392.0621 | 1,392.0621 | 1.3286 | | 1,425.2772 |
| **Total** | **442.9965** | **8.8796** | **769.5140** | **0.0408** | | **4.2841** | **4.2841** | | **4.2841** | **4.2841** | **0.0000** | **1,392.0621** | **1,392.0621** | **1.3286** | **0.0000** | **1,425.2772** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

Apply Water Conservation Strategy

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# UWSP - Proposed Project

**Sacramento Metropolitan AQMD Air District, Winter**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| General Office Building | 1,573.00 | 1000sqft | 36.11 | 1,573,000.00 | 0 |
| Government Office Building | 74.00 | 1000sqft | 1.70 | 74,000.00 | 0 |
| Medical Office Building | 41.60 | 1000sqft | 0.96 | 41,600.00 | 0 |
| High School | 1,500.00 | Student | 4.57 | 198,991.47 | 0 |
| Junior College (2yr) | 2,500.00 | Student | 2.51 | 208,000.00 | 0 |
| Junior High School | 3,000.00 | Student | 8.10 | 352,685.05 | 0 |
| Arena | 72.00 | 1000sqft | 23.14 | 72,000.00 | 0 |
| Fast Food Restaurant with Drive Thru | 24.00 | 1000sqft | 0.55 | 24,000.00 | 0 |
| Health Club | 65.00 | 1000sqft | 1.49 | 65,000.00 | 0 |
| High Turnover (Sit Down Restaurant) | 104.00 | 1000sqft | 2.39 | 104,000.00 | 0 |
| Hotel | 410.00 | Room | 13.67 | 595,320.00 | 0 |
| Hotel | 410.00 | Room | 13.67 | 595,320.00 | 0 |
| Apartments Mid Rise | 4,989.00 | Dwelling Unit | 131.29 | 4,989,000.00 | 13321 |
| Single Family Housing | 4,367.00 | Dwelling Unit | 1,417.86 | 7,860,600.00 | 11660 |
| Regional Shopping Center | 245.00 | 1000sqft | 5.62 | 245,000.00 | 0 |
| Supermarket | 65.00 | 1000sqft | 1.49 | 65,000.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 3.5 | **Precipitation Freq (Days)** | 58 |
| **Climate Zone** | 6 | | | **Operational Year** | 2045 |
| **Utility Company** | Sacramento Municipal Utility District | | | | |
| | | | | | AQMP - Project Features |
| **CO2 Intensity** | 0 | **CH4 Intensity** | 0.033 | **N2O Intensity** | 0.004 |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**(lb/MWhr) (lb/MWhr) (lb/MWhr)**

## 1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity factor adjusted to reflect SMUD's RPS projections.

Land Use - All land uses are consistent with the project-specific traffic report.

Construction Phase - construction not modeled.

Vehicle Trips - Trip rates adjusted per the project-specific traffic report from F&P.

Mobile Land Use Mitigation -

Area Mitigation -

Water Mitigation - Water conservation strategy applied to reflect project compliance with MWELO.

Mobile Commute Mitigation -

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 6,000.00 | 1.00 |
| tblLandUse | LandUseSquareFeet | 109,130.59 | 208,000.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 357.98 | 0 |
| tblVehicleTrips | ST_TR | 4.91 | 3.69 |
| tblVehicleTrips | ST_TR | 10.71 | 19.54 |
| tblVehicleTrips | ST_TR | 616.12 | 319.28 |
| tblVehicleTrips | ST_TR | 2.21 | 6.75 |
| tblVehicleTrips | ST_TR | 0.00 | 15.40 |
| tblVehicleTrips | ST_TR | 20.87 | 18.04 |
| tblVehicleTrips | ST_TR | 0.58 | 1.38 |
| tblVehicleTrips | ST_TR | 122.40 | 75.90 |
| tblVehicleTrips | ST_TR | 8.19 | 4.20 |
| tblVehicleTrips | ST_TR | 0.42 | 1.92 |
| tblVehicleTrips | ST_TR | 0.00 | 1.44 |
| tblVehicleTrips | ST_TR | 8.57 | 24.62 |
| tblVehicleTrips | ST_TR | 46.12 | 37.49 |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblVehicleTrips | ST_TR | 9.54 | 6.40 |
| tblVehicleTrips | ST_TR | 177.62 | 66.32 |
| tblVehicleTrips | SU_TR | 4.09 | 3.69 |
| tblVehicleTrips | SU_TR | 10.71 | 19.54 |
| tblVehicleTrips | SU_TR | 472.58 | 319.28 |
| tblVehicleTrips | SU_TR | 0.70 | 6.75 |
| tblVehicleTrips | SU_TR | 0.00 | 15.40 |
| tblVehicleTrips | SU_TR | 26.73 | 18.04 |
| tblVehicleTrips | SU_TR | 0.25 | 1.38 |
| tblVehicleTrips | SU_TR | 142.64 | 75.90 |
| tblVehicleTrips | SU_TR | 5.95 | 4.20 |
| tblVehicleTrips | SU_TR | 0.04 | 1.92 |
| tblVehicleTrips | SU_TR | 0.00 | 1.44 |
| tblVehicleTrips | SU_TR | 1.42 | 24.62 |
| tblVehicleTrips | SU_TR | 21.10 | 37.49 |
| tblVehicleTrips | SU_TR | 8.55 | 6.40 |
| tblVehicleTrips | SU_TR | 166.47 | 66.32 |
| tblVehicleTrips | WD_TR | 5.44 | 3.69 |
| tblVehicleTrips | WD_TR | 10.71 | 19.54 |
| tblVehicleTrips | WD_TR | 470.95 | 319.28 |
| tblVehicleTrips | WD_TR | 9.74 | 6.75 |
| tblVehicleTrips | WD_TR | 22.59 | 15.40 |
| tblVehicleTrips | WD_TR | 32.93 | 18.04 |
| tblVehicleTrips | WD_TR | 2.03 | 1.38 |
| tblVehicleTrips | WD_TR | 112.18 | 75.90 |
| tblVehicleTrips | WD_TR | 8.36 | 4.20 |
| tblVehicleTrips | WD_TR | 1.15 | 1.92 |
| tblVehicleTrips | WD_TR | 2.13 | 1.44 |
| tblVehicleTrips | WD_TR | 34.80 | 24.62 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblVehicleTrips | WD_TR | 37.75 | 37.49 |
| tblVehicleTrips | WD_TR | 9.44 | 6.40 |
| tblVehicleTrips | WD_TR | 106.78 | 66.32 |

## 2.0 Emissions Summary

### 2.1 Overall Construction (Maximum Daily Emission)

**Unmitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 2.7132 | 27.5599 | 18.6716 | 0.0392 | 19.7939 | 1.2667 | 21.0607 | 10.1388 | 1.1654 | 11.3042 | 0.0000 | 3,801.2622 | 3,801.2622 | 1.1966 | 3.6100e-003 | 3,832.2524 |
| **Maximum** | **2.7132** | **27.5599** | **18.6716** | **0.0392** | **19.7939** | **1.2667** | **21.0607** | **10.1388** | **1.1654** | **11.3042** | **0.0000** | **3,801.2622** | **3,801.2622** | **1.1966** | **3.6100e-003** | **3,832.2524** |

**Mitigated Construction**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2023 | 2.7132 | 27.5599 | 18.6716 | 0.0392 | 19.7939 | 1.2667 | 21.0607 | 10.1388 | 1.1654 | 11.3042 | 0.0000 | 3,801.2622 | 3,801.2622 | 1.1966 | 3.6100e-003 | 3,832.2524 |
| **Maximum** | **2.7132** | **27.5599** | **18.6716** | **0.0392** | **19.7939** | **1.2667** | **21.0607** | **10.1388** | **1.1654** | **11.3042** | **0.0000** | **3,801.2622** | **3,801.2622** | **1.1966** | **3.6100e-003** | **3,832.2524** |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 442.9965 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | 0.0000 | 1,392.0621 | 1,392.0621 | 1.3286 | 0.0000 | 1,425.2772 |
| Energy | 7.7407 | 67.9480 | 41.3484 | 0.4222 | | 5.3481 | 5.3481 | | 5.3481 | 5.3481 | | 84,444.2564 | 84,444.2564 | 1.6185 | 1.5481 | 84,946.0663 |
| Mobile | 134.8725 | 175.7428 | 1,555.8063 | 2.8464 | 432.7699 | 1.4222 | 434.1921 | 115.2178 | 1.3301 | 116.5478 | | 319,788.3050 | 319,788.3050 | 22.8469 | 16.5270 | 325,284.5339 |
| **Total** | **585.6097** | **252.5705** | **2,366.6687** | **3.3095** | **432.7699** | **11.0544** | **443.8243** | **115.2178** | **10.9624** | **126.1801** | **0.0000** | **405,624.6235** | **405,624.6235** | **25.7940** | **18.0752** | **411,655.8774** |

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 442.9965 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | 0.0000 | 1,392.0621 | 1,392.0621 | 1.3286 | 0.0000 | 1,425.2772 |
| Energy | 7.7407 | 67.9480 | 41.3484 | 0.4222 | | 5.3481 | 5.3481 | | 5.3481 | 5.3481 | | 84,444.2564 | 84,444.2564 | 1.6185 | 1.5481 | 84,946.0663 |
| Mobile | 132.1843 | 171.3548 | 1,516.3148 | 2.7438 | 416.5167 | 1.3755 | 417.8921 | 110.8906 | 1.2863 | 112.1769 | | 308,252.7031 | 308,252.7031 | 22.2422 | 16.0892 | 313,603.3435 |
| **Total** | **582.9216** | **248.1824** | **2,327.1772** | **3.2068** | **416.5167** | **11.0077** | **427.5244** | **110.8906** | **10.9186** | **121.8092** | **0.0000** | **394,089.0216** | **394,089.0216** | **25.1893** | **17.6374** | **399,974.6870** |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | 0.46 | 1.74 | 1.67 | 3.10 | 3.76 | 0.42 | 3.67 | 3.76 | 0.40 | 3.46 | 0.00 | 2.84 | 2.84 | 2.34 | 2.42 | 2.84 |

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 6/1/2023 | 6/1/2023 | 5 | 1 | |

**Acres of Grading (Site Preparation Phase): 1.5**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

### OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |

### Trips and VMT

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 7 | 18.00 | 0.00 | 0.00 | 10.00 | 6.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |



## 3.1 Mitigation Measures Construction

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.6595 | 27.5242 | 18.2443 | 0.0381 | | 1.2660 | 1.2660 | | 1.1647 | 1.1647 | | 3,687.3081 | 3,687.3081 | 1.1926 | | 3,717.1219 |
| **Total** | **2.6595** | **27.5242** | **18.2443** | **0.0381** | **19.6570** | **1.2660** | **20.9230** | **10.1025** | **1.1647** | **11.2672** | | **3,687.3081** | **3,687.3081** | **1.1926** | | **3,717.1219** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0537 | 0.0358 | 0.4272 | 1.1100e-003 | 0.1369 | 7.1000e-004 | 0.1376 | 0.0363 | 6.5000e-004 | 0.0370 | | 113.9541 | 113.9541 | 4.0500e-003 | 3.6100e-003 | 115.1305 |
| **Total** | **0.0537** | **0.0358** | **0.4272** | **1.1100e-003** | **0.1369** | **7.1000e-004** | **0.1376** | **0.0363** | **6.5000e-004** | **0.0370** | | **113.9541** | **113.9541** | **4.0500e-003** | **3.6100e-003** | **115.1305** |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Site Preparation - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 19.6570 | 0.0000 | 19.6570 | 10.1025 | 0.0000 | 10.1025 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.6595 | 27.5242 | 18.2443 | 0.0381 | | 1.2660 | 1.2660 | | 1.1647 | 1.1647 | 0.0000 | 3,687.3081 | 3,687.3081 | 1.1926 | | 3,717.1219 |
| **Total** | **2.6595** | **27.5242** | **18.2443** | **0.0381** | **19.6570** | **1.2660** | **20.9230** | **10.1025** | **1.1647** | **11.2672** | **0.0000** | **3,687.3081** | **3,687.3081** | **1.1926** | | **3,717.1219** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0537 | 0.0358 | 0.4272 | 1.1100e-003 | 0.1369 | 7.1000e-004 | 0.1376 | 0.0363 | 6.5000e-004 | 0.0370 | | 113.9541 | 113.9541 | 4.0500e-003 | 3.6100e-003 | 115.1305 |
| **Total** | **0.0537** | **0.0358** | **0.4272** | **1.1100e-003** | **0.1369** | **7.1000e-004** | **0.1376** | **0.0363** | **6.5000e-004** | **0.0370** | | **113.9541** | **113.9541** | **4.0500e-003** | **3.6100e-003** | **115.1305** |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

Implement Trip Reduction Program

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 132.1843 | 171.3548 | 1,516.3148 | 2.7438 | 416.5167 | 1.3755 | 417.8921 | 110.8906 | 1.2863 | 112.1769 | | 308,252.7031 | 308,252.7031 | 22.2422 | 16.0892 | 313,603.3435 |
| Unmitigated | 134.8725 | 175.7428 | 1,555.8063 | 2.8464 | 432.7699 | 1.4222 | 434.1921 | 115.2178 | 1.3301 | 116.5478 | | 319,788.3050 | 319,788.3050 | 22.8469 | 16.5270 | 325,284.5339 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments Mid Rise | 18,409.41 | 18,409.41 | 18409.41 | 47,240,553 | 45,746,716 |
| Arena | 1,406.88 | 1,406.88 | 1406.88 | 1,978,797 | 1,896,904 |
| Fast Food Restaurant with Drive Thru | 7,662.72 | 7,662.72 | 7662.72 | 5,293,366 | 5,072,665 |
| General Office Building | 10,617.75 | 10,617.75 | 10617.75 | 21,926,757 | 20,953,580 |
| Government Office Building | 1,139.60 | 1,139.60 | 1139.60 | 1,638,569 | 1,554,363 |
| Health Club | 1,172.60 | 1,172.60 | 1172.60 | 1,619,497 | 1,549,660 |
| High School | 2,070.00 | 2,070.00 | 2070.00 | 5,391,592 | 5,111,004 |
| High Turnover (Sit Down Restaurant) | 7,893.60 | 7,893.60 | 7893.60 | 7,014,228 | 6,717,207 |
| Hotel | 1,722.00 | 1,722.00 | 1722.00 | 2,648,969 | 2,534,167 |
| Hotel | 1,722.00 | 1,722.00 | 1722.00 | 2,648,969 | 2,534,167 |
| Junior College (2yr) | 4,800.00 | 4,800.00 | 4800.00 | 8,838,757 | 8,390,216 |
| Junior High School | 4,320.00 | 4,320.00 | 4320.00 | 9,509,003 | 9,014,679 |
| Medical Office Building | 1,024.19 | 1,024.19 | 1024.19 | 1,706,100 | 1,630,791 |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Regional Shopping Center | 9,185.05 | 9,185.05 | 9185.05 | 12,834,316 | 12,281,553 |
| Single Family Housing | 27,948.80 | 27,948.80 | 27948.80 | 71,719,667 | 69,451,754 |
| Supermarket | 4,310.80 | 4,310.80 | 4310.80 | 3,709,662 | 3,553,347 |
| Total | 105,405.40 | 105,405.40 | 105,405.40 | 205,718,801 | 197,992,772 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments Mid Rise | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Arena | 10.00 | 5.00 | 6.50 | 0.00 | 81.00 | 19.00 | 66 | 28 | 6 |
| Fast Food Restaurant with Drive | 10.00 | 5.00 | 6.50 | 2.20 | 78.80 | 19.00 | 29 | 21 | 50 |
| General Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 77 | 19 | 4 |
| Government Office Building | 10.00 | 5.00 | 6.50 | 33.00 | 62.00 | 5.00 | 50 | 34 | 16 |
| Health Club | 10.00 | 5.00 | 6.50 | 16.90 | 64.10 | 19.00 | 52 | 39 | 9 |
| High School | 10.00 | 5.00 | 6.50 | 77.80 | 17.20 | 5.00 | 75 | 19 | 6 |
| High Turnover (Sit Down | 10.00 | 5.00 | 6.50 | 8.50 | 72.50 | 19.00 | 37 | 20 | 43 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Hotel | 10.00 | 5.00 | 6.50 | 19.40 | 61.60 | 19.00 | 58 | 38 | 4 |
| Junior College (2yr) | 10.00 | 5.00 | 6.50 | 6.40 | 88.60 | 5.00 | 92 | 7 | 1 |
| Junior High School | 10.00 | 5.00 | 6.50 | 72.80 | 22.20 | 5.00 | 63 | 25 | 12 |
| Medical Office Building | 10.00 | 5.00 | 6.50 | 29.60 | 51.40 | 19.00 | 60 | 30 | 10 |
| Regional Shopping Center | 10.00 | 5.00 | 6.50 | 16.30 | 64.70 | 19.00 | 54 | 35 | 11 |
| Single Family Housing | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |
| Supermarket | 10.00 | 5.00 | 6.50 | 6.50 | 74.50 | 19.00 | 34 | 30 | 36 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apartments Mid Rise | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Arena | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Fast Food Restaurant with Drive Thru | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| General Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Government Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Health Club | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| High Turnover (Sit Down Restaurant) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Hotel | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Junior College (2yr) | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Junior High School | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Medical Office Building | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Regional Shopping Center | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Single Family Housing | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |
| Supermarket | 0.573467 | 0.055972 | 0.181394 | 0.117243 | 0.017366 | 0.004967 | 0.012425 | 0.009119 | 0.000617 | 0.000816 | 0.023879 | 0.000623 | 0.002110 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 7.7407 | 67.9480 | 41.3484 | 0.4222 | | 5.3481 | 5.3481 | | 5.3481 | 5.3481 | | 84,444.2564 | 84,444.2564 | 1.6185 | 1.5481 | 84,946.0663 |
| NaturalGas Unmitigated | 7.7407 | 67.9480 | 41.3484 | 0.4222 | | 5.3481 | 5.3481 | | 5.3481 | 5.3481 | | 84,444.2564 | 84,444.2564 | 1.6185 | 1.5481 | 84,946.0663 |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments Mid Rise | 128706 | 1.3880 | 11.8611 | 5.0473 | 0.0757 | | 0.9590 | 0.9590 | | 0.9590 | 0.9590 | | 15,141.8442 | 15,141.8442 | 0.2902 | 0.2776 | 15,231.8246 |
| Arena | 7016.55 | 0.0757 | 0.6879 | 0.5778 | 4.1300e-003 | | 0.0523 | 0.0523 | | 0.0523 | 0.0523 | | 825.4762 | 825.4762 | 0.0158 | 0.0151 | 830.3816 |
| Fast Food Restaurant with Drive Thru | 11645.6 | 0.1256 | 1.1417 | 0.9591 | 6.8500e-003 | | 0.0868 | 0.0868 | | 0.0868 | 0.0868 | | 1,370.0693 | 1,370.0693 | 0.0263 | 0.0251 | 1,378.2109 |
| General Office Building | 55938.5 | 0.6033 | 5.4842 | 4.6067 | 0.0329 | | 0.4168 | 0.4168 | | 0.4168 | 0.4168 | | 6,580.9960 | 6,580.9960 | 0.1261 | 0.1207 | 6,620.1035 |
| Government Office Building | 2631.56 | 0.0284 | 0.2580 | 0.2167 | 1.5500e-003 | | 0.0196 | 0.0196 | | 0.0196 | 0.0196 | | 309.5955 | 309.5955 | 5.9300e-003 | 5.6800e-003 | 311.4353 |
| Health Club | 6334.38 | 0.0683 | 0.6210 | 0.5217 | 3.7300e-003 | | 0.0472 | 0.0472 | | 0.0472 | 0.0472 | | 745.2216 | 745.2216 | 0.0143 | 0.0137 | 749.6501 |
| High School | 8243.15 | 0.0889 | 0.8082 | 0.6789 | 4.8500e-003 | | 0.0614 | 0.0614 | | 0.0614 | 0.0614 | | 969.7828 | 969.7828 | 0.0186 | 0.0178 | 975.5457 |
| High Turnover (Sit Down Restaurant) | 50464.2 | 0.5442 | 4.9475 | 4.1559 | 0.0297 | | 0.3760 | 0.3760 | | 0.3760 | 0.3760 | | 5,936.9670 | 5,936.9670 | 0.1138 | 0.1088 | 5,972.2474 |
| Hotel | 62370 | 1.3452 | 12.2294 | 10.2727 | 0.0734 | | 0.9294 | 0.9294 | | 0.9294 | 0.9294 | | 14,675.2856 | 14,675.2856 | 0.2813 | 0.2691 | 14,762.4935 |
| Junior College (2yr) | 14805 | 0.1597 | 1.4515 | 1.2192 | 8.7100e-003 | | 0.1103 | 0.1103 | | 0.1103 | 0.1103 | | 1,741.7695 | 1,741.7695 | 0.0334 | 0.0319 | 1,752.1200 |
| Junior High School | 14609.9 | 0.1576 | 1.4323 | 1.2032 | 8.5900e-003 | | 0.1089 | 0.1089 | | 0.1089 | 0.1089 | | 1,718.8068 | 1,718.8068 | 0.0329 | 0.0315 | 1,729.0208 |
| Medical Office Building | 1479.36 | 0.0160 | 0.1450 | 0.1218 | 8.7000e-004 | | 0.0110 | 0.0110 | | 0.0110 | 0.0110 | | 174.0429 | 174.0429 | 3.3400e-003 | 3.1900e-003 | 175.0771 |
| Regional Shopping Center | 3604.52 | 0.0389 | 0.3534 | 0.2968 | 2.1200e-003 | | 0.0269 | 0.0269 | | 0.0269 | 0.0269 | | 424.0612 | 424.0612 | 8.1300e-003 | 7.7700e-003 | 426.5812 |
| Single Family Housing | 283063 | 3.0526 | 26.0862 | 11.1005 | 0.1665 | | 2.1091 | 2.1091 | | 2.1091 | 2.1091 | | 33,301.5385 | 33,301.5385 | 0.6383 | 0.6105 | 33,499.4329 |
| Supermarket | 4494.79 | 0.0485 | 0.4407 | 0.3702 | 2.6400e-003 | | 0.0335 | 0.0335 | | 0.0335 | 0.0335 | | 528.7994 | 528.7994 | 0.0101 | 9.6900e-003 | 531.9418 |
| **Total** | | **7.7407** | **67.9480** | **41.3484** | **0.4222** | | **5.3481** | **5.3481** | | **5.3481** | **5.3481** | | **84,444.2564** | **84,444.2564** | **1.6185** | **1.5481** | **84,946.0664** |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Apartments Mid Rise | 128.706 | 1.3880 | 11.8611 | 5.0473 | 0.0757 | | 0.9590 | 0.9590 | | 0.9590 | 0.9590 | | 15,141.8442 | 15,141.8442 | 0.2902 | 0.2776 | 15,231.8246 |
| Arena | 7.01655 | 0.0757 | 0.6879 | 0.5778 | 4.1300e-003 | | 0.0523 | 0.0523 | | 0.0523 | 0.0523 | | 825.4762 | 825.4762 | 0.0158 | 0.0151 | 830.3816 |
| Fast Food Restaurant with Drive Thru | 11.6456 | 0.1256 | 1.1417 | 0.9591 | 6.8500e-003 | | 0.0868 | 0.0868 | | 0.0868 | 0.0868 | | 1,370.0693 | 1,370.0693 | 0.0263 | 0.0251 | 1,378.2109 |
| General Office Building | 55.9385 | 0.6033 | 5.4842 | 4.6067 | 0.0329 | | 0.4168 | 0.4168 | | 0.4168 | 0.4168 | | 6,580.9960 | 6,580.9960 | 0.1261 | 0.1207 | 6,620.1035 |
| Government Office Building | 2.63156 | 0.0284 | 0.2580 | 0.2167 | 1.5500e-003 | | 0.0196 | 0.0196 | | 0.0196 | 0.0196 | | 309.5955 | 309.5955 | 5.9300e-003 | 5.6800e-003 | 311.4353 |
| Health Club | 6.33438 | 0.0683 | 0.6210 | 0.5217 | 3.7300e-003 | | 0.0472 | 0.0472 | | 0.0472 | 0.0472 | | 745.2216 | 745.2216 | 0.0143 | 0.0137 | 749.6501 |
| High School | 8.24315 | 0.0889 | 0.8082 | 0.6789 | 4.8500e-003 | | 0.0614 | 0.0614 | | 0.0614 | 0.0614 | | 969.7828 | 969.7828 | 0.0186 | 0.0178 | 975.5457 |
| High Turnover (Sit Down Restaurant) | 50.4642 | 0.5442 | 4.9475 | 4.1559 | 0.0297 | | 0.3760 | 0.3760 | | 0.3760 | 0.3760 | | 5,936.9670 | 5,936.9670 | 0.1138 | 0.1088 | 5,972.2474 |
| Hotel | 62.37 | 1.3452 | 12.2294 | 10.2727 | 0.0734 | | 0.9294 | 0.9294 | | 0.9294 | 0.9294 | | 14,675.2856 | 14,675.2856 | 0.2813 | 0.2691 | 14,762.4935 |
| Junior College (2yr) | 14.805 | 0.1597 | 1.4515 | 1.2192 | 8.7100e-003 | | 0.1103 | 0.1103 | | 0.1103 | 0.1103 | | 1,741.7695 | 1,741.7695 | 0.0334 | 0.0319 | 1,752.1200 |
| Junior High School | 14.6099 | 0.1576 | 1.4323 | 1.2032 | 8.5900e-003 | | 0.1089 | 0.1089 | | 0.1089 | 0.1089 | | 1,718.8068 | 1,718.8068 | 0.0329 | 0.0315 | 1,729.0208 |
| Medical Office Building | 1.47936 | 0.0160 | 0.1450 | 0.1218 | 8.7000e-004 | | 0.0110 | 0.0110 | | 0.0110 | 0.0110 | | 174.0429 | 174.0429 | 3.3400e-003 | 3.1900e-003 | 175.0771 |
| Regional Shopping Center | 3.60452 | 0.0389 | 0.3534 | 0.2968 | 2.1200e-003 | | 0.0269 | 0.0269 | | 0.0269 | 0.0269 | | 424.0612 | 424.0612 | 8.1300e-003 | 7.7700e-003 | 426.5812 |
| Single Family Housing | 283.063 | 3.0526 | 26.0862 | 11.1005 | 0.1665 | | 2.1091 | 2.1091 | | 2.1091 | 2.1091 | | 33,301.5385 | 33,301.5385 | 0.6383 | 0.6105 | 33,499.4329 |
| Supermarket | 4.49479 | 0.0485 | 0.4407 | 0.3702 | 2.6400e-003 | | 0.0335 | 0.0335 | | 0.0335 | 0.0335 | | 528.7994 | 528.7994 | 0.0101 | 9.6900e-003 | 531.9418 |
| **Total** | | **7.7407** | **67.9480** | **41.3484** | **0.4222** | | **5.3481** | **5.3481** | | **5.3481** | **5.3481** | | **84,444.2564** | **84,444.2564** | **1.6185** | **1.5481** | **84,946.0664** |

## 6.0 Area Detail

AQMP - Project Features

### 6.1 Mitigation Measures Area

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 442.9965 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | 0.0000 | 1,392.0621 | 1,392.0621 | 1.3286 | 0.0000 | 1,425.2772 |
| Unmitigated | 442.9965 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | 0.0000 | 1,392.0621 | 1,392.0621 | 1.3286 | 0.0000 | 1,425.2772 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 54.7587 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 365.1593 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 23.0785 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | | 1,392.0621 | 1,392.0621 | 1.3286 | | 1,425.2772 |
| **Total** | **442.9965** | **8.8796** | **769.5140** | **0.0408** | | **4.2841** | **4.2841** | | **4.2841** | **4.2841** | **0.0000** | **1,392.0621** | **1,392.0621** | **1.3286** | **0.0000** | **1,425.2772** |

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 54.7587 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 365.1593 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 23.0785 | 8.8796 | 769.5140 | 0.0408 | | 4.2841 | 4.2841 | | 4.2841 | 4.2841 | | 1,392.0621 | 1,392.0621 | 1.3286 | | 1,425.2772 |
| **Total** | **442.9965** | **8.8796** | **769.5140** | **0.0408** | | **4.2841** | **4.2841** | | **4.2841** | **4.2841** | **0.0000** | **1,392.0621** | **1,392.0621** | **1.3286** | **0.0000** | **1,425.2772** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

Apply Water Conservation Strategy

UWSP - Proposed Project - Sacramento Metropolitan AQMD Air District, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|---|---|---|---|---|---|

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

# UWSP - Proposed Project

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Sacramento Metropolitan AQMD Air District, Mitigation Report**

## Construction Mitigation Summary

| Phase | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Site Preparation | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## OFFROAD Equipment Mitigation

| Equipment Type | Fuel Type | Tier | Number Mitigated | Total Number of Equipment | DPF | Oxidation Catalyst |
|---|---|---|---|---|---|---|
| Rubber Tired Dozers | Diesel | No Change | 0 | 6 | No Change | 0.00 |
| Tractors/Loaders/Backhoes | Diesel | No Change | 0 | 8 | No Change | 0.00 |

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Unmitigated tons/yr | | | | | | Unmitigated mt/yr | | | | | |
| Rubber Tired Dozers | 1.03000E-003 | 1.06900E-002 | 4.66000E-003 | 1.00000E-005 | 4.80000E-004 | 4.40000E-004 | 0.00000E+000 | 1.12536E+000 | 1.12536E+000 | 3.60000E-004 | 0.00000E+000 | 1.13446E+000 |
| Tractors/Loaders/ Backhoes | 3.00000E-004 | 3.07000E-003 | 4.46000E-003 | 1.00000E-005 | 1.50000E-004 | 1.40000E-004 | 0.00000E+000 | 5.47170E-001 | 5.47170E-001 | 1.80000E-004 | 0.00000E+000 | 5.51600E-001 |

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mitigated tons/yr | | | | | | Mitigated mt/yr | | | | | |
| Rubber Tired Dozers | 1.03000E-003 | 1.06900E-002 | 4.66000E-003 | 1.00000E-005 | 4.80000E-004 | 4.40000E-004 | 0.00000E+000 | 1.12536E+000 | 1.12536E+000 | 3.60000E-004 | 0.00000E+000 | 1.13446E+000 |
| Tractors/Loaders/Backhoes | 3.00000E-004 | 3.07000E-003 | 4.46000E-003 | 1.00000E-005 | 1.50000E-004 | 1.40000E-004 | 0.00000E+000 | 5.47170E-001 | 5.47170E-001 | 1.80000E-004 | 0.00000E+000 | 5.51590E-001 |

# UWSP - Proposed Project

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Equipment Type | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Rubber Tired Dozers | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |
| Tractors/Loaders/Backhoes | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.81291E-005 |

## Fugitive Dust Mitigation

| Yes/No | Mitigation Measure | Mitigation Input | | Mitigation Input | | Mitigation Input | |
|---|---|---|---|---|---|---|---|
| No | Soil Stabilizer for unpaved Roads | PM10 Reduction | | PM2.5 Reduction | | | |
| No | Replace Ground Cover of Area Disturbed | PM10 Reduction | | PM2.5 Reduction | | | |
| No | Water Exposed Area | PM10 Reduction | | PM2.5 Reduction | | Frequency (per day) | |
| No | Unpaved Road Mitigation | Moisture Content % | | Vehicle Speed (mph) | 0.00 | | |
| No | Clean Paved Road | % PM Reduction | 0.00 | | | | |

| | | Unmitigated | | Mitigated | | Percent Reduction | |
|---|---|---|---|---|---|---|---|
| Phase | Source | PM10 | PM2.5 | PM10 | PM2.5 | PM10 | PM2.5 |
| Site Preparation | Fugitive Dust | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 |
| Site Preparation | Roads | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

# UWSP - Proposed Project

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## Operational Percent Reduction Summary

| Category | ROG | NOx | CO | SO2 | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | | | | | | | | | | | | |
| Architectural Coating | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Consumer Products | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hearth | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mobile | 1.81 | 2.51 | 2.69 | 3.61 | 3.29 | 3.29 | 0.00 | 3.61 | 3.61 | 2.76 | 2.68 | 3.60 |
| Natural Gas | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water Indoor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.47 | 0.10 | 0.06 |
| Water Outdoor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## Operational Mobile Mitigation

Project Setting: Suburban Center

| Mitigation | Category | Measure | % Reduction | Input Value 1 | Input Value 2 | Input Value 3 |
|---|---|---|---|---|---|---|
| No | Land Use | Increase Density | 0.00 | 0.00 | 0.00 | |
| No | Land Use | Increase Diversity | 0.30 | 0.76 | | |
| No | Land Use | Improve Walkability Design | 0.00 | 0.00 | | |
| No | Land Use | Improve Destination Accessibility | 0.00 | 5.30 | | |
| No | Land Use | Increase Transit Accessibility | 0.25 | 0.00 | | |

## UWSP - Proposed Project

### EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| | | | | | | |
|---|---|---|---|---|---|---|
| No | Land Use | Integrate Below Market Rate Housing | 0.00 | 0.00 | | |
| | Land Use | Land Use SubTotal | 0.00 | | | |
| No | Neighborhood Enhancements | Improve Pedestrian Network | 2.00 | Project Site and Connecting Off-Site | | |
| No | Neighborhood Enhancements | Provide Traffic Calming Measures | | | | |
| No | Neighborhood Enhancements | Implement NEV Network | 0.00 | | | |
| | Neighborhood Enhancements | Neighborhood Enhancements Subtotal | 0.00 | | | |
| No | Parking Policy Pricing | Limit Parking Supply | 0.00 | 0.00 | | |
| No | Parking Policy Pricing | Unbundle Parking Costs | 0.00 | 0.00 | | |
| No | Parking Policy Pricing | On-street Market Pricing | 0.00 | 0.00 | | |
| | Parking Policy Pricing | Parking Policy Pricing Subtotal | 0.00 | | | |
| No | Transit Improvements | Provide BRT System | 0.00 | 0.00 | | |
| No | Transit Improvements | Expand Transit Network | 0.00 | 0.00 | | |
| No | Transit Improvements | Increase Transit Frequency | 0.00 | | 0.00 | |
| | Transit Improvements | Transit Improvements Subtotal | 0.00 | | | |
| | | Land Use and Site Enhancement Subtotal | 0.00 | | | |
| Yes | Commute | Implement Trip Reduction Program | 5.40 | 100.00 | Voluntary | |
| No | Commute | Transit Subsidy | 0.00 | 0.00 | | |
| No | Commute | Implement Employee Parking "Cash Out" | 4.50 | 0.00 | | |
| No | Commute | Workplace Parking Charge | 0.00 | 0.00 | | |
| No | Commute | Encourage Telecommuting and Alternative Work Schedules | 0.00 | 0.00 | 0.00 | 0.00 |

## UWSP - Proposed Project

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | | |
|---|---|---|---|---|---|---|
| No | Commute | Market Commute Trip Reduction Option | 0.00 | 0.00 | | |
| No | Commute | Employee Vanpool/Shuttle | 0.00 | 0.00 | 2.00 | |
| No | Commute | Provide Ride Sharing Program | 10.00 | 0.00 | | |
| | Commute | Commute Subtotal | 0.05 | | | |
| No | School Trip | Implement School Bus Program | 0.00 | 0.00 | | |
| | | Total VMT Reduction | 0.05 | | | |

### Area Mitigation

| Measure Implemented | Mitigation Measure | Input Value |
|---|---|---|
| No | Only Natural Gas Hearth | |
| No | No Hearth | |
| No | Use Low VOC Cleaning Supplies | |
| No | Use Low VOC Paint (Residential Interior) | 100.00 |
| No | Use Low VOC Paint (Residential Exterior) | 100.00 |
| No | Use Low VOC Paint (Non-residential Interior) | 100.00 |
| No | Use Low VOC Paint (Non-residential Exterior) | 100.00 |
| No | Use Low VOC Paint (Parking) | 100.00 |
| No | % Electric Lawnmower | 0.00 |
| No | % Electric Leafblower | 0.00 |
| No | % Electric Chainsaw | 0.00 |

### Energy Mitigation Measures

## UWSP - Proposed Project

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Measure Implemented | Mitigation Measure | Input Value 1 | Input Value 2 |
|---|---|---|---|
| No | Exceed Title 24 | | |
| No | Install High Efficiency Lighting | | |
| No | On-site Renewable | | |

| Appliance Type | Land Use Subtype | % Improvement |
|---|---|---|
| ClothWasher | | 30.00 |
| DishWasher | | 15.00 |
| Fan | | 50.00 |
| Refrigerator | | 15.00 |

### Water Mitigation Measures

| Measure Implemented | Mitigation Measure | Input Value 1 | Input Value 2 |
|---|---|---|---|
| Yes | Apply Water Conservation on Strategy | | 20.00 |
| No | Use Reclaimed Water | 0.00 | 0.00 |
| No | Use Grey Water | 0.00 | |
| No | Install low-flow bathroom faucet | 32.00 | |
| No | Install low-flow Kitchen faucet | 18.00 | |
| No | Install low-flow Toilet | 20.00 | |
| No | Install low-flow Shower | 20.00 | |
| No | Turf Reduction | 0.00 | |
| No | Use Water Efficient Irrigation Systems | 6.10 | |

## UWSP - Proposed Project

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| No | Water Efficient Landscape | 0.00 | 0.00 |

### Solid Waste Mitigation

| Mitigation Measures | Input Value |
|---|---|
| Institute Recycling and Composting Services<br>Percent Reduction in Waste Disposed | |

# Attachment B

Off-Model Calculations (Natural Gas Prohibition)

| ROG and NOx Savings from Removing Natural Gas | | | | |
|---|---|---|---|---|
| **Residential Land Use Types** | **# DU** | **Natural Gas Usage (kBTU/year)** | **ROG Emissions (tons/year)** | **NOx Emissions (tons/year)** |
| Single Family Housing | 4,367 | 103,318,000 | 0.5571 | 2.1647 |
| Apartments Mid Rise | 4,989 | 46,977,600 | 0.2533 | 4.7607 |
| | | ***Total Reduction*** | ***-0.81*** | ***-6.93*** |

| ROG And NOx Addition from Additional Electricity | | | | |
|---|---|---|---|---|
| **Residential Land Use Types** | **# DU** | **Electricity (kWh/yr)** | **ROG Emissions (tons/year)** | **NOx Emissions (tons/year)** |
| Single Family Housing | 4,367 | 20,306,550.00 | 0.00 | 0.00 |
| Apartments Mid Rise | 4,989 | 11,364,942.00 | 0.00 | 0.00 |
| | | ***Total Addition*** | ***0.00*** | ***0.00*** |

| | |
|---|---|
| Net ROG Reduction | -0.81 |
| Net NOx Reduction | -6.93 |

| Appliance Electricity Demand | | |
|---|---|---|
| SF Housing | 4650.00 | Energy Use per DU (kWh/DU/yr) |
| 5+ Unit Apartments | 2278.00 | Energy Use per DU (kWh/DU/yr) |

| CalEEMod ROG and NOx Conversion Factors |
|---|

ROG and NOx emissions are not generated by electricity use. Refer to CalEEMod results Section 5.3, Energy by Land Use. As presented therein, the use of electricity generates GHG but does not generate criteria pollutants.

see Appendix A Table 7 of Ramboll Bridle Gate Analysis (pdf pg 44)

California Commercial End Use Survey, Annual Summary Statistics. Available online

at http ://capabilities. itron .com/CeusWeb/Chart.aspx
2009. California Energy Commission. California Residential Appliance Saturation Study, Volume 2: Study Results. Accessible online at
https ://webtools.dnvgl .com/RASS2009/Uploads/2009 RASS_ Vol ume%202_FINAL_101310 .pdf

# APPENDIX BIO-1

## SUPPLEMENTAL BIOLOGICAL RESOURCES ASSESSMENT REPORT

# Upper Westside Specific Plan

## Supplemental Biological Resources Assessment Report

June 2024 | 07997.00002.001

*Prepared for:*

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*Prepared by:*

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# ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| ADWF | average dry weather flow |
| AC | Agricultural Cropland |
| AR | Agricultural Residential |
| | |
| Bargas | Bargas Environmental Consulting |
| BCC | Bird of Conservation Concern |
| BLM | Bureau of Land Management |
| BRA | Biological Resources Assessment |
| BUOW | Western burrowing owl |
| | |
| CBC | Christmas Bird Count |
| CDFW | California Department of Fish and Wildlife |
| CDOC | California Department of Conservation |
| CEQA | California Environmental Quality Act |
| CESA | California Endangered Species Act |
| CFR | Code of Federal Regulations |
| City | City of Sacramento |
| CLOMR | Conditional Letter of Map Revision |
| CMU | Commercial Mixed Use |
| CNDDB | California Natural Diversity Database |
| CNPS | California Native Plant Society |
| County | Sacramento County |
| CRPR | California Rare Plant Rank |
| CSA | Community Services Area |
| CSD | Community Services District |
| CWA | Clean Water Act |
| | |
| dbh | diameter at breast height |
| du/acre | dwellings units per acre |
| | |
| Eagle Act | Bald and Golden Eagle Protection Act |
| eDNA | Environmental DNA |
| E/HC | Employment/Highway Commercial |
| | |
| ° F | Fahrenheit |
| FESA | Endangered Species Act |
| FIRM | Flood Insurance Rate Map |
| | |
| G/UF | Greenbelt/Urban Farm |
| General Plan | Sacramento County General Plan |
| GGS | giant garter snake |

# ACRONYMS AND ABBREVIATIONS (cont.)

| | |
|---|---|
| HCP | Habitat Conservation Plan |
| HDR | High Density Residential |
| HELIX | HELIX Environmental Planning, Inc. |
| I- | Interstate |
| LC | Landscape Corridor |
| LDR | Low Density Residential |
| LMDR | Low Medium Density Residential |
| MAP | Metro Air Park |
| MAPHCP | Metro Air Park Habitat Conservation Plan |
| MBTA | Migratory Bird Treaty Act |
| MDR | Medium Density Residential |
| MGD | million gallons per day |
| NBHCP | Natomas Basin Habitat Conservation Plan |
| NCMWC | Natomas Central Mutual Water Company |
| NCRS | Natural Resource Conservation Service |
| NNPS | New Natomas Pump Station |
| NOP | Notice of Preparation |
| NPPA | Native Plant Protection Act |
| NUSD | Natomas Unified School District |
| OHWM | Ordinary High Water Mark |
| OS | Open Space (within Development Area) |
| OS-AB | Open Space – Ag Buffer (within Agricultural Buffer Area) |
| P | Park |
| PG&E | Pacific Gas and Electric Company |
| PJD | Preliminary Jurisdictional Determination |
| Project | Upper Westside Specific Plan |
| PWWF | Peak Wet Weather Flow |
| R | Roads (within Development Area) |
| R-AB | Roads – Ag Buffer (within Agricultural Buffer Area) |
| RD | Reclamation District |
| RWQCB | Regional Water Quality Control Board |
| SAA | Streambed Alteration Agreement |
| SACOG | Sacramento Area Council of Governments |
| SAFCA | Sacramento Area Flood Control Agency |
| SASD | Sacramento Area Sewer District |

# ACRONYMS AND ABBREVIATIONS (cont.)

| | |
|---|---|
| SCWA | Sacramento County Water Agency |
| SMUD | Sacramento Metropolitan Utility District |
| SSC | Species of Special Concern |
| sq.ft. | square feet |
| SSMP | Site Specific Management Plan |
| SWHA | Swainson's hawk |
| SWRCB | State Water Resources Control Board |
| TNBC | The Natomas Basin Conservancy |
| TPZ | tree protection zone |
| TRBL | tricolored blackbird |
| UPA | Urban Policy Area |
| USACE | U.S. Army Corps of Engineers |
| USB | Urban Services Boundary |
| USC | United States Code |
| USFS | U.S. Forest Service |
| USFWS | U.S. Fish and Wildlife Service |
| USGS | U.S. Geological Survey |
| UWSP | Upper Westside Specific Plan |
| VELB | Valley elderberry longhorn beetle |
| VHDR | Very High Density Residential |
| VLDR | Very Low Density Residential |
| VMT | Vehicle miles traveled |
| W | Water |
| WNV | West Nile Virus |
| WPT | Western pond turtle |
| WQC | Water Quality Certification |

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# 1.0 INTRODUCTION

HELIX Environmental Planning, Inc. (HELIX) prepared this Supplemental Biological Resources Assessment (BRA) Report on behalf of the Upper Westside Specific Plan project (UWSP; Project) proposed by Upper Westside, LLC (Proponent). The purpose of this report is to provide Sacramento County (County), other agencies, and the public with current data on biological resources necessary for reviewing the Project under the California Environmental Quality Act (CEQA) as well as the Federal Endangered Species Act (FESA), California Endangered Species Act (CESA) and related laws. This report includes information on the current biological resources in and adjacent to the Project site, including vegetation, land cover, aquatic resources, general flora and fauna, and natural communities. This BRA includes an analysis of the potential for regionally occurring special-status species to occur on the Project site, potential Project impacts to biological resources that may occur from Project development, and proposed measures to avoid, minimize, and offset impacts to biological resources.

## 1.1 PROJECT LOCATION

The UWSP encompasses approximately 2,199 acres (Study Area) located in the unincorporated community of Natomas in Sacramento County (County), approximately 3.5 miles northwest of downtown Sacramento (**Appendix A, Figure 1,** *Vicinity Map*). The Study Area is bounded by Interstate 80 Interstate (I-) 80 to the south, West Drainage Canal to the east, Fisherman's Lake Slough to the north, and Garden Highway to the west. Three sides of the Study Area are bordered by the North and South Natomas communities in the City of Sacramento. The Study Area is located outside of the County's current Urban Policy Area (UPA) and Urban Services Boundary (USB).

## 1.2 DESCRIPTION OF THE PROPOSED PROJECT

The Study Area is comprised of a multiple-owner Specific Plan Area encompassing 2,199 acres, which includes a 1,523.8-acre Development Area, a 542.4-acre Agricultural Buffer Area, and 133.17 acres of off-site improvement areas (**Appendix A, Figure 2, Proposed Project – Upper Westside Specific Plan**, and **Figure 3, Upper Westside Specific Plan and Sacramento Area Flood Control Agency Properties**). Approximately 271 acres of land within the proposed Agricultural Buffer Area has been acquired by the Sacramento Area Flood Control Agency (SAFCA), and is planned to be improved under the U.S. Army Corps of Engineers (USACE) seepage prevention levee improvements project. Improvements proposed by the levee improvements project will include cutoff walls, landside berms, and a new adjacent levee, as well as approximately 80 acres of woodland mitigation and 27.6 acres are under construction by SAFCA within this area.

As described in further detail below, the UWSP proposes a master-planned community encompassing 1,523.8 acres (Developed Area) consisting of mixed land uses, including residential and non-residential including up to 9,356 housing units with a mixture of densities to support all population segments, and over 3 million gross square feet (sq. ft.) of commercial, retail, and office uses that will serve the community's needs. Key project components include a mixed-use Town Center, eight active parks, a system of greenbelts and multi-use trails with linkages to downtown Sacramento, and an extensive agricultural buffer bordering the western edge of the Study Area.

Development within the Study Area is expected to occur in phases over many years, with the full buildout of the Study Area anticipated over a 20-year timeframe.

### 1.2.1 Proposed Land Use

Proposed land uses within Study Area include a full range of residential designations, from Very Low Density Residential (VLDR) at the north end with an anticipated density of 1.2 dwelling units per acre (du/acre) to Very High Density Residential (VHDR) and Commercial Mixed Use (CMU) within the Town Center District which has an anticipated density of 40 du/acre. Approximately 38 percent of the residential units are proposed for single-family within the VLDR, Low Density Residential (LDR), Low Medium Density Residential (LMDR), and Medium Density Residential (MDR) designations; approximately 7 percent are proposed for multi-family residential located within High Density Residential (HDR), VHDR, and CMU designations.

Three K-8 schools and their adjacent park sites have been distributed throughout the planned community so that approximately 94 percent of future residents are within 0.5 mile of a park and a school. The 25.8-acre Town Center Park is proposed directly east of the roundabout terminus of West El Camino Avenue and the Town Center, which would provide a large open lawn area for sports fields and gathering space for civic events. An Educational Node is planned in the northerly portion of the Study Area and includes a fourth K-8 school, a high school, a community college, and a vocational training campus focused on a 10-acre Urban Farm.

Public/Quasi Public Facilities include a water tank storage site, two electric substation sites, a sewer lift station, and a proposed fire station.

Several different types of Open Space are proposed, including four detention and water quality lake basins, several open drainage channels to convey storm water to the basins, which will be landscaped and provide trails for bicyclists and pedestrians, and an open space corridor. The Corridor and the canal banks will be planted to provide a landscaped buffer along Class 1 bike/pedestrian trails built into those features.

Greenbelt corridors will provide landscaped parkways with a Class I bike/pedestrian trail that will connect to a dispersed program of urban farming elements. A 250-foot open space setback lies south of Fisherman's Lake to create a preserve area for potential sensitive species. To the east, an open space buffer is planned adjacent to the Witter Canal.

The 86.1-acre area of existing agricultural residential located southwest of the proposed Study Area Development Area, will remain as Agricultural Residential to allow the continued operation of small-scale or "specialty" farming and provide a visual buffer and physical separation between the Development Area and residential uses along Garden Highway. Agriculture is designated on 414.3 acres of existing agricultural cropland area located west and northwest of the 1,523.8-acre Development Area. Table 1, Land Use Proposed under UWSP, presents the acres and percentage for each proposed land use in the Study Area. As shown on **Figures 2** and **3**, approximately 133.17 acres of additional off-site areas have been identified where future project-related improvements may be required, including an anticipated Class I bike trail and connection to regional trails to the east, areas of potential roadway tie-ins to Garden Highway, as well as highway interchange expansions, water line tie-in, sewer force main extension, and pump station expansions.

**Table 1**
**LAND USE PROPOSED UNDER UWSP**

| Land Use | Acreage | Percentage (%) |
|---|---|---|
| **Residential** | | |
| Very Low Density Residential (VLDR) | 166.7 | 8 |
| Low Density Residential (LDR) | 390.8 | 18 |
| Low Medium Density Residential (LMDR) | 134.9 | 6 |
| Medium Density Residential (MDR) | 61.9 | 3 |
| High Density Residential (HDR) | 36.4 | 2 |
| Very High Density Residential (VHDR) | 22.6 | 1 |
| ***Subtotal*** | ***813.3*** | ***37*** |
| **Commercial/ Employment** | | |
| Commercial Mixed Use (CMU) | 83.6 | 4 |
| Employment/Highway Commercial (E/HC) | 52.9 | 2 |
| ***Subtotal*** | ***136.5*** | ***6*** |
| **Public, Park & Open Space** | | |
| School | 124.2 | 6 |
| Park (P) | 79.1 | 4 |
| Greenbelt/ Urban Farm (G/UF) | 44.1 | 2 |
| Open Space (Lake Basins and Open Space Buffers) (OS) | 167.9 | 8 |
| Water (Canal) (W) | 15.0 | 1 |
| ***Subtotal*** | ***430.3*** | ***19*** |
| **Right-of-Way** | | |
| Roads (R) | 116.0 | 5 |
| Landscape Corridors (LC) | 27.7 | 2 |
| ***Subtotal*** | ***143.7*** | ***6*** |
| **Subtotal Developable Area** | **1,523.8** | **69%** |
| **Agricultural Buffer Uses** | | |
| Agricultural Cropland (AG) | 414.3 | 19 |
| Agricultural Residential (AR) | 86.1 | 4 |
| Open Space – Ag Buffer (OS-AB) | 36.6 | 2 |
| Roads – Ag Buffer (R-WB) | 5.4 | 0 |
| ***Subtotal*** | ***542.4*** | ***25*** |
| **Combined Subtotal of Developable Areas and Agricultural Areas** | ***2,066*** | ***93%*** |
| **Off-site Improvement Areas** | **133.17** | **--** |
| **GRAND TOTAL** | **2,199** | **100%** |

**Source**: Wood Rodgers, Inc. 2023

## 1.2.2 Proposed Services

### 1.2.2.1 Schools

The Study Area is located within the Natomas Unified School District (NUSD). There are three proposed K-8 schools encompassing 49.1 acres, one 81.1-acre high school, and an 11.0-acre vocational training campus. The K-8 schools are located so that they are within walking and biking distance of future students and are adjacent to parks to allow for shared use of green space. The high school and vocational training campus are located on sites already owned by NUSD and the Los Rios Community College District, respectively.

#### 1.2.2.2 Parks and Open Space

The Study Area is not currently within the boundaries of any recreation or park district. Parks are proposed to be distributed throughout the Study Area, within neighborhoods to be within convenient walking distance of future residents, and adjacent to school sites to allow for shared use. The Town Center District will include an "activated median" and may include small plazas or squares associated with adjacent high-density development, and a larger 25.8-acre park is located directly west of the Town Center District.

The proposed greenbelt and urban farm corridors provide connections throughout the Study Area, with trails through the landscaped corridors connecting between neighborhoods and to spaces targeted for urban farming. Amenities placed along these corridors could include raised planter beds to allow for gardening by local residents, sheds for tools, greenhouses, meeting rooms, and/or an outdoor demonstration kitchen. A 10.0-acre urban farm is proposed to be located next to the envisioned Los Rios Community College vocational training campus. This urban farm will allow for the production of crops and provides a place where students would have test plots and study agricultural methods.

The proposed Westside Canal is centrally located and connects north-south through the Project. It is proposed to be approximately one mile long with pedestrian and bike trails on either side, and front-on architecture. It will be similar to "Amsterdam-style" canals, and could provide recreational opportunities on the water with kayaks, canoes, rowboats, water taxis, etc.

Open space is proposed along the western edge of the Development Area as a buffer between existing agricultural residential and agricultural properties and the proposed housing. The open space corridor is proposed to be 30 to 40 feet in width, planted with native vegetation and trees, and will include a hiking/biking trail to facilitate connectivity and access to the area. This corridor will be located over the top of an underground Natomas Central Mutual Water Company water line.

The entity that would be in charge of operation and maintenance of these facilities has yet to be determined but may include the creation of a new recreation and park district, community service area (CSA), and/or community service district (CSD).

#### 1.2.2.3 Sewer Services

An existing gravity sewer main serving the development area located north of the Study Area is located in El Centro Road and continues east 1.1 miles in San Juan Road to the New Natomas Pump Station (NNPS). This existing sewer line has limited remaining capacity. The UWSP is projected to generate approximately 4.3 million gallons of wastewater per day (MGD) during average dry weather flow (ADWF) and 9.2 MGD during peak wet weather flow (PWWF). As a result, the UWSP proposes a centrally located on-site sewer pump station on a ±0.5-acre site northwest of the intersection of Farm Road and El Centro Road. The on-site backbone sewer system will convey via gravity sewer lines within proposed streets to the on-site sewer pump station, and wastewater will then be pumped via sewer force mains approximately 1.7 miles to the NNPS. It is estimated that a 24-inch force main would be required to serve the Project at full buildout. Multiple force mains to accommodate the anticipated buildout flow may be installed within the same trench to allow for phased development. The force main alignment extends from the on-site pump station as noted above, northward approximately 0.35 mile alongside or within El Centro Road, and eastward approximately 0.25 mile alongside or within San Juan Road to the West Drainage Canal (aka Witter Canal), from which point it will continue approximately 1.1 miles off-

site to the east to the NNPS. The sewer force main alignment in San Juan Road will likely require trenching within the existing street right-of-way, but precise designs or construction drawings have not yet been prepared.

An alternative off-site sewer force main route is also being evaluated to extend east in Farm Road following the existing 80-foot Sacramento Area Sewer District (SASD) interceptor sewer easement, and then continue northeast alongside the freeway to the NNPS in the same easement.

#### 1.2.2.4 Water Supply

The Study Area is located within the City of Sacramento's "American River Place of Use", and as such, the City has been identified as the wholesaler of treated water. The Sacramento County Water Agency (SCWA) is anticipated to be the retailer of water to the UWSP and will own and operate the on-site water distribution system. A potential water storage tank and booster pump station are proposed southeast of the intersection of San Juan Road and El Centro Road to support the water distribution system.

The City of Sacramento currently has an existing 24-inch water transmission main that connects to the existing San Juan Tank site, located off-site to the east. This 24-inch transmission main continues north from San Juan Boulevard in El Centro Road to serve existing development areas within North Natomas to the north and connects to the El Centro Tank.

The UWSP is planned to be served by a series of transmission mains that will extend from the existing 24-inch City of Sacramento transmission main at two points of connection. The first point of connection is at the proposed water storage tank and booster pump site (noted above), while the second point of connection is located in the northern Development Area along El Centro Road. On-site water mains are configured to provide "looped" water service by way of interconnection with service mains which will accommodate phased development.

Alternatively, if the City of Sacramento becomes the retailer of domestic water, then the need for a water storage tank site and booster pump station may be eliminated. In this case, two off-site connections, extending under I-80 to existing infrastructure south of I-80, would be required.

#### 1.2.2.5 Drainage

Four separate approximately 20-acre detention basins are proposed to serve the UWSP and the four main drainage sheds, which generally can be described as the south, west, east, and north basins. This configuration will allow the phased buildout of the UWSP. The backbone storm drainage system illustrates how the four sheds are configured to direct storm drainage via gravity pipes or open channel flow to the basins. These basins will be excavated to a depth that allows a permanent water surface elevation (i.e., "wet" basins) to be maintained, and side slopes will be landscaped to create a passive Open Space amenity. All four basins will have pumping systems to discharge storm water.

The South and West Basins will pump into existing and ultimately improved drainage channels (e.g., Westside Canal) that will convey runoff north and east to the East Basin, where the existing San Juan Pump Station will be upgraded to discharge stormwater into the RD-1000 West Drainage Canal (aka Witter Canal). The north shed drains to the North Basin, where the existing Riverside Pump Station will be upgraded to discharge flows into the RD-1000 West Drainage Canal.

Open drainage channels are proposed north of Farm Road and are located on the east side of Bryte Bend Road, the south side of San Juan Road, and the west side of El Centro Road and will convey storm water to the East Basin. The side slopes of these drainage channels will be planted to create a landscaped corridor and buffer.

Flood protection for the UWSP has also been carefully considered. The UWSP is within the Natomas Basin Federal Emergency Management Agency Zone A Flood Area, and the UWSP boundary abuts the Garden Highway levee. The SAFCA and the USACE are engaged in a separate process and are the lead agencies responsible for constructing levee improvements to provide 100-year and 200-year flood protection for the Natomas Basin, including along Garden Highway adjacent to the UWSP. Their efforts have been ongoing and are anticipated to be completed by 2025.

There is an existing local 100-year floodplain depicted by Flood Insurance Rate Map (FIRM) panels for ±380 acres within the central portion of the Development Area. A separate Conditional Letter of Map Revision (CLOMR) will be prepared as future phases of development advance on the parcels impacted by this designation. A conceptual mass grading plan was prepared for the entire Development Area to illustrate how earthwork from the basins and drainage channels can be utilized to raise development areas to allow the removal of this designation.

#### 1.2.2.6 Electricity

The UWSP is currently bisected by two overhead high-power electrical transmission lines. A Pacific Gas and Electric Company (PG&E) 120kV power line extends across the southerly tip of the UWSP north along Bryte Bend Road, continuing east on the north side of future Street 2, ultimately crossing Interstate 80. A Sacramento Metropolitan Utility District (SMUD) 69kV power line extends north-south along the east side of El Centro Road. Based on discussions with SMUD and the ever-increasing demands on the electrical grid due to electric vehicle charging and other current trends of usage, SMUD directed that the UWSP include two electrical sub-station sites that measure approximately 1.4 acres in size. The substations are planned to be located southwest of the intersection of El Centro Road and Street 2, and southeast of El Centro Road and San Juan Road. A location is also identified for the 12kV power line, which would loop underground through the UWSP along Collector Roads. No off-site electrical system improvements are anticipated.

#### 1.2.2.7 Natural Gas

Currently, there is an existing PG&E natural gas line transmission main that traverses the UWSP from the north down El Centro Road and then southwest along Interstate 80 to the southerly tip of the UWSP by Garden Highway. Given the trend toward electrification of residential development, it is anticipated that there will be significantly less residential demand for natural gas in the future but there could be certain commercial uses or public uses that require access to natural gas supply lines. Gas lines could be extended west in West El Camino Avenue, east in Farm Road, or west in Radio Road. No off-site natural gas system improvements are anticipated.

#### 1.2.2.8 Fire Protection

The UWSP is located within the boundaries of the Natomas Fire Protection District. Although the UWSP is not within the City of Sacramento's jurisdiction, fire protection and prevention services are currently provided by the City's Fire Department through a contract with the Natomas Fire Protection District. The

City's Fire Station 43, at 4201 El Centro Road, is the closest station to the UWSP and is located approximately two miles north of the town center district.

### 1.2.3 Project Phasing

The UWSP is designed to be constructed in four phases. Phase 1 initial project implementation will include mass grading for backbone infrastructure and development of centralized initial project components. Project development will commence upon receipt of approvals/certifications of all necessary permits, entitlements, and environmental documents (anticipated Spring 2024).

### 1.2.4 Project Objectives

The primary objectives defined for the Project[1] are outlined below:

1. Formulate a specific plan and related land use planning documents and regulatory approvals for the Project area as a means of expanding the USB and UPA in an orderly manner and accommodating the County's share of future regional population growth.
2. Create a land use plan that satisfies County policies, regulations, and expectations, as defined in the Sacramento County General Plan (General Plan), including Policies LU-114, LU-119, and LU-120.
3. Provide a comprehensively planned, high quality, large-scale, residential-based community in northwestern Sacramento County, directly northwest of the City of Sacramento, with a balanced mix of uses, employment opportunities, a wide variety of housing types, park and open space, and supporting public and quasi-public uses.
4. Develop a master-planned community that can be efficiently served by existing infrastructure or proposed infrastructure that would encourage logical, orderly development and would discourage leapfrog or piecemeal development and sprawl.
5. Provide residential housing within five miles of the existing job centers of downtown Sacramento and West Sacramento, as well as in close proximity to newly developing or proposed job centers.
6. Create a development that has an overall positive economic impact on Sacramento County and achieves a neutral to positive fiscal impact on the County's finances and existing ratepayers.
7. Create a community that can be logically and efficiently phased to allow the orderly build-out of the community.
8. Provide a safe and efficient circulation system that interconnects land uses and promotes pedestrian and bicycle circulation and transit options that will encourage non-vehicular trips, thereby reducing vehicle miles traveled (VMT).
9. Incorporate parks and open space, including an urban farm-greenbelt and canal, into the project design in a manner that provides community connectivity and encourages walking and bicycle use.
10. Make efficient use of development opportunities as the project site is bordered on three sides by existing or planned urban development.

[1] Project objectives identified by the CEQA Notice of Preparation (NOP).

11. Plan for enough units to provide housing choices in varying densities to respond to a range of market segments, including opportunities for rental units and affordable housing, and significant commercial uses, consistent with the General Plan and Housing Element.
12. Design a land use plan where the development footprint avoids impacts to wetland resources to the extent feasible.
13. Develop a specific plan that maintains existing agricultural land uses and operations to the west of the proposed Development Area.
14. Provide for development that meets the seven identified Sacramento Area Council of Governments (SACOG) Blueprint principles, including the provision of transportation choice, compact development, mixed-use development, housing choice and diversity, use of existing assets, natural resource conservation, and quality design.
15. Develop the Project and any associated on- and/or off-site mitigation to complement the Natomas Basin Habitat Conservation Plan (NBHCP) and the Metro Air Park Habitat Conservation Plan (MAPHCP).
16. Designate open space preserves along the south side of Fisherman's Lake Slough or along the West Drainage Canal that provide a natural buffer to these features, and along the westerly edge of the proposed Development Area to provide a transition between residential and agricultural designations to the west, which will provide a regional benefit for habitat, resources, and open space amenities.
17. Balance development with resource protection in an inter-connected, permanent open space.
18. Create multi-functional habitat within open space corridors that provide on-site habitat and contribute to water quality.

# 2.0 REGULATORY SETTING

Policies, regulations, and plans pertaining to the protection of biological resources on the project site are summarized in the following sections.

## 2.1 FEDERAL REQUIREMENTS

### 2.1.1 Federal Endangered Species Act

The U.S. Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect species that are endangered or threatened with extinction. FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

FESA prohibits the "take" of endangered or threatened wildlife species. "Take" is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3) (19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 CFR §17.3). Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

In the context of the proposed Project, FESA consultation with the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) would be initiated if development resulted in the potential for take of a threatened or endangered species or if the issuance of a Section 404 permit or other federal agency action could result in take of an endangered species or adversely modify critical habitat of such a species.

### 2.1.2 Executive Order 13186: Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA; 16 United States Code [USC], Sec. 703, Supp. I, 1989) regulates and prohibits taking, killing, possession of, or harm to migratory bird species listed in Title 50 CFR §10.13. The MBTA protects whole birds, parts of birds, and bird eggs and nests and prohibits the possession of all nests of protected bird species whether they are active or inactive. An active nest is defined as having eggs or young, as described by the Department of the Interior (April 16, 2003, Migratory Bird Permit Memorandum). Nest starts (nests that are under construction and do not yet contain eggs) are not protected from destruction. This international treaty for the conservation and management of bird species that migrate through more than one country is enforced in the United States by the USFWS. Additionally, as discussed below, §3513 of the California Fish and Game Code states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA. This provides California Department of Fish and Wildlife (CDFW) with enforcement authority for project-related impacts that would result in the "take" of bird species protected under the MBTA. Hunting of specific migratory game birds is permitted under the regulations listed in Title 50 CFR 20. The MBTA was amended in 1972 to include protection for migratory birds of prey (raptors).

### 2.1.3 The Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (Eagle Act) prohibits the taking or possession of and commerce in bald and golden eagles with limited exceptions. Under the Eagle Act, it is a violation to "take, possess, sell, purchase, barter, offer to sell, transport, export or import, at any time or in any manner, any bald eagle commonly known as the American eagle, or golden eagle, alive or dead, or any part, nest, or egg, thereof." Take is defined to include pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, and disturb. Disturb is further defined in 50 CFR Part 22.3 as "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

## 2.2 STATE REQUIREMENTS

### 2.2.1 California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game Code Sections 2050 to 2097) is similar to the FESA. The California Fish and Wildlife Commission is responsible for maintaining lists of threatened and endangered species under CESA. CESA prohibits the take of listed and candidate (petitioned to be listed) species. "Take" under California law means to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch capture, or kill (California Fish and Game Code, Section 86). The CDFW can authorize take of a state-listed species under Section 2081 of the California Fish and Game Code if the take is incidental to an otherwise lawful activity, the impacts are minimized and fully mitigated, funding is ensured to implement and monitor mitigation measures, and CDFW determines

that issuance would not jeopardize the continued existence of the species. A CESA permit must be obtained if a project will result in the "take" of listed species, either during construction or over the life of the project. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of the FESA, CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

### 2.2.2 California Code of Regulations Title 14 and California Fish and Game Code

The official listing of endangered and threatened animals and plants is contained in the California Code of Regulations Title 14 §670.5. A state candidate species is one that the California Fish and Game Code has formally noticed as being under review by CDFW to include in the state list pursuant to Sections 2074.2 and 2075.5 of the California Fish and Game Code.

Legal protection is also provided for wildlife species in California that are identified as "fully protected animals." These species are protected under Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the California Fish and Game Code. These statutes prohibit take or possession of fully protected species at any time. CDFW has informed non-federal agencies and private parties that they must avoid take of any fully protected species in carrying out projects. However, Senate Bill 618 (2011) allows the CDFW to issue permits authorizing the incidental take of fully protected species under the CESA, so long as any such take authorization is issued in conjunction with the approval of a Natural Community Conservation Plan that covers the fully protected species (California Fish and Game Code Section 2835).

### 2.2.3 California Environmental Quality Act

Under the California Environmental Quality Act of 1970 (Public Resources Code Section 21000 et seq.), lead agencies analyze whether projects would have a substantial adverse effect on a candidate, sensitive, or special-status species (Public Resources Code Section 21001(c)). These "special-status" species generally include those listed under FESA and CESA, and species that are not currently protected by statute or regulation, but would be considered rare, threatened, or endangered under the criteria included in CEQA Guidelines Section 15380. Therefore, species that are considered rare are addressed under CEQA regardless of whether they are afforded protection through any other statute or regulation. The California Native Plant Society (CNPS) inventories the native flora of California and ranks species according to rarity; plants ranked as 1A, 1B, 2A, and 2B are generally considered special-status species under CEQA.[2] Plants from the database with a rank of "A" were considered special-status species under CEQA for the purpose of this report.

Although threatened and endangered species are protected by specific federal and state statutes, State CEQA Guidelines Section 15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare if it can be shown to meet certain specified criteria. These criteria have been modeled after the definition in FESA and the section of the California Fish and Game Code dealing with rare or endangered plants and animals. Section 15380(d) of the State CEQA Guidelines allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFW (i.e., candidate species) would occur. Thus, CEQA provides an agency with the ability to protect a species from the potential impacts of a project

[2] The California Rare Plant Rank system can be found online at https://www.cnps.org/rare-plants.

until the respective government agency has an opportunity to designate the species as protected, if warranted.

### 2.2.4 California Native Plant Protection Act

The Native Plant Protection Act (NPPA), enacted in 1977, allows the Fish and Game Commission to designate plants as rare or endangered. The NPPA prohibits take of endangered or rare native plants, with some exceptions for agricultural and nursery operations and emergencies. Vegetation removal from canals, roads, and other sites, changes in land use, and certain other situations require proper advance notification to CDFW.

### 2.2.5 Nesting Birds

California Fish and Game Code Subsections 3503 and 3800 prohibit the possession, take, or needless destruction of birds, their nests, and eggs, and the salvage of dead nongame birds. California Fish and Game Code Subsection 3503.5 protects all birds in the orders of Falconiformes and Strigiformes (birds of prey). Fish and Game Code Subsection 3511 states that fully protected birds or parts thereof may not be taken or possessed at any time. Fish and Game Code Subsection 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA. The Attorney General of California has released an opinion that the Fish and Game Code prohibits incidental take (CDFW 2018).

### 2.2.6 California Food and Agriculture Code Section 403

CDFA Code Section 7271 designates the CDFA as the lead department in noxious weed management responsible for implementing state laws concerning noxious weeds. Representing a statewide program, noxious weed management laws and regulations are enforced locally in cooperation with the County Agricultural Commissioner.

Under state law, noxious weeds include any species of plant that is, or is liable to be, troublesome, aggressive, intrusive, detrimental, or destructive to agriculture, silviculture, or important native species, and difficult to control or eradicate, which the director, by regulation, designates to be a noxious weed (CDFA Code Section 5004).

## 2.3 LOCAL PLANS AND POLICIES

### 2.3.1 Native Trees and Other Protected Trees

Sacramento County has adopted measures for the preservation of native trees through the County Code and the General Plan.

Chapter 19.12 of the County Code, titled “Tree Preservation and Protection”, provides protection for native oak trees in the designated urban area of the unincorporated county. Native oaks are defined as valley oak (*Quercus lobata*), interior live oak (*Q. wislizeni*), blue oak (*Q. douglasii*), and oracle oak (*Q. x morehus*) trees having a diameter at breast height (dbh) of at least 6 inches for a single stem tree or a combined dbh of 10 inches for a tree with multiple stems. Grading, trenching, or filling within the dripline, or removal, destruction, or killing of a tree as defined in the ordinance is prohibited without a

tree permit. Tree permits are issued by the Director of Public Works or by the body approving a discretionary action such as a conditional use permit. Section 19.12.150 provides authority to the approving bodies to adopt mitigation measures as conditions of approval for discretionary projects in order to protect other species of trees in addition to native oaks. The Tree Preservation Ordinance does not specify replacement obligations for native oaks removed under a tree permit; the approving body may impose "reasonable conditions of approval as are necessary to minimize the environmental, health, or safety effects of the development or use" and may require financial security to ensure completion of "additional work" specified in the conditions of approval. "Additional work" may include replanting.

The Conservation Element of the General Plan includes a section regarding landmark and heritage tree protection. The stated objective of the plan is that "heritage and landmark tree resources [are] preserved and protected for their historic, economic, and environmental functions." The plan states that:

> *"Conservation of native tree species other than oaks and preservation of native oaks and landmark trees is the primary intent of the policies in the section. However, if preservation cannot be attained, then loss of the protected trees shall be compensated. Compensation for tree loss may be achieved by on-site or off-site replacement or payment into a Tree Preservation Fund."*

The section discusses thresholds of significance under CEQA for impacts to trees and concludes that tree impacts are "circumstantial". The section states that projects that exceed the threshold of significance may have significant impacts even after mitigation, and conversely, tree loss of some species that exceed the threshold in certain circumstances may not constitute a significant impact. The section states that the final determination of significance will be made by the Environmental Coordinator. The section does not include a definition of "tree" based on dbh.

Policy CO-139 of the General Plan states that "Native trees other than oaks, which cannot be protected through development, shall be replaced with in-kind species in accordance with established tree planting specifications, the combined diameter of which shall equal the combined diameter of the trees removed." Tree replacement values are stipulated as follows:

- one D-pot seedling = 1 inch dbh
- one 15-gallon tree = 1 inch dbh
- one 24-inch box tree = 2 inches dbh
- one 36-inch box tree = 3 inches dbh.

### 2.3.2 Wetlands and Riparian

The Conservation Element of the General Plan includes policies regarding the preservation of natural habitats and land uses adjacent to rivers and streams. Policy CO-58 requires that the County ensure no net loss of wetlands, riparian woodlands, and oak woodlands; Policy CO-59 requires mitigation for loss or modification of vernal pools, wetlands, riparian, native vegetation, and special-status species habitat.

### 2.3.3 Swainson's Hawk Mitigation Fee Program

CDFW requires that mitigation for foraging habitat be provided within the known foraging radius of a nesting Swainson's hawk (SWHA). In 1997, in response to the need to mitigate for the loss of SWHA foraging habitat in Sacramento County, the County Board of Supervisors adopted an ordinance that

established a Swainson's Hawk Impact Mitigation Program (Chapter 16.130 of the Sacramento County Code). The Swainson's Hawk Impact Mitigation Program has been amended several times; the latest amendment went into effect in December 2009. By adopting the Swainson's Hawk Impact Mitigation Program, the Board of Supervisors found that "*the most effective means of mitigation for the loss of suitable Swainson's hawk foraging habitat is the direct preservation, in perpetuity, of equally suitable foraging habitat on an acre-per acre basis based on the Project's determined acreage impact*". The Sacramento County Department of Planning and Environmental Review administers the Swainson's Hawk Impact Mitigation Program.

Statewide, the CDFW recommends implementing the measures set forth in the CDFW *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (Buteo swainsoni) in the Central Valley of California* (CDFW 1994) for impacts to SWHA foraging habitat unless local jurisdictions develop an individualized methodology designed specifically for their location. Sacramento County has developed such a methodology and received confirmation from CDFW in May of 2006 that the methodology is a better fit for unincorporated Sacramento County and should replace the statewide, generalized methodology for determining impacts to foraging habitat.

Swainson's hawk foraging habitat value is greater in large expansive open space and agricultural areas than in areas that have been fragmented by agricultural-residential or urban development. The methodology for unincorporated Sacramento County is based on the concept that impacts to SWHA foraging habitat occur as properties develop to increasingly more intensive uses on smaller minimum parcel sizes. Therefore, the methodology relies mainly on the minimum parcel size allowed by zoning to determine habitat value. For the purpose of the methodology, properties with AR-5 zoning and smaller are assumed to have lost all foraging habitat value for the purposes of the mitigation fee program. The parcels that make up the project site are all zoned greater than AR-5 and impacts to foraging habitat will be greater than 40 acres. Therefore, mitigation for the loss of SWHA foraging is required for the project under the County's Swainson's Hawk Impact Mitigation Program.

### 2.3.4 Metro Air Park Habitat Conservation Plan

The MAPHCP is an additional guiding program developed by the Metro Air Park (MAP) Property Owners' Association as the MAP site was outside of the City of Sacramento limit lines and thus could not receive coverage under the NBHCP. The MAPHCP was designed to support the regional Conservation Strategy of the NBHCP. As a result, the MAPHCP Covered Species is a subset of species covered under the NBHCP, and its biological goals and objectives are a subset of the NBHCP's goals and objectives.

### 2.3.5 Natomas Basin Habitat Conservation Plan

The NBHCP was developed to satisfy the requirements of FESA and CESA to provide an overarching program that facilitates and mitigates for incidental take of threatened and endangered species (Covered Species) for project proponents planning projects within the NBHCP's boundaries. The NBHCP is intended to minimize incidental take of up to 22 Covered Species and habitat loss associated with urban development. Incidental "Take" is defined by FESA as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect any threatened or endangered species. Harm may include significant habitat modification where it actually kills or injures a listed species through impairment of essential behavior (e.g., nesting or reproduction)."

The NBHCP and MAPHCP authorize approximately 17,500 acres of development collectively in the MAP, City of Sacramento, and Sutter County Permit Areas, and stipulate the preservation of 8,750 acres outside of these areas in a reserve system intended to mitigate for impacts to the 22 Covered Species. At full build-out, the planned TNBC reserve system will consist of approximately 4,375 acres of rice, 2,187 acres of created marsh, and 2,187 acres of upland habitat. In this reserve system, the land is planned to be managed to enhance its values for the Covered Species.

The USFWS established the reserve system within habitat created/managed by the NBHCP to mitigate and offset the effects of the loss of 17,500 acres of habitat. Consequently, most of the NBHCP's goals and objectives are related to creating a reserve system that provides interconnected habitat that is intended to sustain Covered Species' populations in the Natomas Basin for the foreseeable future. The NBHCP also includes avoidance, minimization, and mitigation measures to reduce the effects of development on Covered Species and to ensure the creation and effective operation of the TNBC reserve system.

# 2.4 JURISDICTIONAL WATERS

## 2.4.1 Federal Jurisdiction

### 2.4.1.1 Waters of the U.S.

On May 25, 2023, the U.S. Supreme Court issued a decision in the case of Sackett v. Environmental Protection Agency (Supreme Court of the United States 2023), which will ultimately influence how federal waters are defined. The May 25, 2023, Supreme Court decision in Sackett v. Environmental Protection Agency determined that "the CWA extends to only those 'wetlands with a continuous surface connection to bodies that are "waters of the U.S." in their own right,' so that they are 'indistinguishable' from those waters." The U.S. Environmental Protection Agency (USEPA) and the U.S. Army Corps of Engineers (USACE) after review issued a final rule to replace the 2023 rule that amends the "Revised Definition of "Waters of the U.S." to conform key aspects of the regulatory text to the U.S. Supreme Court's May 25, 2023, decision in the case of Sackett v. Environmental Protection Agency.

Unless considered an exempt activity under Section 404(f) of the Federal Clean Water Act (CWA), any person, firm, or agency planning to alter or work in "waters of the U.S.," including the discharge of dredged or fill material, must first obtain authorization from the USACE under Section 404 of the Clean Water Act (CWA; 33 USC 1344). Permits, licenses, variances, or similar authorization may also be required by other federal, state, and local statutes. Section 10 of the Rivers and Harbors Act prohibits the obstruction or alteration of navigable waters of the U.S. without a permit from USACE (33 USC 403). Activities exempted under Section 404(f) are not exempted within navigable waters under Section 10.

The Clean Water Act (33 United States Code (USC) 1251-1376) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

Section 401 requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the U.S. obtain a state certification that the discharge complies with other provisions of CWA. The Regional Water Quality Control Board (RWQCB) administers the certification program in California and may require State Water Quality Certification before other permits are issued.

Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S.

Section 404 establishes a permit program administered by USACE that regulates the discharge of dredged or fill material into waters of the U.S. (including wetlands). Implementing regulations by USACE are found at 33 CFR Parts 320-332. The Section 404 (b)(1) Guidelines were developed by the USEPA in conjunction with USACE (40 CFR Part 230), allowing the discharge of dredged or fill material for non-water dependent uses into special aquatic sites only if there were no practicable alternative that would have less adverse impacts.

## 2.4.2 State Jurisdiction

### 2.4.2.1 Waters of the State

Any action requiring a CWA Section 404 permit, or a Rivers and Harbors Act Section 10 permit, must also obtain a CWA Section 401 Water Quality Certification. The State of California Water Quality Certification (WQC) Program was formally initiated by the State Water Resources Control Board (SWRCB) in 1990 under the requirements stipulated by Section 401 of the Federal CWA. Although the CWA is a Federal law, Section 401 of the CWA recognizes that states have the primary authority and responsibility for setting water quality standards. In California, under Section 401, the State and Regional Water Boards are the authorities that certify that the issuance of a federal license or permit does not violate California's water quality standards (i.e., that they do not violate Porter-Cologne and the Water Code). The WQC Program currently issues the WQC for discharges requiring USACE permits for fill and dredge discharges within Waters of the United States, and now also implements the State's wetland protection and hydromodification regulation program under the Porter-Cologne Water Quality Control Act.

On May 28, 2020, the SWRCB implemented the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures) for inclusion in the forthcoming Water Quality Control Plan for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California (SWRCB 2019). The Procedures consist of four major elements:

I. A wetland definition;
II. A framework for determining if a feature that meets the wetland definition is a water of the state;
III. Wetland delineation procedures; and,
IV. Procedures for the submittal, review, and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities.

Under the Procedures and the State Water Code (Water Code §13050(e)), "Waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." "Waters of the State" includes all "Waters of the U.S."

More specifically, a wetland is defined as: "*An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation*." The wetland definition encompasses the full range of wetland types commonly recognized in California, including some features not protected under federal law, and reflects current scientific understanding of the formation and functioning of wetlands (SWRCB 2019).

Unless excluded by the Procedures, any activity that could result in the discharge of dredged or fill material to Waters of the State, which includes Waters of the U.S. and non-federal Waters of the State, requires filing of an application under the Procedures.

#### 2.4.2.2 California Department of Fish and Wildlife

CDFW is a trustee agency that has jurisdiction under Section 1600 *et seq*. of the California Fish and Game Code. Under Sections 1602 and 1603, a private party must notify CDFW if a proposed project will "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds… except when the department has been notified pursuant to Section 1601." Additionally, CDFW asserts jurisdiction over native riparian habitat adjacent to aquatic features, including native trees over four inches in dbh. If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that will allow the protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures. Generally, CDFW recommends applying for a Streambed Alteration Agreement (SAA) for any work done within the lateral limit of water flow or the edge of riparian vegetation, whichever is greater.

## 2.5 CEQA SIGNIFICANCE

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study Checklist included in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

1) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;

2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS;

3) Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

4) Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and

6) Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan.

An evaluation as to whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish or result in the loss of an important biological resource, or those that would obviously conflict with local, State, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant, according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

### 2.5.1 California Native Plant Society

The CNPS maintains a rank of plant species native to California that have low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the *Inventory of Rare and Endangered Vascular Plants of California*. Potential impacts to populations of CNPS-ranked plants receive consideration under CEQA review. The following identifies the definitions of the CNPS Rare Plant Ranking System:

- Rank 1A: Plants presumed Extinct in California and either rare or extinct elsewhere
- Rank 1B: Plants Rare, Threatened, or Endangered in California and elsewhere
- Rank 2A: Plants presumed extirpated in California but common elsewhere
- Rank 2B: Plants Rare, Threatened, or Endangered in California, but more common elsewhere
- Rank 3: Plants about which we need more information – A Review List

All plants appearing on CNPS Rank 1 or 2 are considered to meet CEQA Guidelines Section 15380 criteria. The CDFW, in consultation with the CNPS, assigns a California Rare Plant Rank (CRPR) to native species according to rarity; plants with a CRPR of 1A, 1B, 2A, 2B, or 3 are generally considered special-status species under CEQA. Furthermore, the CNPS CRPR includes levels of threat for each species. These threat ranks include the following:

0.1 - Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat);

0.2 - Moderately threatened in California (20 to 80% occurrences threatened/moderate degree and immediacy of threat); and

0.3 - Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known).

Threat ranks do not designate a change of environmental protections, so that each species (i.e., CRPR 1B.1, CRPR 1B.2, CRPR 1B.3, etc.), be fully considered during the preparation of environmental documents under CEQA.

### 2.5.2 California Department of Fish and Wildlife Species of Concern

Additional fish, amphibian, reptile, bird, and mammal species may receive consideration by CDFW and lead agencies during the CEQA process, in addition to species that are formally listed under FESA and CESA or listed as fully protected. These species are included on the Special Animals List, which is maintained by CDFW. This list tracks species in California whose numbers, reproductive success, or

habitat may be in decline. In addition to "Species of Special Concern" (SSC), the Special Animals List includes species that are tracked in the California Natural Diversity Database (CNDDB) but warrant no legal protection. These species are identified as "California Special Animals".

# 3.0 METHODS

Studies conducted for the preparation of this BRA included a desktop evaluation and background research to identify sensitive biological communities and/or special-status species with the potential to occur on or near the project site, as well as biological field surveys to document baseline conditions and special-status species and/or their habitats on and adjacent to the site. These included biological reconnaissance surveys, aquatic resource delineations, habitat assessments and focused surveys for Swainson's hawk (*Buteo swainsoni*), giant garter snake (*Thamnophis gigas*) (GGS), and focused botanical surveys. Methods are presented below in Section 3.2.

## 3.1 DATABASE AND LITERATURE REVIEW

The most current available lists of special-status species known to occur and/or having the potential to occur in the project region were reviewed to determine their potential to occur on the project site or otherwise be affected by project-related activities on the project site.

For the purposes of this analysis, special-status species are defined as those species meeting one or more of the following criteria:

- Listed as Threatened or Endangered under FESA;
- Listed as Threatened or Endangered under CESA;
- Under review for listing under FESA or CESA (Candidate);
- "Fully Protected" under California Fish and Game Code Section 3511, 4700, 5050, or 5515;
- Included on the list of SSC by the CDFW;
- Included on the Watch List of species that may qualify as SSC by the CDFW;
- Having a California Rare Plant Rank (CRPR) of 1A (presumed extinct in California and rare elsewhere), 1B (rare in California and elsewhere), 2A (presumed extinct in California but more common elsewhere), 2B (rare in California but more common elsewhere), or 3 (more information needed); or

The following lists were reviewed and are included in Appendix B:

- The Sacramento Fish and Wildlife Office list of threatened and endangered species that may occur in the project site and/or may be affected by the project (USFWS 2024).
- The CNPS list of special-status plants documented in the *Sacramento West, Sacramento East, Saxon, Davis, Grays Bend, Rio Linda, Taylor Monument, Clarksburg,* and *Florin* 7.5-minute quads (CNPS 2024);

- The California Natural Diversity Database (CNDDB; CDFW 2024 list of special-status species documented in the *Sacramento West, Sacramento East, Saxon, Davis, Grays Bend, Rio Linda, Taylor Monument, Clarksburg,* and *Florin* 7.5-minute quads.

Table C-1 in Appendix C presents the general habitat requirements, status, the potential for the species to occur, and the rationale for each species evaluated. Species determined to have no potential to occur in the project site or be otherwise affected by activities in the site were excluded from further evaluation. Species having the potential to occur in the project site and/or be affected by project activities are evaluated in detail in Section 5 of this BRA.

**Will Not Occur**: Species is either sessile (i.e., plants) or so limited to a particular habitat that it cannot disperse on its own and/or habitat suitable for its establishment and survival does not occur on the Study Area;

**Not Expected**: Species moves freely and might disperse through or across the Study Area, but suitable habitat for residence or breeding does not occur in the Study Area, potential for an individual of the species to disperse through or forage in the site cannot be excluded with 100 percent certainty;

**Presumed Absent**: Habitat suitable for residence and breeding occurs in the Study Area; however, focused surveys conducted for the current project were negative;

**May Occur**: Species was not observed on the site and breeding habitat is not present, but the species has the potential to utilize the site for dispersal;

**High**: Habitat suitable for residence and breeding occurs in the Study Area and the species has been recorded recently in or near the Study Area, but was not observed during surveys for the current project; and

**Present**: The species was observed during biological surveys for the current project and is assumed to occupy the Study Area or utilize the Study Area during some portion of its life cycle.

Only those species that are known to be present, have a high potential to occur, or may occur are discussed further in the following sections.

The USFWS National Wetlands Inventory (USFWS 2023) was reviewed to determine the presence of wetlands and water features in the project area.

## 3.2 BIOLOGICAL SURVEYS

### 3.2.1 Biological Surveys

HELIX and staff from Bargas Environmental Consulting, LLC (Bargas) conducted numerous biological surveys over the last five years. Biological surveys conducted at the Project site are summarized. A list of plant and animal species observed during the general biological surveys conducted by HELIX (not including protocol surveys) is included in Appendix D. Biological surveys are described briefly below.

### 3.2.2 General Biological Reconnaissance

HELIX senior Biologist and wetland scientist Patrick Martin and HELIX Botanist/wetland scientist Greg Davis conducted biological reconnaissance surveys at the project site. Mr. Martin and Mr. Davis conducted biological reconnaissance surveys on March 7 and 8, 2023. Biological reconnaissance surveys included habitat mapping and recording plant and wildlife inventories. Boundaries of biological habitats were primarily determined based on the composition of dominant plant species. Transects were walked within accessible parcels to gather as much visual site coverage as possible. Inaccessible parcels were reviewed on aerial photographs and viewed remotely in the field via binoculars. Habitat types and animal species (and sign) observed on-site were documented. Representative photos of the site are provided in Appendix E.

### 3.2.3 Botanical Surveys

Bargas conducted botanical surveys (Bargas 2020) on a 568.7-acre portion of the Study Area. The surveys were conducted by Bargas biologists in March, April, May, June, and July 2019, which encompassed the appropriate blooming periods for each of the target species. Additional site visits were conducted by Bargas biologist Krystal Pulsipher in April and June 2020. Bargas stated that botanical inventories were conducted in compliance with the CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW, 2018), *CNPS Botanical Survey Guidelines* (CNPS, 2001), and USFWS's *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants* (USFWS, 2000). Habitat types and plant species observed on-site were documented (Bargas 2020).

### 3.2.4 Swainson's Hawk Surveys

Bargas conducted protocol SWHA surveys (Bargas 2019) on a 568.7-acre portion of the Study Area, including a half-mile buffer around the 568.7-acre area. The surveys were conducted by Bargas biologists in March, April, and July 2019 that consisted of seven separate site visits. Bargas stated that protocol SWHA surveys were conducted following the methodology recommended by the Swainson's Hawk Technical Advisory Committee (2000). Habitat types and plant species observed on-site were documented (Bargas 2020). Surveys were conducted by vehicle using public roads, with limited vehicle access on unimproved interior roads where access had been granted. Some portions of the Project Vicinity were surveyed on foot where publicly accessible, such as along canals and in public parks. The interior portion of the Study Area was viewed using powerful optics that allowed sufficient viewing of all portions of the entire Project. Habitat types and animal species (and sign) observed on-site were documented.

### 3.2.5 Giant Garter Snake Habitat Assessment and Surveys

#### 3.2.5.1 Giant Garter Snake Habitat Assessment

Bargas performed a habitat assessment and surveys for GGS on a 568.7-acre portion of the Study Area from May 4 to May 16, 2018 (Bargas 2020). Bargas limited the field assessment to four areas that included canals and irrigation ditches that were considered suitable habitat for GGS. Upland habitat between the areas of interest and other wetland features were also assessed for GGS habitat.

#### 3.2.5.2 Giant Garter Snake Presence/Absence Surveys

Giant garter snake presence/absence studies were conducted by Eric Hansen to investigate the presence or absence of GGS in a 568.7-acre portion of the Study Area. Per Bargas, Mr. Hansen performed focused aquatic trapping conducted according to accepted protocols and searched for the occurrence of GGS using environmental DNA (eDNA) sampling techniques (Hansen 2019; Hansen 2020). Trapping took place from June through September in both 2019 and 2020. Mr. Hansen deployed 400 floating aquatic traps across suitable aquatic habitat and monitored them for a total of 40,703 trap-days. Full descriptions of the methods of this study are contained in Hansen (2019; 2020).

## 3.3 WETLANDS AND OTHER WATERS

Bargas biologists conducted an aquatic resources delineation of potential wetlands and other waters of the U.S. and State on the Project site on July 11 and 12, 2019, and April 22, 2020 (Bargas 2020). The presence of wetlands and other waters were determined based on the USACE three-parameter method described in the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0*; USACE 2008a), and *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008b). Aquatic resources in the Project site were also evaluated for their potential to qualify as waters of the State subject to RWQCB jurisdiction and/or CDFW jurisdiction.

USACE issued a Preliminary Jurisdictional Determination (PJD) for the 568.7-acre Surveyed Area, which documented 18 aquatic resource features encompassing 11.22 acres of Other Waters potentially subject to jurisdiction under Section 404 of the Clean Water Act (CWA) (USACE 2020). Thirty-two features of the 38 identified features appear to be substantially interconnected through culverts or other infrastructure utilized for agricultural irrigation/drainage (Bargas 2022). One feature (R5UBFx-21) appears to receive water from the Sacramento River via the Riverside Pumping Plant. Five features (R5UBFx-25, -33, -34, -36, and -37) have an evident or likely hydrologic connection to the West Drainage Canal through either the pumping station (Bargas 2022), culverts, or other agricultural infrastructure.

The Bargas aquatic resource assessment did not include areas outside of the UWSP. HELIX prepared an aquatic resources delineation for the remaining Study Area that is summarized in Section 5.4 below.

### 3.3.1 Subsections 1 and 3

HELIX biologists Patrick Martin and Greg Davis conducted an aquatic resources delineation of potential wetlands and other waters of the U.S. and State on the Project site on March 7, 2023. Previously mapped jurisdictional features were reviewed in the field, and the remaining features in the 1,497.3-acre Study Area were assessed from publicly accessible areas. No new data was taken in the Study Area to classify the site's soils, vegetation, and hydrologic characteristics since access to the remaining 1497.3 acres of the Study Area not previously analyzed by Bargas (2020) was not available. HELIX followed the procedures from Subsection 1 and Subsection 3 of the Methods from the Wetlands Delineation Manual (USACE 1987) for the remaining 1,497.3-acre Study Area of the Study Area by applying information already collected from the 568.7-acre aquatic resources delineation completed by Bargas (2020). Subsections 1 and 3 of Section D. Routine Determinations of the Wetlands Delineation Manual (USACE 1987) describe procedures to prepare an aquatic resources delineation by using existing data that have already been collected for a portion of the Project site and applying those data to the

balance of the Study Area without an additional site visit. HELIX used existing resources, databases, and imagery to synthesize Bargas' data to map aquatic resources within the 1,497.3-acre area within the Study Area and within Phase I off-site areas. The USACE concurred with the request of a preliminary jurisdiction determination (SPK-2020-00237) that the aquatic resource boundaries for the 568.7-acre portion of the Study Area are regulated under Section 404 of the Clean Water Act. The original 44.94 acres of aquatic resources included in the 2023 delineation by HELIX are comprised of a total of 11.22 acres of aquatic resources that were verified by the USACE in 2020 (SPK-2020-00237), and a total of 33.72 acres of aquatic resources that were delineated by HELIX in 2023. A Preliminary Jurisdictional Determination has also been issued for the 33.72 acres of wetlands on February 23, 2024 (SPK-2020-00237). The additional 0.14 acre of added aquatic resources are likely potential jurisdictional waters, and have been added to the appropriate Project permit applications.

## 3.4 INVASIVE SPECIES

Plant species observed on the Project site were compared to the list of invasive plants in California maintained by the California Invasive Plant Council (Cal-IPC; 2006) and the list of noxious weeds maintained by the CDFA (2021). Several invasive and noxious weed species listed by Cal-IPC and CDFA occur in the Project site, as would be expected due to its highly disturbed nature. Invasive and noxious weeds are identified on the plant species observed list in Appendix D and discussed further in Section 5.6.3.

CDFA List "C" species warrant state-endorsed holding action and eradication only when found in a nursery; actions to retard spread outside of nurseries are conducted at the discretion of the commissioner; and warrant rejection only when found in a crop seed for planting or at the discretion of the commissioner. In addition, the Cal-IPC categorizes plants as "high, moderate, or limited," reflecting the level of each species' negative ecological impact in California. Each plant on the list received an overall rating of high, moderate, or limited based on the following evaluation criteria:

- High – These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

- Moderate – These species have substantial and apparent, but generally not severe, ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

- Limited – These species are invasive, but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

# 4.0 RESULTS: ENVIRONMENTAL SETTING

## 4.1 ENVIRONMENTAL SETTING

The Study Area is contained within the Natomas Basin. Lands within the Study Area are primarily agricultural, with existing agricultural residential homes inside the northeastern and southwestern boundaries, and commercial uses located near the intersection of El Centro Road and West El Camino Avenue. Existing General Plan Land Use designations include Agricultural Cropland (1,858.3 acres); Agricultural Residential (97.0 acres); Commercial and Office (52.2 acres); and Recreation (58.8 acres).

The Study Area predominantly consists of graded agricultural land, including row crops and dry farming. Well-known agriculturally related uses include Goblin Gardens Pumpkin Patch at Bastiao Farms and Perry's Garden. Several large agricultural residences are located along the southwestern border and northeastern corner of the Study Area. One of these residences, located in the northeastern corner, is used for farm equipment, automobile, and scrap metal storage. Numerous unlined drainage canals and ditches cross the agricultural areas and are generally oriented north-south and east-west along section lines and parcel boundaries to provide irrigation water and drainage.

The southwest quadrant next to the I-80 interchange is currently auto-oriented Highway Commercial and includes gas stations, restaurants, motels, self-storage facilities, and vacant lots. The northwest quadrant next to the interchange is currently "heavy" highway oriented with the 49er Truck Stop, the Pape Machinery & Equipment sales and repair yard, and two single-story industrial buildings that measure approximately 20,000 sq. ft. There are also several vacant or underutilized parcels. A radio broadcast tower is located in the northern part of the Study Area, and a television broadcast tower is located within the agricultural residential area along the southwestern boundary.

The Study Area is comprised of a multiple-owner Specific Plan Area encompassing 2,199 acres, which includes a 1,523.8-acre Development Area, a 542.4-acre Agricultural Buffer Area, and 133.17 acres of off-site improvement areas. Approximately 271 acres of land within the proposed western Agricultural Buffer Area has been acquired by the Sacramento Area Flood Control Agency (SAFCA) and is planned to be improved under the USACE seepage prevention levee improvements project, and will include cutoff walls, landside berms, and a new adjacent levee, as well as approximately 80 acres of mitigation and 27.6 acres of wetland creation. The SAFCA lands also incorporate what is known as the Allegheny Reserve – an approximately 50-acre reserve that is currently part of the NBHCP reserve system.

## 4.2 CLIMATE

The climate in Sacramento County is Mediterranean, characterized by wet, cool winters and dry, hot summers. The nearest weather station to the Study Area, which is similarly situated on the landscape with complete climate data is located at the Sacramento Metropolitan Airport approximately three miles northwest of the Study Area. Average daily minimum and maximum temperatures are 60° and 94° Fahrenheit (°F) in July (Natural Resource Conservation Service [NRCS] 2023a). Average daily maximum and minimum temperatures are 55° and 38° F in January (NRCS 2023a). The mean annual precipitation is 16.89 inches. The weather station received approximately 18.26 inches of rainfall in the 2022 rain season leading up to the first field delineation visit on March 7, 2023 (NRCS 2023a), which was above average for this time of year or 48 percent above average for this time of year through February 2023. In

the 2021/2022 rain year, the weather station received 15.03 inches, which was 89 percent of normal (NRCS 2023a).

## 4.3 SOILS

The NRCS has mapped nine soil units within the Study Area: Clear Lake clay, hardpan substratum, drained, 0-1% slopes, Columbia sandy loam, clayey substratum, partially drained, 0-2% slopes, Cosumnes silt loam, partially drained, 0-2% slopes, Cosumnes silt loam, drained, 0-2% slopes, Durixeralfs, 0-1% slopes, Egbert clay, partially drained, 0-2% slopes, Jacktone clay, drained, 0-2% slopes, Sailboat silt loam, partially drained, 0-2% slopes, MLRA 16, and San Joaquin-Xerarents complex, leveled, 0-1% slopes (**Appendix A, Figure 4, Soils Map**). The general characteristics and properties associated with these soil types are described below (NRCS 2024).

**Clear Lake clay, hardpan substratum, drained, 0-1% slopes** is a somewhat poorly-drained soil that consists of clay, clay loam, and cemented layers derived from alluvium. Clear Lake clay, hardpan substratum, drained, 0-1% slopes is found on basin floors and toeslopes. The restrictive layer consists of duripan at 48 to 64 inches below the surface. This soil series is considered prime farmland when irrigated. This soil unit and its minor components are considered hydric (NRCS 2024).

**Columbia sandy loam, clayey substratum, partially drained, 0-2% slopes,** is a somewhat poorly-drained soil that consists of sandy loam, stratified loamy sandy to silt loam, and clay loam derived from alluvium. Columbia sandy loam, clayey substratum, partially drained, 0-2% slopes is found on floodplains, natural areas, toeslopes, and summits. The depth to the restrictive layer is more than 80 inches below the surface. This soil series is considered prime farmland if irrigated. This soil unit and its minor components are considered hydric (NRCS 2024).

**Cosumnes silt loam, partially drained, 0-2% slopes,** is a somewhat poorly-drained soil that consists of silt loam and stratified silty clay loam to clay that is alluvium derived from igneous rock and metamorphic rock. Cosumnes silt loam, partially drained, 0-2% slopes is found on floodplains. The depth to the restrictive layer is more than 80 inches below the surface. This soil series is considered prime farmland if irrigated. This soil unit and its minor components are considered hydric (NRCS 2024).

**Cosumnes silt loam, drained, 0-2% slopes,** is a somewhat poorly-drained soil that consists of silt loam, stratified clay loam, and clay that is derived from alluvium. Cosumnes silt loam, drained, 0-2% slopes is found on floodplains and toeslopes. The depth to the restrictive layer is more than 80 inches below the surface. This soil series is considered prime farmland if irrigated. This soil unit and its minor components are considered hydric (NRCS 2024).

**Durixeralfs, 0-1% slopes,** is a somewhat poorly-drained soil that consists of clay, clay loam, and underlain by an indurated layer that is alluvium derived from granite. Durixeralfs, 0-1% slopes is found on terraces and toeslopes. The depth to the restrictive layer is more than 80 inches below the surface. This soil series is not considered prime farmland. The minor components of this soil unit are considered hydric (NRCS 2023b).

**Egbert clay, partially drained, 0-2% slopes**, is a poorly-drained soil that consists of clay, silty clay loam, and stratified sandy clay loam that is derived from alluvium. Egbert clay, partially drained, 0-2% slopes is found on floodplains and backswamps. The depth to the restrictive layer is more than 80 inches below

the surface. This soil series is considered prime farmland if irrigated. This soil unit and its minor components are considered hydric (NRCS 2024).

**Jacktone clay, drained, 0-2% slopes**, is a somewhat poorly-drained soil that consists of clay, clay loam, and stratified loam to clay loam that is derived from alluvium. Jacktone clay, drained, 0-2% slopes is found on basin floors and toeslopes. The restrictive layer consists of a duripan found between 34 to 52 inches below the surface. This soil series is considered prime farmland of statewide importance. This soil unit and some of its minor components are considered hydric (NRCS 2024).

**Sailboat silt loam, partially drained, 0-2% slopes, MLRA 16**, is a somewhat poorly-drained soil that consists of silt loam, clay loam, and loam that is alluvium derived from igneous, metamorphic, and sedimentary rock. Sailboat silt loam, partially drained, 0-2% slopes, MLRA 16 is found on floodplains and natural levees. The depth to the restrictive layer is more than 80 inches below the surface. This soil series is considered prime farmland if irrigated. This soil unit and its minor components are considered hydric (NRCS 2024).

**San Joaquin-Xerarents complex, leveled, 0-1% slopes**, is a somewhat poorly-drained soil that consists of silt loam, clay loam, an indurated layer, and stratified sandy loam that is alluvium derived from granite. San Joaquin-Xerarents complex, leveled, 0-1% slopes is found on terraces and toeslopes. The depth to the restrictive layer is more than 80 inches below the surface, but a duripan may exist between 28 to 54 inches below the surface. This soil series is considered prime farmland of statewide importance. Some of the minor components of this soil unit are considered hydric (NRCS 2024).

## 4.4 TOPOGRAPHY AND GEOLOGY

The Study Area is characterized and dominated by nearly flat agricultural land ranging from approximately 12 feet above mean sea level (msl) along the eastern border to approximately 27 feet above msl along the western border. The Study Area is located in the central portion of the Great Valley geomorphic province of California, which includes most of Sacramento County. The Great Valley province is an approximately 50-mile-wide by 400-mile-long alluvial plain that lies between the Sierra Nevada mountains to the east and the Coast Range mountains to the west. Once covered by ocean, this alluvial plain valley is underlain by an asymmetrical depression formed by intersecting, downward-sloping folds of bedrock in which sedimentary deposits have accumulated in a sequence of units (i.e., Great Valley Sequence) for over 100 million years.

Formation of the Great Valley Sequence began with marine sediments precipitating out of receding ocean waters followed more recently by layers of alluvial deposits washing down from creeks and rivers draining from the Sierra Nevada, Klamath, Cascade, and Coast Range mountains. The U.S. Geological Survey (USGS) Geologic Map of the Late Cenozoic Deposits of the Sacramento Valley and Northern Sierran Foothills shows the Study Area to be underlain by undivided Holocene basin deposits and the lower member of the Riverbank Formation (Helley and Harwood 1985). The Holocene basin deposits of the last 10,000 years consist of fine-grained silt and clay derived from the nearby mountain ranges and deposited by the Sacramento and American Rivers. The lower member of the Riverbank Formation consists of red semi-consolidated gravel, sand, silt, and clay derived from the nearby mountain ranges and deposited by the Sacramento and American Rivers. Deposits include the following:

- **Recent crevasse splay deposits** (Rcs) – Generally consist of medium stiff silts and very stiff lean clays. These deposits typically overlie Rob, Hob, or Qa.

- **Recent overbank deposits** (Rob) – Generally consist of soft to very stiff lean and fat clays, and typically overlie deposits of Hob or Qa.
- **Holocene overbank deposits** (Hob) – Generally consist of very soft to medium stiff silts and lean clays.
- **Quaternary alluvium** (Qa) –Typically consisting of very loose to very dense, poorly to well-graded sands with varying amounts of silty fines and some poorly or well-graded gravel lenses.
- **Quaternary marsh deposits overlying alluvial deposits** (Qs/Qa) – Typically consists of stiff silt and lean clay.
- **Holocene overflow channel deposits** (Hofc) – these deposits were "vertically stratified sand, silt, and clay."
- **Holocene basin deposits** (Qhb) – generally consist of stiff to hard fat clay blanketing older alluvium.
- **Pleistocene Riverbank Formation** (Qr) – nearby data suggests the Riverbank Formation includes very stiff to hard lean clays and silts as well as medium dense to very dense sands with varying amounts of fines.

## 4.5 HYDROLOGY

Consistent with the geologic history of the area, the Natomas Basin historically contained marshland and a variety of wetlands from the multiple rivers and creeks of surrounding mountains draining into the Basin. After the Sacramento River levee system was completed ca. 1915, the Natomas Basin area was drained and converted to farmland with a network of channels and pumping stations constructed in the 1930s for flood control and irrigation. The Natomas Central Mutual Water Company (NCMWC) maintains and operates water delivery channels throughout the Natomas Basin, and Reclamation District (RD) 1000 maintains and operates agricultural drainage and flood control channels.

## 4.6 LAND COVERS

Naturally-occurring vegetative communities (i.e., habitats) are typically classified based on the dominant plant species, whereas vegetative communities characterized by a high level of anthropogenic disturbance are often classified by the dominant land use. The NBHCP categorizes land cover within the Natomas Basin into 18 broad classifications. However, to refine mapping and better define the characteristics of lands within the Study Area, HELIX compiled new land cover data for the Study Area by combining portions of data from State and commercial sources (HELIX 2022). Land cover data were obtained from the Central Valley Flood Protection Planning Area Update project and the 2019 i5 Statewide Crop Mapping data. Aquatic resource data were obtained via Wood Rodgers and Bargas (Bargas 2022).

Table 2, *Land Cover Summary Crosswalk Table*, summarizes land cover classifications assigned by the NBHCP and the correlated classification used by HELIX in its comprehensive mapping of land cover in the Natomas Basin (HELIX 2022). Land cover descriptions have been taken from the BRA (Bargas 2022) with some modifications in the text for brevity, as well as refinement based on the data associated with the HELIX mapping sources. Land cover mapping for the Study Area, which is displayed on **Appendix A, Figure 5, Aquatic Resources Map,** displays aquatic resources, and **Appendix A, Figure 6**, **Existing Upper Westside Specific Plan Land Cover***,* which includes both upland and aquatic resources.

**Table 2**
**LAND COVER CROSSWALK**

| HELIX 2022 Land Cover | NBHCP 2003 Land Cover |
|---|---|
| Annual Grasses and Forbs | Grassland |
| California Sycamore | Tree Groves |
| Deciduous | Orchard |
| Eucalyptus | Tree Groves |
| Field Crops | Non-Rice Crops |
| Fremont Cottonwood | Riparian |
| Grain and Hay | Alfalfa |
| Partially Irrigated Crops | Non-Rice Crops |
| Pasture | Pasture |
| Rice | Rice |
| Riparian Mixed Hardwood | Riparian |
| Riparian Mixed Shrub | Riparian |
| Ruderal | Ruderal |
| Truck Crops | Non-Rice Crops |
| Tule – Cattail | Riparian |
| Urban/Developed (General) | Urban |
| Valley Oak | Tree Groves |
| Vernal Pool | — |
| Vineyard | — |
| Water (General) | Canals |
| Wet Meadows | Ponds/Wet Areas |
| Willow | Riparian |
| Willow (Shrub) | Riparian |

Land cover classifications carried forward throughout this document are summarized below in Table 3, UWSP Land Cover Acreages, by acreage within the UWSP, as well as the percentage of the UWSP.

**Table 3**
**UWSP LAND COVER ACREAGES**

| Classification | UWSP Acreage | (%) Percent of Total UWSP Acreage |
|---|---|---|
| Annual Grasses and Forbs | 17.31 | 0.79 |
| Deciduous | 4.38 | 0.20 |
| Field Crops | 334.71 | 15.22 |
| Fremont Cottonwood | 1.00 | 0.05 |
| Grain and Hay | 792.79 | 36.05 |
| Partially Irrigated Crops | 272.50 | 12.39 |
| Pasture | 17.91 | 0.81 |
| Ruderal | 285.5 | 12.98 |
| Truck Crops | 74.44 | 3.38 |
| Urban/Developed (General) | 258.18 | 11.74 |
| Valley Oak | 34.66 | 1.58 |
| Vineyard | 17.23 | 0.78 |

| Classification | UWSP Acreage | (%) Percent of Total UWSP Acreage |
|---|---|---|
| Water (General) | 45.08 | 2.05 |
| SAFCA Wetland Creation | 43.62 | 1.98 |
| **Total** | **2,199** | **100%** |

### Annual Grasses and Forbs

Annual grasses and forbs are found on 17.31 acres of the Study Area and occur where agricultural fields have remained fallow for an extended period. Annual grassland land cover consists primarily of open grasslands composed of annual plant species. Dramatic differences in physiognomy between seasons and years are characteristic of this habitat. Fall rains cause the germination of annual plant seeds. Plants grow slowly during the cool winter months, remaining low in stature until spring, when temperatures increase and stimulate more rapid growth. Large amounts of standing dead plant material can be found during summer in years of abundant rainfall and light to moderate grazing pressure. Heavy spring grazing favors the growth of summer-annual forbs. Many wildlife species use annual grasslands for foraging. This landcover also includes SAFCA-created wetlands that consist of a part of 27.6 acres of wetland creation. Created wetlands are still under development and likely to not meet wetland criteria.

### Deciduous

Deciduous orchards are found on 4.38 acres of the Study Area. Deciduous orchards are open, single-species tree-dominated habitats. Spacing between trees is uniform, depending on the desired spread of mature trees. The understory may be composed of low-growing grasses, legumes, and other herbaceous plants, or may be managed to prevent understory growth along tree rows. Orchards are planted on deep fertile soils which once supported productive and diverse natural habitats. Some avian and mammal species have adapted to orchard habitats.

### Field Crops

Field crops are found on 334.71 acres of the Study Area. Cover type, canopy, plant composition, and other metrics are variable - changing from year to year or even season to season. Vegetation in this habitat includes a variety of sizes, shapes and growing patterns, and vegetation cover can vary widely from 100 to zero percent. Some acreages are planted in rotation with other irrigated crops, and sometimes winter wheat or barley may be planted after harvest of a previous crop in the fall, dry farmed (during the wet winter and early spring months), and then harvested in the late spring. Row and field crops are established on fertile soils, which historically supported an abundance of wildlife. Many wildlife species have adapted to croplands.

### Fremont Cottonwood

Fremont cottonwood (*Populus fremontii*) is a native species that occurs in or around wetlands and riparian areas and is found on 1.00 acre of the Study Area. Undisturbed areas contain a subcanopy tree layer and an understory shrub layer. Fremont cottonwood and associated riparian areas provide food, water, migration and dispersal corridors, and escape, nesting, and thermal cover for an abundance of wildlife species.

### Grain and Hay

Grain and hay fields (alfalfa fields) are found on 792.79 acres of the Study Area. Like most agricultural habitat types, cover type, vegetation cover, plant composition, and other metrics are variable and may change from year to year or even season to season. This land cover is dense monoculture, with nearly 100 percent cover once plants have matured. Physiognomy of the habitat changes to a lower stature following annual harvest and subsequently reverts to bare ground following plowing or discing. Plowing may occur annually but is usually less often. This land cover can provide a high-quality seasonal resource for a variety of wildlife.

### Partially Irrigated Crops

Irrigated crops are found on 272.50 acres of the Study Area. Most irrigated field crops are annual species, grown in rows which are usually planted in spring and harvested in summer or fall. Like most agricultural habitat types, cover type, vegetation cover, plant composition, and other metrics are variable - changing from year to year or even season to season. Vegetation in this habitat includes a variety of sizes, shapes and growing patterns and canopy cover can vary widely from 100 to zero percent.

### Pasture

Pasture landcover is found on 17.91 acres of the Study Area. Like most agricultural types, cover type, vegetation cover, plant composition, and other metrics are variable and may change from year to year or even season to season. Pasture vegetation is commonly a mix of perennial grasses and legumes that normally provide 100 percent vegetation cover. Height of vegetation varies from a few inches to two or more feet on fertile soils, dependent on season and livestock stocking and grazing levels. Pastures are used by a variety of wildlife depending upon the geographic area and adjacent habitats. Ground-nesting bird species can nest in pastures if adequate residual vegetation is present at the onset of the nesting season. Flood irrigation of pastures provides feeding and roosting sites for many wetland-associated birds. This landcover also includes SAFCA-created wetlands that consist of a part of 27.6 acres of wetland creation. Created wetlands are still under development and likely to not meet wetland criteria.

### Ruderal

Ruderal land cover is present on 285.5 acres of the Study Area. Ruderal areas have typically been exposed to extensive ongoing anthropogenic disturbance and are characterized largely by non-native, weedy species or early native colonizing species. This land cover type is not paved, retaining a soil substrate. Ruderal land cover can be colonized by burrowing small mammals and thus can be suitable for animals such BUOW and SWHA that forage for prey in ruderal habitat.

### Truck Crops

Truck crops are present on 74.44 acres of the Study Area. Truck crops include low-growing row crops such as tomatoes and melons. This land cover can provide a high-quality seasonal resource for a variety of wildlife.

### Urban/Developed (General)

Urban land cover is found on 258.18 acres of the Study Area. The physiognomy of urban vegetation varies with the land use. Within the Study Area, areas mapped as urban include residential lots and commercial development. Impervious surfaces – such as pavement – are common in the latter, while the former often includes mowed lawns, gardens, and ornamental trees. Wooded cover in the urban portions of the Study Area provides shelter and foraging habitat for a wide variety of native and non-native wildlife, especially birds.

### Valley Oak

Valley oak is found on 34.66 acres of the Study Area. Valley oak habitat in the Study Area, is dominated by valley oak (*Quercus lobata*), interspersed with canopy tree species such as California Sycamore (*Platanus racemosa*), or can occur as a grassland dominated by valley oak. Undisturbed areas typically contain a subcanopy tree layer and an understory shrub layer. In the Study Area, valley oak understory is dominated by rural residential development, which diminishes the quality of the habitat for plants and wildlife. Valley oak land cover, particularly where it occurs near aquatic drainages, provides food, water, migration and dispersal corridors, and escape, nesting, and thermal cover for an abundance of wildlife species.

### Vineyard

Vineyard land cover is not a recognized land cover type in the NBHCP but is found on 17.23 acres of the Study Area. Vineyards are monoculture crops planted in rows, usually supported on wood and wire trellises. Vines are normally intertwined within the support structures along the row but land between rows is maintained as open space. Soil under the vines is usually sprayed with herbicides to prevent the growth of herbaceous plants. Between rows of vines, grasses and other low-growing herbaceous plants may be planted or allowed to grow as a cover crop to control erosion. Vineyards are typically planted on deep fertile soils which once supported productive and diverse natural habitats. Some avian and mammal species have adapted to vineyard habitats, including raptors, which often perch on supporting structures.

### Water (General)

Water (riverine habitat) is present on 45.08 acres of the Study Area in the form of irrigation canals and ditches, ponds and detention basins. Irrigation ditches and canals contain duckweed (*Lemna minor*), green algae, and a variety of emergent vegetation, and the banks of the irrigation canals and ditches were dominated by ruderal vegetation during surveys conducted by Bargas (2022).

## 4.7 WILDLIFE

The Study Area provides suitable land cover for a variety of wildlife species commonly inhabiting agricultural land in the Natomas Basin. The larger expanses of terrestrial land cover (e.g., grass, hay, alfalfa, etc.) in the Study Area provide suitable foraging habitat for raptors such as SWHA, western burrowing owl (*Athene cunicularia*; BUOW), loggerhead shrike (*Lanius ludovicianus*), white-tailed kite (*Elanus leucurus*), and northern harrier (*Circus hudsonius*).

Irrigation canals and associated land covers provide potentially suitable habitat for GGS, tricolored blackbird (*Agelaius tricolor*; TRBL), northwestern pond turtle (*Actinemys marmorata*; WPT), and valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*; VELB).

## 4.8 SPECIAL-STATUS SPECIES

Based on species' ranges and habitat affinities, a total of 17 regionally occurring special-status species (Table 4, S*pecial-status Species with the Potential to Occur*) are either known to occur or have the potential to occur in the Project site (this analysis is described in Section 3.1). Special-status species observed on-site during the March 7, 2023, site visit include Cooper's hawk (*Accipiter cooperii*) and osprey (*Pandion haliaetus*); however, no nesting locations of special-status species were observed within the Study Area during the March 2023 site visit. A red-tailed hawk was observed perching on trees and radio towers in the Study Area associated with existing nest structures. No other special-status plant or wildlife species were observed within the Study Area. Special-status species with the potential to occur within the Study Area are discussed in detail in Section 5.

**Table 4**
**SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR**

| Scientific Name<br>Common Name | Regulatory Status[1] | Status in the Project Site[2] | Suitable Habitat in the Project Site |
|---|---|---|---|
| ***Plants*** | | | |
| *Hibiscus lasiocarpos var. occidentalis*<br>woolly rose-mallow | --/--/1B.2 | Habitat present | Suitable freshwater habitat is present in agricultural canals and ditches in the Study Area. There is one record of this species within a 5-mile radius of the Study Area located at the Interstate 80 interchange at the W El Camino Avenue off ramp (CDFW 2024). |
| *Sagittaria sanfordii*<br>Sanford's arrowhead | --/--/1B.2, NBHCP | Habitat present | Suitable freshwater habitat is present in agricultural canals and ditches in the Study Area. There are two CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| ***Invertebrates*** | | | |
| *Desmocerus californicus dimorphus*<br>valley elderberry longhorn beetle | FT/--/--, NBHCP | Habitat assumed to be present | Elderberry shrubs that provide suitable breeding habitat for this species were not detected within the Study Area. However, not all of the Study Area was directly accessible and elderberry shrubs are likely present in valley oak woodland or as isolated shrubs in close proximity to riparian habitat that is contiguous with known records of this species. Observations of this species in the CNDDB are abundant in the region with the nearest CNDDB occurrence located 0.3-mile northwest of the Study Area in riparian forest along the Sacramento River (CDFW 2024). |

| Scientific Name<br>Common Name | Regulatory Status[1] | Status in the Project Site[2] | Suitable Habitat in the Project Site |
|---|---|---|---|
| ***Reptiles*** | | | |
| *Actinemys (=Emys) marmorata*<br>northwestern pond turtle | FPT/--/SSC, NBHCP | Habitat present (aquatic and upland refugia) | Suitable habitat is present for this species along canals and ditches in the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Thamnophis gigas*<br>giant garter snake | FT/ST/--, NBHCP | Habitat present (aquatic and upland refugia) | Suitable aquatic habitat that is inundated during the active season for this species is present in agricultural ditches and canals that occur throughout the Study Area. Additionally, upland habitat is present in areas adjacent to ditches and known occurrences of this species. This species is documented within the northern portion of the Study Area in West Drainage Canal and is well documented in areas surrounding the Study Area in the CNDDB (CDFW 2024). Protocol surveys that included trapping did not detect this species in portions of the Study Area; however eDNA sampling did test positive in ditches surrounding the Study Area which indicates this species utilizes the habitat (Bargas 2020, Hansen 2019). Protocol surveys and eDNA sampling were not conducted within West Drainage Canal where the CNDDB documents this species. |
| ***Birds*** | | | |
| *Accipiter cooperii*<br>Cooper's hawk | --/--/WL | Habitat present (nesting and foraging) | Suitable habitat is present for this species in the Study Area. This species could nest in trees throughout the Study Area and forage in forested areas along the Sacramento River, agricultural crops, fallowed fields or ruderal areas in the Study Area or in other adjacent habitats. There are two CNDDB reported occurrences for this species within a 5-mile radius of the Study Area. The nearest CNNDB reported occurrence is located approximately 3.9 miles south of the Study Area and documents a nest from 2008. (CDFW 2024). |
| *Agelaius tricolor*<br>tricolored blackbird | --/ST/SSC, NBHCP | Habitat present (nesting and foraging) | Nesting habitat for this species is present in the Study Area along ditches that supports trees, blackberry brambles and other emergent vegetation in ditches and canals. This species could also forage in the Study Area as they are known to forage in agricultural fields up to four miles from nesting sites. There are several CNDDB reported occurrences within a 5-mile radius of the Study Area. The nearest CNDDB reported occurrence is located approximately 1.9 miles northeast of the Study Area and documents an extirpated nesting colony from 1992 (CDFW 2024). |

| Scientific Name<br>Common Name | Regulatory Status[1] | Status in the Project Site[2] | Suitable Habitat in the Project Site |
|---|---|---|---|
| *Athene cunicularia*<br>Burrowing owl | --/--/SSC, NBHCP | Habitat present (nesting and foraging) | Suitable habitat is present for burrowing owl in the Study Area in ruderal or fallowed fields and along the banks of ditches and canals especially where small mammal burrows are present. But burrowing owl may also use other refuge sites such as abandoned irrigation pipes. CNDDB records for burrowing owl in the region are abundant with the nearest record located approximately 0.2 mile east of the Study Area. This record documents a wintering owl along a drainage ditch in 1991; however, this site is likely extirpated since the area has been developed (CDFW 2024). |
| *Buteo swainsoni*<br>Swainson's hawk | --/ST/--, NBHCP | Present (nesting and foraging) | Suitable habitat is present for this species in the Study Area. This species could nest on trees throughout the Study Area and forage in agricultural crops, fallowed fields or ruderal areas in the Study Area or in adjacent habitats. There are several CNDDB reported occurrences for this species within a 5-mile radius of the Study Area and this species is well documented to nesting and foraging in the Study Area and in the region. There are two documented CNDDB reported occurrences of this species nesting on the Study Area; the records document nesting activity in cottonwoods and oak trees in 1992 and 1993 (CDFW 2024). |
| *Circus hudsonius*<br>Northern harrier | --/--/SSC | Present (foraging); Habitat present (nesting) | Nesting and foraging habitat for northern harrier is present in the Study Area. This species has been detected foraging within the Study Area during field surveys. |
| *Elanus leucurus*<br>White-tailed kite | --/--/FP | Habitat present (nesting and foraging) | Suitable habitat is present for this in the Study Area. This species could nest on trees throughout the Study Area and forage in agricultural crops, fallowed fields or ruderal areas in the Study Area or in adjacent habitats. There are several CNDDB reported occurrences for this species within a 5-mile radius of the Study Area. The nearest CNNDB reported occurrence is located approximately 2.6 miles south of the Study Area, and documents a nest from 2017 in a large oak tree in a residential neighborhood (CDFW 2024). |
| *Lanius ludovicianus*<br>Loggerhead shrike | --/--/SSC, NBHCP | Habitat present (nesting and foraging) | Open habitat with perching sites along fences and some shrubs and small trees provides suitable nesting and foraging habitat for this species. There are no CNDDB reported occurrences for this species in a 5-mile radius of the Study Area and this species has not been detected in the Study Area (CDFW 2024). |

| Scientific Name<br>Common Name | Regulatory Status[1] | Status in the Project Site[2] | Suitable Habitat in the Project Site |
|---|---|---|---|
| *Melospiza melodia*<br>song sparrow (Modesto Population) | --/--/SSC | Habitat present (nesting and foraging) | Suitable nesting habitat is present for this species within vegetation along ditches and canals. There is one CNDDB reported occurrence for this species within a 5-mile radius of the Study Area, which is not a specific location. The record documents breeding in a canal along the edge of a wheat field in 1877 (CDFW 2024). |
| *Pandion haliaetus*<br>Osprey | --/--/WL | Present (nesting) | Suitable habitat is present for this in the Study Area. This species could nest on trees or structures throughout the Study Area. This species was observed in the Study Area on March 7, 2023, foraging over cropland. This species appeared to have captured a medium sized bird. |
| *Plegadis chihi*<br>white faced ibis | --/--/WL, NBHCP | Habitat present (foraging) | Nesting habitat for this species is not present in the Study Area. However, this species could forage in the Study Area as they are known to forage in agricultural fields. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Progne subis*<br>purple martin | --/--/SSC | Habitat present (nesting and foraging) | Suitable habitat is present for this species in the Study Area in tree cavities where large trees are present or in cavities of other artificial structures such as utility poles. There are several CNDDB reported occurrences for this species within a 5-mile radius of the Study Area. The nearest CNDDB record for this species is located 2.5 miles southeast of the Study Area and documents this species nesting in weep holes under the I-5 bridge in 2007 (CDFW 2024). |
| *Xanthocephalus xanthocephalus*<br>yellow-headed blackbird | --/--/SSC | Habitat present (nesting and foraging) | Nesting habitat for this species is not present in the Study Area. However, this species could forage in the Study Area as they are known to forage in agricultural fields. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| ***Mammals*** | | | |
| *Antrozous pallidus*<br>pallid bat | --/--/SSC | Habitat present (roosting and foraging) | Suitable habitat is present for this species in buildings, bridges, and tree hollows. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |

[1] Regulatory Status is FESA listing/CESA listing/Other state status. FE=Federal Endangered; FT = Federally Threatened; FPT=Federally Proposed Threatened; ST=State Threatened; FP=Fully Protected; SSC=Species of Special Concern; WL = Watch List.

[2] Status in the project site is based on results of studies discussed in Section 3.1.

# 5.0 RESULTS: EVALUATION OF POTENTIAL BIOLOGICAL RESOURCES IMPACTS

## 5.1 GUIDELINES FOR DETERMINING IMPACT SIGNIFICANCE

The following threshold criteria from the CEQA Appendix G Checklist were used to evaluate project-related potential effects on biological resources. Based on these criteria, the project would have a significant effect on biological resources if it would:

1) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS.

3) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

4) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

6) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

## 5.2 POTENTIAL FOR IMPACTS TO SPECIAL-STATUS SPECIES

### 5.2.1 Special-status Plants

According to the database query, 30 listed and/or special-status plant species have the potential to occur on or in the vicinity of the Study Area (CDFW 2024). Based on field observations, published information, and literature review, two special-status plants have the potential to occur within the Study Area: woolly rose mallow and Sanford's arrowhead. Many special-status plant species in the vicinity of the Study Area occur on alkaline soils, or in vernal pools or chenopod scrub, which are not present in the Study Area. The soils in the Study Area are primarily neutral to slightly acidic (NRCS 2024). Additionally, many species require seasonal wetland habitats such as vernal pools or wetland swales, which are also absent from the Study Area.

CNDDB reports no occurrences of any NBCHP Covered Plant Species within the Study Area (CDFW 2024), and no NBHCP covered plant species were observed within the 568.7 acres of lands surveyed by Bargas in 2019, 2020, or 2021 (Bargas 2019, 2020, and 2022). Agricultural habitat in the Study Area is temporarily created as a result of fallow agricultural fields that will likely not remain fallow and thus do

not represent a natural or permanent state, which generally does not provide habitat for special-status species. However, agricultural canals and ditches that support wetland vegetation year-round and are not subjected to the same stressors as agricultural fields could support species such as woolly rose mallow and/or Sanford's arrowhead. Sanford's arrowhead is known to occur in ditches and other disturbed wetland areas. One record of woolly rose-mallow is documented outside of the southeastern boundary of the Study Area in canals with wetland habitat (CDFW 2024).

#### 5.2.1.1 Woolly Rose-Mallow

##### Listing Status

Woolly rose-mallow is ranked by the California Native Plant Society (CNPS) as a California Rare Plant Rank (CRPR) 1B.2 (plants rare, threatened, or endangered in California and elsewhere).

##### Life History and Habitat Requirements

Woolly rose-mallow is a perennial, deciduous shrub in the Malvaceae family that is native to California but can also be found elsewhere in North America. The species blooms from June to September and grows to approximately four to six feet in height. The species occurs at elevations up to 400 feet in full sun to partial shade in freshwater marshes, swamps, wetland riparian, and wetland habitats in the Cascade Range Foothills, and the Sacramento and San Joaquin Valleys and can frequently be found on riverbanks and low peat islands in sloughs as well as in riprap on the side of levees (CNPS 2023). Observed species often associated with woolly rose-mallow include valley oak, red buckthorn (*Frangula rubra*), California wild rose (*Rosa californica*), pennyroyal *(Mentha pulegium*), poison oak (*Toxicodendron diversilobum*), California mugwort (*Artemisia douglasiana*), California grape (*Vitis californica*), curly dock (*Rumex crispus*), rough cocklebur (*Xanthium strumarium*), willow (*Salix* spp.), and blackberry (*Rubus* spp.) (Calflora 2024; eJepson 2024).

The plant is easily distinguishable in the field because it is tall and has a large, showy flower. Individual plants produce many shoots that grow one to two meters tall, emerging from a large, woody rootstock each spring. The plants are in bloom from June through September, and individual flowers are only open for a single day. Flowers are 10 to 15 centimeters in diameter and have five white or pale pink petals with a deep crimson center (Calflora 2024; eJepson 2024).

Woolly rose-mallow - known variously as the hairy- fruited hibiscus or rose-mallow - is a self-compatible rhizomatous perennial pollinated by bees. The reproductive structures of these flowers are found emerging from the center of the flower on a single stalk-like structure. The stamens are fused into a tube with numerous anthers that offer an abundance of pollen. The stalk ends with a branched style that supports five rounded stigmas. These flowers produce so much pollen that it often falls off the anthers and can be found resting in small piles on the lower petals. A characteristic that distinguishes this species from other hibiscus is its pubescent leaves and stems. The leaves are covered by soft, dense hairs on the upper and lower surfaces and are velvety to the touch. The degree of pubescence varies from flower to flower, but the velvety nature of the leaves can often be easily seen from a distance. The fruit is a capsule that is densely-hairy and contains many seeds. The capsule opens to reveal the seeds and remains on the plant through much of the dormant season (Calflora 2024; eJepson 2024).

### Regional and Local Distribution

There are 10 occurrences of woolly rose-mallow documented in the CNDDB within the nine-quad search area centered on the Study Area. All occurrences are believed to be extant populations. Woolly rose-mallow is threatened by habitat disturbance, development, agriculture, recreational activities, and channelization of the Sacramento River and its tributaries. Other threats include erosion and weed control measures and canal and ditch maintenance and/or elimination.

### Status in the Upper Westside Specific Plan

This species has not been documented in the Study Area but is documented within approximately 432 feet of the Study Area boundary. This species was not detected during multiple rounds of botanical surveys of accessible areas conducted during 2019 and 2020 during the blooming period for this species (Bargas 2020). However, most of the Study Area remains unsurveyed for this species. There is one record of this species within a 5-mile radius of the Study Area located on the eastern boundary of the Study Area along the Interstate 80 interchange. This record documents two plants observed in a ditch lacking freshwater marsh habitat and was documented with upland non-wetland vegetation. CDFW ranks the record as poor, which was documented by Caltrans in 1988 (CDFW 2024).

## Project Effects to Woolly Rose-mallow

### Habitat Loss, Fragmentation, and Reduction in Patch Size

The canals and ditches within the Study Area provide suitable habitat for this species. Although these canals and ditches are used and maintained for agricultural use, hydrophytic vegetation within the canals and ditches is consistent with vegetation that this species occurs with. No other suitable habitat wetland habitat is present in the Study Area.

### Construction-Related Activities

If some canals and ditches are avoided by the Project, there would be no potential for Project impacts to woolly rose-mallow associated with Project construction in those canals and ditches. For canals and ditches that will be developed or where Project activities will occur in the canals and ditches, impacts to this species could include loss of individuals or a population if it is present or indirect impacts to potential habitat through changes in hydrology or other changes to habitat.

## Overall Effects on Population Viability

Although the UWSP would reduce the overall acreage of potential wetland habitat that could support woolly rose-mallow in the Natomas Basin, overall, the effects of the proposed action on woolly rose-mallow should be minimal since wetland habitat in the Study Area is limited to agricultural canals and ditches, and there are no documented accounts of this species in the Study Area or in the Natomas Basin with the exception of the 1988 Caltrans account of this species in otherwise unsuitable habitat (CDFW 2024). The UWSP has proposed measures that minimize and mitigate the impacts from the Project on this species, such as requiring botanical surveys to be conducted timed to coincide with the blooming period for this species and coordination with CDFW to determine appropriate mitigation in the event that wooly rose-mallow is present and will be impacted by the proposed action. Therefore, the proposed action is minimized and unlikely to affect the survival of the woolly rose-mallow in the Basin if

it is present. The mitigation measures identified in Section 6 of this document would reduce impacts to this species to less than significant.

#### 5.2.1.2 Sanford's Arrowhead

##### Listing Status

Sanford's arrowhead is ranked by the CNPS as a CRPR 1B.2.

##### Life History and Habitat Requirements

Sanford's arrowhead is a perennial, rhizomatous herb in the Alismataceae family that is native to California and is extirpated from southern California and nearly extirpated from the Central Valley (CNPS 2024). The species blooms from May to October. The species occurs at elevations up to 650 meters in freshwater marshes, swamps, and assorted freshwater wetlands, including ditches that support wetland habitats (CNPS 20234).

Sanford's arrowhead characteristic that distinguishes this species from other species of the genus is the fruit is oil-streaked on the side with an erect beak of 0.2 mm to 0.6 mm, and papillate filaments on the staminate flower (eJepson 2024).

##### Rangewide and Local Distribution

There are 26 occurrences of Sanford's arrowhead documented in the CNDDB within the nine-quad search area centered on the Study Area. There are two CNDDB reported occurrences within a 5-mile radius of the Study Area. The nearest record documents this species 3.1 miles east of the Study Area; this record documents two populations observed in Arcade Creek and a shallow ditch in 2011 (CDFW 2024).

Sanford's arrowhead is threatened by grazing, development, agriculture, recreational activities, non-native plants, road widening, and channel alteration and maintenance. Other threats include erosion and weed control measures and canal and ditch maintenance and/or elimination.

##### Status in the Upper Westside Specific Plan

This species has not been documented in the Study Area. This species was not detected during multiple rounds of botanical surveys of accessible areas within the Study Area conducted during 2019 and 2020 during the blooming period for this species (Bargas 2020). However, most of the Study Area remains unsurveyed for this species.

##### Project Effects to Sanford's Arrowhead

##### Habitat Loss, Fragmentation, and Reduction in Patch Size

The canals and ditches within the Study Area provide suitable habitat for this species. Although these canals and ditches are used and maintained for agricultural use, hydrophytic vegetation within the canals and ditches is consistent with vegetation that this species occurs with. No other suitable habitat wetland habitat is present in the Study Area.

### Construction-Related Activities

If some canals and ditches are avoided by the Project, there would be no potential for Project impacts to Sanford's arrowhead associated with Project construction in those canals and ditches. For canals and ditches that will be developed or where Project activities will occur in the canals and ditches, impacts to this species could include loss of individuals or a population if it is present or indirect impacts to potential habitat through changes in hydrology or other changes to habitat.

### Overall Effects on Population Viability

Although the UWSP would reduce the overall acreage of potential wetland habitat that could support Sanford's arrowhead in the Natomas Basin, overall, the effects of the proposed action on Sanford's arrowhead should be minimal since wetland habitat in the Study Area is limited to agricultural canals and ditches and there are no documented accounts of this species in the Study Area or in the Natomas Basin. The UWSP has proposed measures that minimize and mitigate the impacts such as requiring botanical surveys timed to coincide with the blooming period for this species and coordination with CDFW to determine appropriate mitigation in the event that Sanford's arrowhead is present and will be impacted by the proposed action. Therefore, the proposed action is minimized and unlikely to affect the survival of the Sanford's arrowhead in the Basin if it is present. The mitigation measures identified in Section 6 would reduce impacts to this species to less than significant.

## 5.2.2 Special-status Wildlife

According to the database query, 45 listed and/or special-status wildlife species have the potential to occur on-site or in the vicinity of the Study Area (CDFW 2024 and USFWS 2024). Based on field observations, published information, and literature review, 15 special-status wildlife species have the potential to occur within the Study Area: VELB, WPT, GGS, Cooper's hawk, TRBL, BUOW, SWHA, northern harrier, white-tailed kite, loggerhead shrike, Modesto song sparrow (*Melospiza melodia*), osprey, purple martin (*Progne subis*), yellow-headed blackbird (*Xanthocephalus xanthocephalus*), and pallid bat (*Antrozous pallidus*). These species are discussed in more detail below. In addition to these special-status wildlife species, nesting birds and raptors protected under federal, State, and local laws/policies also have the potential to occur within the Study Area.

## 5.2.3 Special-status Invertebrates

### 5.2.3.1 Valley Elderberry Longhorn Beetle

#### Listing Status

VELB is listed as Threatened by the USFWS.

#### Life History and Habitat Requirements

VELB has a four-stage life cycle (egg, larva, pupa, and adult) centered on the subspecies' host plant. Adult beetles are active - feeding and mating - from March until June. After mating, eggs are deposited on live elderberry bushes in crevices of the bark, stem/trunk junctions, and/or stem/petiole junctions. Post-hatching, larvae bore through the bark into the pith of the stem where they create a feeding gallery and eat for up to two years (Lang et al. 1989; Halstead and Oldham 1990; Woollett 2004). Elderberry stems hosting VELB larvae must be ≥1 inch in diameter at ground level to facilitate the completion of the

VELB life cycle. Prior to pupation, larvae chew through the bark of the stem (thereby creating the "exit hole") and then return to the feeding gallery, closing the exit hole. The larvae then enter the pupal stage. After transformation, the adult beetle breaks through the frass plug at the exit hole. The adult beetle lives for only a few weeks during spring (Eng et al. 1984; Collinge et al. 2001; Talley *et al.* 2006, 2007).

VELB is a native subspecies endemic to the Central Valley of California. The species is a riparian forest specialist in the valley and is typically found in riparian habitat, but only where the host plant, blue and/or red elderberry (*Sambucus* spp.), is present. Leaves and flowers of the elderberry provide food for the adult beetle while the interior pith of elderberry stems and roots provide food and shelter for the developing larvae (Barr 1991). In the Central Valley, the elderberry shrub is associated with riparian forests which occur along rivers and streams (Eng et al. 1984).

### Population Dynamics, Dispersal, and Detectability

Linsley and Chemsak (1972) suggested that VELB populations might have always been relatively small due to the species' specialized life history and restricted distribution. Presence of this subspecies is difficult to detect, as inhabitance within an elderberry shrub is rarely visibly apparent. Frequently, the only exterior evidence of the shrub's use by the species is an exit hole created by the larva just before the pupal stage (Halstead and Oldham 1990; Talley et al. 2006). As occupancy is cryptic – so much so that populations cannot be surveyed or censused directly – local abundance of shrubs has served as a surrogate metric.

In a study of regional- and local-scale occurrences of VELB in Central California, Collinge et al. (2001) found that patterns of VELB colonization of isolated sites or drainages is constrained by limited dispersal. Increased local population size of beetles was associated with higher elderberry density and the presence of larger, more mature plants (Talley et al. 2006). Surveys conducted throughout the known VELB range in 1991 and 1997 indicated that only 25 percent of apparently suitable sites were inhabited (Barr 1991; Collinge et al. 2001), strongly suggesting that factors beyond host plant abundance influence site selection.

### Rangewide and Local Distribution

Originally described by Fisher (1921), this subspecies is believed to have historically occurred as small populations in elderberry thickets along river margins within an approximately 190-mile x 65-mile area restricted to the lower Sacramento and upper San Joaquin Valleys, (Linsley and Chemsak 1972). Recent surveys have revealed the subspecies to persist only in scattered localities along the Sacramento, American, San Joaquin, Kings, Kaweah, and Tule rivers and their tributaries (Linsley and Chemsak 1972; Barr 1991). Barr's survey (1991), indicates that VELB's current, known geographic distribution reaches from Redding, CA at the northern end of the Central Valley to approximately 445 miles south to the Bakersfield area. In all reported studies, the majority of occupied sites are located near the geographic range centered along the Sacramento River (Barr 1991).

### Status in the Upper Westside Specific Plan

There are two occurrences of VELB documented within the Natomas Basin, approximately 0.2 mile southeast of the Study Area. Blue elderberry, a host plant for this subspecies, occurs in riparian areas along the Sacramento and American Rivers bordering the basin, but this host plant does not occur in the clay soils that dominate most of the central and northern basin. However, the Study Area consists of

loamy soils that are suitable for elderberry shrubs. However, isolated blue elderberry shrubs are known to grow in alluvial soils along the western edge of the Natomas Basin. Elderberry shrubs that could support VELB were not observed within the 568.7 acres of lands surveyed by Bargas in 2019, 2020 or 2021 (Bargas 2019, 2020, 2022), and HELIX 2023; however, other suitable habitat was not directly accessible to HELIX in 2023 and valley oak woodland habitat that could support VELB host elderberry shrubs was not thoroughly searched for this species to definitively determine if elderberry shrubs are present within the Study Area.

## Project Effects to Valley Elderberry Longhorn Beetle

### Habitat Loss, Fragmentation, and Reduction in Patch Size

Currently, VELB habitat is present in the Natomas Basin primarily in the form of valley oak woodland that could provide habitat for elderberry shrubs. The Study Area is a partially fragmented, somewhat isolated patch of agricultural land surrounded on the eastern, northeastern, and southeastern proposed boundaries by the dense urban environs of the City of Sacramento. The western boundary of the Study Area abuts Garden Highway, which parallels the Sacramento River. The western portion (approximately 0.75 mile) of the northern boundary abuts TNBC preserve lands, whereas the remaining eastern portion of the northern boundary (approximately 0.75 mile) abuts the City of Sacramento and intersects with I-5. For VELB, a species that requires riparian habitat or oak woodland corridors for dispersal, the Study Area is essentially located on the edge of suitable habitat along the Sacramento River.

### Habitat Connectivity

The Study Area has very limited habitat for VELB, and the Study Area essentially occurs along the edge of riparian habitat located along the banks of the Sacramento River, where this species has been documented recently (CDFW 2024). Since valley oak woodland habitat is essentially connected to the riparian habitat along the Sacramento River, VELB could occupy the Study Area in suitable habitat if elderberry shrubs are also present. Construction of the project will preserve most valley oak habitat in its current condition as it is currently mapped as agricultural residential by the UWSP, and on the edge of the project footprint. Once constructed, the Study Area will still have a similar connectivity to suitable habitat outside the Study Area.

### Construction-Related Activities

Construction activities associated with the proposed development in the Study Area or construction of the proposed reserve sites could disturb elderberry shrubs that provide habitat for VELB. If present during construction, VELB in the Study Area may be injured or killed by construction-related activities, including ground-disturbing activities, equipment use, and/or construction of structures and infrastructure. Construction-related activities could result in indirect effects that would include the removal of elderberry shrubs with stems less than one inch in diameter at ground level. When development activities occur, these shrubs will not be considered suitable beetle habitat (because their stems are not yet large enough) and will, therefore, not be protected. Left alone, they would presumably grow to become suitable beetle habitat. Construction activities would preclude these shrubs from becoming suitable habitat for VELB (City of Sacramento et al. 2003). The UWSP has proposed measures that minimize and mitigate the impacts, such as requiring mitigation for shrub impacts or removal according to the USFWS's Beetle Guidelines.

### Overall Effects on Population Viability

Although the UWSP may reduce the overall acreage of woodland habitat that could support elderberry shrubs that provide habitat for VELB in the Natomas Basin, overall, the effects of the proposed action on the beetle should be minimal. There are few elderberry shrubs in the Basin, limited areas where elderberry shrubs would be likely to occur, and the VELB has never been observed in the Basin. The UWSP has proposed measures that minimize and mitigate the impacts, such as requiring mitigation for shrub impacts or removal according to the USFWS's Beetle Guidelines. Therefore, the proposed action is minimized and unlikely to affect the survival of the VELB in the Basin. Furthermore, because of the proposed action's minimal effects on VELB and the Basin represent only a small portion of VELB's current range, the proposed action is not likely to affect the survival or recovery of the species overall (City of Sacramento *et al*. 2003). The mitigation measures identified in Section 6 would reduce impacts to this species to less than significant.

## 5.2.4 Special-status Reptiles

### 5.2.4.1 Giant Garter Snake

#### Listing Status

GGS is listed as Threatened under CESA by CDFW and is federally listed as a Threatened species under the FESA by the USFWS.

#### Life History and Habitat Requirements

GGS is sexually dimorphic in size, as females are both longer and heavier than males. Females reach an average of 2.3 feet in length, with males reaching an average of 1.9 feet in length (Wylie et al. 2010). GGS mating primarily occurs in spring from March to May, with males searching for mates immediately upon emergence from brumation. GGS females are live-bearing and give birth to a range of 10 to 46 young between mid-June and early October (Hansen and Hansen 1990; Halstead et al. 2011), with a mean parturition date in mid-August in the Sacramento Valley (Halstead et al. 2011).

GGS is active from late March–early October (Wylie et al. 2009) and feeds primarily on aquatic prey such as small fish, frogs, and tadpoles (Rossman et al. 1996). Specific prey includes larvae and small adults of American bullfrogs (*Lithobates catesbeianus*) and all life stages of Sierran treefrogs (*Pseudacris sierra*). Fish prey includes smaller fish species, such as mosquitofish (*Gambusia affinis*) and small cyprinid (*Cyprinidae* spp.) and centrarchid (*Centrarchidae* spp.) fishes. Little is known about the diet of juvenile GGS.

GGS is endemic to freshwater marshes, sloughs, and marsh-like habitats with mud bottoms in California's Central Valley and is one of the most aquatic of the garter snakes occupying a niche like that of water snakes (i.e., rarely found away from water and forages for aquatic prey). Ninety percent of the species' tule marsh habitat has been lost or irrevocably altered; thus, GGS is listed as threatened at the state and federal level. Although the species is extirpated from most of the southern part of its former range, GGS persists in the Sacramento Valley in remnant marshes and sloughs and rice-growing agricultural habitats (Halstead *et al.* 2010). Rice fields function as emergent wetlands for a part of the GGS active season.

GGS habitat is typically treeless (Hansen 1980, 1986; Hansen and Brode 1980) and low in elevation with occupied habitat at 10 to 40 ft above mean sea level in the Sacramento area (Hansen 1986). GGS occurs in aquatic habitats where emergent vegetation, such as tules and cattails serve as cover, with decumbent tules serving as important basking sites that also provide quick escapes into the water below (Van Denburgh and Slevin 1918; Fitch 1940; Hansen 1986, 1988). Where both tules and cattails occur, GGS displays a preference for dense stands of perennial tules as basking sites. GGS is only occasionally found in slow-moving creeks (Hansen and Brode 1980; Hansen 1986; Halstead et al. 2015) and is absent from large rivers or bodies of water with little vegetation (Hansen 1986). Cover, in the form of vegetation, debris, or burrows, is a necessary component of GGS habitat (Hansen 1986; Wylie 1998). GGS can be found in canals and drainages associated with rice fields of the Central Valley (Hansen 1988).

Regardless of habitat type, GGS is typically found close to the water's edge, except in late autumn or early spring, when individuals can travel as much as 600 feet to reach the high-water line to avoid flooding during brumation[3]; however, brumation sites near active-season marsh habitat is preferred (Hansen 1986; Wylie 1998). During the inactive season from approximately November to mid-March, GGS brumates in muskrat, crayfish, or ground squirrel burrows (Hansen 1980), or riprap (Wylie et al. 2003) located on sunny aspects along south- or west-facing slopes.

### Population Dynamics, Dispersal, and Detectability

Nearly all natural freshwater marsh habitat in the Sacramento Valley has been eliminated through habitat alteration and conversion to agriculture (Frayer *et al*. 1989; Garone 2007); however, rice agriculture and its supporting network of irrigation and drainage canals, as well as the fairly recent restoration of marsh habitats, provide suitable habitat (Halstead *et al.* 2010). GGS has not been able to disperse into all suitable habitats and is largely restricted to areas near locations where the species likely was historically abundant. It is possible that locations at which GGS were extirpated did not have a nearby source of dispersing individuals to recolonize the remaining (or created) habitat (Halstead *et al.* 2015).

### Rangewide and Local Distribution

Historically GGS occurred from Butte County in the north to Kern County in the south (Fitch 1940; Hansen and Brode 1980). The draining of wetlands and subsequent urban and agricultural development contributed to the loss of more than 90 percent of wetlands in the Central Valley (Frayer et al. 1989). The few remaining natural wetlands are fragmented, and the natural cycle of seasonal valley flooding by High Sierra snowmelt has been limited, as water is presently diverted by a network of dams and levees. As a result, GGS populations have become fragmented, with only small, isolated populations remaining in the Sacramento and San Joaquin Valley. This species is documented within the northern portion of the Study Area in West Drainage Canal and is well documented in the surrounding areas (CDFW 2024).

### Status in the Upper Westside Specific Plan

Herpetologist Eric Hansen completed a two-year protocol GGS trapping and eDNA study in 2019 and 2020. Surveys were conducted between Del Paso Road to the north, El Centro Road to the east, Interstate 80 to the south, and Garden Highway (Sacramento River) to the west. Environmental DNA (eDNA) is DNA that is released, sloughed off, or expelled from an organism as it interacts with the environment and is accumulated in the organism's environmental surroundings. Sources of eDNA

[3] Torpor – not actual hibernation.

include (e.g., secreted feces, urine, mucous, shed skin, scales, hair, and carcasses). eDNA can be collected from a variety of environmental samples, such as soil, water, snow, or air, rather than directly sampled from an individual organism. Sampling for eDNA most commonly occurs in aquatic environments and is typically conducted by filtering large amounts of water to collect organic material on a filter apparatus. In the terrestrial environment, soil samples are collected from areas specifically identified as potentially suitable for a target group of organisms. Analyses of collected organic material is completed in a laboratory where results are compared to known DNA sequences housed in large databases collectively referred to as genetic banks (Dejean et al. 2011).

GGS eDNA was detected over two years in three locations outside of the Study Area and one location in the central portion of the Study Area. Intensive sampling efforts (40,703 total trap days) were accompanied by a high catch of valley garter snake (*Thamnophis sirtalis fitchi*) but no captures of GGS (Bargas 2022). This species has also been documented in the northern portion of the Study Area in West Drainage Canal, for a total of two occurrences in the Study Area. The West Drainage Canal occurrence data states GGS were detected in the canal and Fishermen's Lake in the 1970s, 1980s, 1990s, and from 2004 to 2016, but does not identify ongoing surveys post-2016 (CDFW 2024). Canals, ditches, and associated upland refugia within the Study Area are considered suitable GGS habitat. Approximately 22 acres of suitable aquatic habitat, 72.4 acres of suitable undisturbed upland habitat, and 396 acres of disturbed suitable upland habitat for GGS are present in the Study Area.

### Project Effects to Giant Garter Snake

#### Habitat Loss, Fragmentation, and Reduction in Patch Size

Currently, aquatic habitat is present in the Natomas Basin and within the Study Area primarily in the form of irrigation canals and ditches. Upland habitat is present along the upland margins of canals and ditches. Agricultural lands are subjected to routine disturbances from agricultural practices and likely do not provide suitable upland refuge sites for this species. However, the canals and ditches are typically not subjected to the same level of disturbance as the agricultural croplands from harvesting activities.

The Study Area is a partially fragmented, somewhat isolated patch of agricultural land surrounded on the eastern, northeastern, and southeastern proposed boundaries by the dense urban environs of the City of Sacramento. The western boundary of the Study Area abuts Garden Highway, which parallels the Sacramento River. The western portion (approximately 0.75 mile) of the northern Study Area boundary partially abuts Cummings Preserves, the TNBC abuts the City of Sacramento, where it intersects with I-5. A small section of the northern portion of the Study Area intersects with West Drainage Canal at the intersection of El Centro Road. For GGS, a highly mobile aquatic species, the majority of the Study Area is essentially a dead-end as it is cutoff from potentially suitable GGS habitat to the south, east, and west; however, it is still accessible potential habitat if GGS enter the Study Area from the occupied areas north of the Study Area or through the West Drainage Canal.

#### Water Quality and Runoff

Aquatic communities may be greatly affected by surrounding land use. Urban areas can cause different and, in some cases, stronger effects than agricultural lands (Bury 1972b; Moore and Palmer 2005). Residential developments typically result in increased runoff of hydrocarbons and pesticides, fertilizers, and/or herbicides used for lawns and gardens, and increased stormwater volume (and associated increases in depths and velocities) because of high coverage of impervious surfaces. Significant impacts

to amphibian communities that are prey items for species, such as GGS, have been shown to occur because of exposure to herbicides, fertilizers, and/or pesticides (Sparling et al. 2010; Elliott et al. 2011). Aquatic habitat adjacent to the northwestern portion of the Study Area could be impacted by urban landscaping practices.

## Habitat Connectivity

The majority of the Study Area is essentially a dead-end as it is cutoff from potentially suitable GGS habitat to the south, east, and west as described above. Currently, there is no evidence of GGS utilizing the interior aquatic features within the Study Area for breeding and little evidence that GGS regularly forages in the Study Area as no GGS have been live trapped in the Study Area despite three years of efforts. The West Drainage Canal is hydrologically connected to Fisherman's Lake where GGS is known to occur. GGS have been previously documented in the West Drainage Canal within the northern portion of the Study Area. It is unclear if the surveys supporting this documentation continued past 2016 (and no detections occurred) or if the surveys simply ceased in 2016.. Construction of the Study Area will remove the irrigation canal system currently in place in the Study Area, and will retain a few isolated recreational water features as part of the planned design. Once constructed, the majority of the Study Area will have no aquatic connectivity to aquatic habitat outside the Study Area. The area of impacts within West Drainage Canal are considered temporary, and the habitat will remain hydrologically connected to Fisherman's Lake after culvert replacement. The Project Proponent/Permittee proposes the identification and creation of Off-Site Reserves of sufficient quality and quantity to offset all potential impacts to suitable habitat for GGS to be determined in consultation with local, state, and federal regulatory agencies. A particularly important benefit of habitat preservation in the agricultural Natomas Basin is that it ensures suitable habitat will always be available, which acts as a buffer against the year-to-year fluctuations in habitat availability based on the agricultural practices around growing rice.

## Construction-Related Activities

Construction activities associated with the development of the Study Area and future reserves could potentially affect GGS individuals and/or habitat. If present during construction, GGS in the Study Area or reserve, may be injured or killed by construction-related activities, including ground-disturbing activities, equipment use, and/or construction of structures and infrastructure. GGS could be killed or injured by vehicle strikes (Leidy 1992), crushed beneath heavy machinery, and/or entombed in or excavated from their winter retreats (Wylie and Casazza 2000). Individuals may be indirectly impacted during construction as a result of increased levels of fugitive dust, sedimentation, harmful substances, or waterborne contaminants.

## Overall Effects on Population Viability

Due to the presumed infrequent use of the Study Area by foraging GGS and the Study Area's geographic location surrounded on three sides by barriers to more suitable habitat, the loss of habitat in the Study Area would not adversely affect GGS, and the overall effect of the Study Area on population viability would be minimal. The area of impacts within West Drainage Canal are considered temporary, and the habitat will remain hydrologically connected to Fisherman's Lake after culvert replacement. Impacts to individual GGS that may be present in this area during culvert replacement will be avoided/minimized through the measures outlined in MM BIO-3a in Section 6.3 of this report. Historically a freshwater marsh-dwelling species - GGS, is now largely reliant on the artificial environs of rice farming. The reliance

on artificial habitats, such as rice fields, is not a long-term solution for population viability of the species as agriculture fluctuates annually and agricultural lands are frequently sold for urban development. Although some potentially suitable habitat will be lost because of the construction of the Study Area proposed development, the outcome of that development will be the procurement of additional reserves of natural habitat for GGS. Habitat preservation ensures that suitable aquatic habitat and upland hibernacula will remain in perpetuity for the benefit of GGS. GGS will benefit from the addition of new lands connected to the existing TBNC preserve system that will be acquired to mitigate for the loss of habitat in the Study Area.

Habitat enhancement, connectivity, and preservation contribute to population viability by reducing the level of human disturbance and proximity to activities that could harm or kill GGS. Habitat enhancement and management also reduce or eliminate agricultural activities that can harm or kill GGS or their amphibian prey base. In addition, the preservation and enhancement of GGS habitat will result in larger blocks of connected aquatic habitat, providing a mechanism for some genetic exchange between GGS in different parts of its current range. Larger blocks of connected aquatic habitat also reduce the potential for GGS to attempt road crossings, which results in increased mortality (Bonnet et al. 1999; Rosen and Lowe 1994). Final habitat acreages, mitigation ratios, and other project-specific compensatory mitigation requirements shall be determined through consultation between USACE/USFWS/CDFW as part of the required project-specific regulatory permitting processes, currently anticipated to consist of Section 404 Authorization/FESA Section 7 Consultation/CDFW Streambed Alteration Agreement and 2081 Incidental Take Permit. Implementation of mitigation measures provided in Section 6 would reduce impacts to this species to less than significant.

#### 5.2.4.2 Western (Northwestern) Pond Turtle

##### Listing Status

WPT is a CDFW Species of Special Concern and a proposed as threatened species under the FESA.

##### Life History and Habitat Requirements

WPT is California's only native aquatic turtle. The species is diurnal and typically active from February through November, depending on the temperature of the habitat. WPT overwinters in either aquatic or terrestrial habitat, with individuals in more northern areas typically overwintering on land. Overwintering sites are located in loose soil and leaf litter above the high-water mark. In aquatic habitats, WPT will overwinter in undercut banks, soft riparian substrates, or submerged snags (Reese 1996). WPT emerge from underground refugia when temperatures warm up enough for them to become active. WPT will emerge from creeks when heavy winter flows occur but will return in spring when the winter high-volume runoff subsides. Some WPT will estivate during hot dry summer droughts by burying themselves in the soft bottom mud of a pond or creek, relying on cloacal respiration. When creeks and ponds dry up in summer, some WPT will travel upstream along the creek until they find an isolated deep pool, whereas other individuals stay within moist mats of algae in shallow pools (Ernst et al. 1994; Germano and Rathbun 2008; Scott et al. 2008).

WPT is a long-lived species that does not reach reproductive age until approximately 8 to 10 years of age. Mating occurs in April and May with nesting occurring between late April and August. Females climb out of their aquatic habitat to select nest sites in soft, loose soils or sand located 100 to 500 meters from the water body. Clutch sizes range from 1 to 13 eggs that are deposited in the excavated

nest and covered over with soil. The eggs hatch in the fall and often hatchlings will remain in the nest living off the yolks and emerging in spring (Stebbins and McGinnis 2012).

WPT is an opportunistic omnivore and will consume a variety of small aquatic invertebrates (including insects, crustaceans, and mollusks) algae and other plant material, and even carrion and small vertebrates (Bury 1986).

WPT occurs in a broad range of aquatic water bodies including flowing rivers and streams, permanent lakes, ponds, reservoirs, settling ponds, marshes, and other wetlands, and will also temporarily use semipermanent or ephemeral water bodies, including stock ponds, vernal pools, and seasonal wetlands (Ernst et al. 1994; Bury and Germano 2008; Stebbins and McGinnis 2012;). This species will also (at least occasionally) enter sea water (Stebbins 1954; Holland 1989). The species is uncommon in high-gradient streams.

Water bodies with submergent vegetation such as pondweed (*Potamogeton* spp., *Stuckenia* spp.) or ditch-grass (*Ruppia maritima*) are especially favorable habitat, probably because this vegetation traps surface water and thus maintains relatively high water temperatures. The species also requires unshaded upland habitat with clay, sand, or silt substrate, typically on a slope, relatively near the water body for nesting and egg-laying. WPT is often found basking on rocks or logs during the daytime, while spending the night hibernating on the water bottom. Populations north of Shasta County spend the winter months, typically November to April, estivating in the muddy bottoms of stream pools. WPT south of Shasta County, however, may be active during all months of the year. During times of drought in the drier parts of California, the species is known to estivate in the soft bottoms of streambeds (Jennings and Hayes 1994).

### Population Dynamics, Dispersal, and Detectability

WPT was formerly abundant throughout much of California. As Bogert reported in 1930, the species was "common in larger streams along the coast and in many of the marshes adjacent to the coast," and many of these habitats still support relatively large populations (Jennings and Hayes 1994; Germano and Rathbun 2008; Thomson et al. 2016). Populations that remain in the Central Valley are smaller and more fragmented than they once were, due to the large-scale land conversion that occurred in this area beginning in the 1860s.

Pilliod et al. conducted a study of pond-dwelling WPT movements on the Carrizo Plain using radio-tracking techniques and found that most WPT spent over half of each year on land traveling from 800 to 3,600 feet but found that none of the WPT dispersed further than 1,100 feet from ponds (Pilliod et al. 2013). In some stream and river WPT populations, males and females leave the water for months each year and travel hundreds of meters into upland habitats (Reese and Welsh 1997; Bury and Germano 2008). Overwintering WPT are consistently found in shallow surface depressions within, and sometimes covered, by litter and duff (Reese and Welsh 1997).

### Rangewide and Local Distribution

WPT occurs mostly in Pacific slope drainages, in Washington, Oregon, California, and northern Baja California from sea level to 6,840 feet. The species occurs or historically occurred, throughout cismontane California, with isolated occurrences also in northeastern California and, in the southern deserts, along the Mojave River as far downstream as Afton Canyon, San Bernardino County, and in Andreas Canyon, Riverside County (Jennings and Hayes 1994; Thomson et al. 2016).

Large, relatively intact populations still exist in northern California throughout large areas of the Coast Range and the Sierra Nevada foothills, although agriculture and habitat modification have destroyed large areas of riparian and wetland habitat in the Sacramento Valley that almost certainly supported large populations of this species in the past. Scattered populations remain throughout the Sacramento Valley, but the extensive marsh habitat that dominated much of the valley floor has been largely drained and converted to agriculture. Kelly et al. (2005) estimated that the extent of wetland habitat in the Central Valley has declined by approximately 80 percent since the 1860s when large-scale land conversion began, which undoubtedly eliminated many WPT populations.

### Status in the Upper Westside Specific Plan

WPT is found in many of the Natomas Basin's aquatic habitats, particularly in the larger irrigation and drainage canals. There are previously recorded occurrences of this species within the database search area (Bargas 2022, CDFW 2024). There are no CNDDB records of WPT within the Study Area; however, this highly mobile species may occur within any of the aquatic features present within the Study Area. This species was frequently observed along the Natomas Main Drainage Canal, which is adjacent to the northeastern Study Area border, during NBHCP habitat mapping surveys (City of Sacramento *et al.* 2003). Habitat suitable for WPT within the Study Area is considered to be canals and associated upland refugia along the canals and ditches.

### Habitat Loss, Fragmentation, and Reduction in Patch Size

Currently, aquatic and upland habitat for WPT is present in the Natomas Basin primarily in the form of irrigation canals and ditches and associated uplands. The majority of the Study Area is a partially fragmented, somewhat isolated patch of agricultural land surrounded on the eastern, northeastern, and southeastern proposed boundaries by the dense urban environs of the City of Sacramento. The western boundary of the Study Area abuts Garden Highway which parallels the Sacramento River. The western portion (approximately 0.75 mile) of the northern boundary abuts TNBC preserve lands whereas the remaining eastern portion of the northern boundary (approximately 0.75 mile) abuts the City of Sacramento where it intersects with I-5. However, the presence of I-5 and the Garden Highway or I-80 are incomplete barriers for this species. The Garden Highway is a busy two-lane highway with periods of low traffic that will not completely inhibit dispersal of WPT using the Sacramento River and the banks of the levees. Additionally, the West Drainage Canal provides abundant habitat along the northern and eastern boundaries of the Study Area, as well as a small section of the Canal that is within the Study Area. The West Drainage Canal is a warmwater habitat feature with emergent vegetation and basking sites that likely provide ideal habitat conditions for this species. Canals and ditches are within upland dispersal ranges of WPT and WPT are likely to disperse throughout the Study Area via irrigation canals and ditches.

### Water Quality and Runoff

Aquatic communities may be greatly affected by surrounding land use. Urban areas can cause different and, in some cases, stronger effects than agricultural lands (Bury 1972; Moore and Palmer 2005). Residential developments typically result in increased runoff of hydrocarbons and pesticides, fertilizers, and/or herbicides used for lawns and gardens, and increased stormwater volume (and associated increases in depths and velocities) because of high coverage of impervious surfaces. Significant impacts to amphibian communities that are prey items for species such as WPT, have been shown to occur because of exposure to herbicides, fertilizers, and/or pesticides (Sparling et al. 2010; Elliott et al. 2011).

Aquatic habitat adjacent to the northwestern portion of the Study Area could be impacted by urban landscaping practices.

### Habitat Connectivity

The majority of the Study Area is essentially a dead-end for this species as it is cut off from potentially suitable WPT habitat to the south, east, and west as described above. Construction of the Study Area will remove the irrigation canal system currently in place in the interior Study Area and will create a few isolated recreational water features as part of the planned design. Once constructed, the majority of the Study Area will have no aquatic connectivity to aquatic habitat outside the Study Area. The Project Proponent/Permittee proposes the identification and creation of Off-Site Reserves of sufficient quality and quantity to offset all potential impacts to suitable habitat for WPT to be determined in consultation with local, state, and federal regulatory agencies. A particularly important benefit of habitat preservation in the agricultural Natomas Basin is that it ensures habitat will always be available ensuring a buffer is in place against the year-to-year fluctuations in habitat availability based on the agricultural practices around growing rice.

### Construction-Related Activities

Construction activities associated with the development of the Study Area and future reserves could potentially affect WPT individuals and/or habitat. If present during construction, WPT in the Study Area or reserve, may be injured or killed by construction-related activities, including ground disturbing activities, equipment use, and/or construction of structures and infrastructure. WPT could be killed or injured by vehicle strikes (Leidy 1992) or crushed beneath heavy machinery (Wylie and Casazza 2000) if adults are in the upland area attempting to lay eggs in nests within the terrestrial habitat adjacent to aquatic habitat. Individuals may be indirectly impacted during construction as a result of increased levels of sedimentation or waterborne contaminants. The mitigation measures identified in Section 6 would reduce impacts to this species to less than significant.

### Overall Effects on Population Viability

Due to the Study Area's geographic location surrounded on three sides by barriers, the loss of habitat in the Study Area would not adversely affect WPT, and the overall effect of the UWSP on population viability would be minimal. The area of impact within West Drainage Canal is considered temporary, and the habitat would remain hydrologically connected to Fisherman's Lake after culvert replacement. Impacts to individual WPT that may be present in this area during culvert replacement would be avoided/minimized through the measures outlined in MM BIO-3a and MM BIO-4a in Section 6.3 of this report. WPT in the Natomas Basin, is now largely reliant on the artificial environs of rice farming and the irrigation systems in place to subsidize rice farming. The reliance on artificial habitats such as rice fields is not a long-term solution for population viability of the species as agriculture fluctuates annually and agricultural lands are frequently sold for urban development. Although some potentially suitable habitat will be lost as a result of the construction of the UWSP proposed development, the outcome of that development will be the procurement of additional reserves for GGS that will also benefit WPT. Habitat preservation ensures that suitable aquatic habitat and upland nesting habitat will remain in perpetuity for the benefit of WPT. WPT will also benefit from the addition of new lands connected to the existing TBNC preserve system that will be acquired to mitigate for the loss of habitat in the Study Area.

Habitat enhancement, connectivity and preservation contribute to population viability by reducing the level of human disturbance and proximity to activities that could harm or kill WPT. Habitat enhancement and management also reduces or eliminates agricultural activities that can harm or kill WPT. In addition, the preservation and enhancement of GGS habitat will result in larger blocks of connected aquatic habitat, which will also benefit WPT. Larger blocks of connected aquatic habitat will also reduce the potential for WPT to attempt road crossings which result in increased mortality (Rosen and Lowe 1994; Bonnet et al. 1999).

Final habitat acreages, mitigation ratios, and other project-specific compensatory mitigation requirements shall be determined through consultation between USACE/USFWS/CDFW as part of the required project-specific regulatory permitting processes, currently anticipated to consist of Section 404 Authorization/FESA Section 7 Consultation/CDFW Streambed Alteration Agreement and 2081 Incidental Take Permit.

## 5.2.5 Special-status Birds

### 5.2.5.1 Cooper's Hawk

#### Listing Status

Cooper's hawk is listed as Watch List species by CDFW. Cooper's hawk is not a Covered Species under the NBHCP.

#### Life History and Habitat Requirements

Cooper's hawk is a slender and medium-sized hawk, with a short wingspan and a long tail enabling this hawk to be highly maneuverable in woodland habitats. The long tail shows a very distinctive white rump patch prominently displayed during flight. Primary foraging and breeding habitat include dense woodlands such as live oak, riparian or deciduous habitats including patchy woodlands. This species will also forage and nest in landscaped or urban areas. While hunting, Cooper's hawk pursues small birds and small mammals which it will catch in the air or on the ground. Pursuit will occur through dense woodlands, through branches and sometimes Cooper's hawk will pursue prey on the ground through dense shrubs (Zeiner et al. 1990). Prey may also include amphibians, and reptiles.

Nesting occurs on deciduous trees from 10 to 80 feet above the ground. This species may also nest in conifers, and the nest consists of a stick platform nest placed in the crotch of the tree near streams (Zeiner et al. 1990). Breeding occurs from March to August. A nest will consist of a single brood of between two and six eggs. The female incubates the eggs while the male provides food. Fledging occurs approximately 34 days post-hatching.

#### Population Dynamics, Dispersal, and Detectability

Many populations in California are resident, but some northern populations migrate to California or to lower elevations from areas that receive heavy snow (Zeiner et al. 1990). This species is widespread across the contiguous U.S. and populations appear to be stable and increasing in some areas but are still recovering from a drastic decline between 1940 and 1970 that are likely a result of pesticides and habitat loss (NatureServe 2024). Cooper's hawk populations overall are stable to increasing, with limited data showing a decline in California (NatureServe 2024; Zeiner et al. 1990).

### Rangewide and Local Distribution

Cooper's hawk is widespread in North America where it occurs in densely wooded forests. The species occurs in suitable habitat throughout California at elevations from below sea level to 9,000 feet. Of 77 territories in oak woodland stands, the mean distance between nest sites was approximately 1.6 miles (Zeiner et al. 1990).

### Status in the Upper Westside Specific Plan

There are two CNDDB reported occurrences for this species within a 5-mile radius of the Study Area. The nearest CNNDB reported occurrence is located approximately 3.9 miles south of the Study Area and documents a nest from 2008 in the City of Sacramento (CDFW 2024). Cooper's hawk was observed in the Study Area during surveys conducted by Bargas and is noted in the species list as detected in 2019 (Bargas 2020). Cooper's hawk was observed in the Study Area by HELIX biologists on March 7, 2023.

## Project Effects to Cooper's Hawk

### Habitat Loss, Fragmentation, and Reduction in Patch Size

Currently, foraging and nesting habitat for Cooper's hawk is present in the Natomas Basin and within the Study Area. With the implementation of the UWSP, foraging and nesting habitat will be reduced in the Natomas Basin. Fremont cottonwood and valley oak woodlands provide suitable nesting and foraging habitat for the species. Habitat fragmentation has been implicated as a major cause of population decline in Cooper's hawk, in addition to pesticide use (NatureServe 2024). Cooper's hawk populations overall are stable to increasing, with limited data showing a decline in California (NatureServe 2023; Zeiner et al. 1990). Cooper's hawk survival and reproduction are likely to be higher in larger, more contiguous habitat areas, such as riparian or woodland habitat along the Sacramento River.

### Increased Predation

Many mammalian species, such as foxes and opossums, that prey on eggs and fledgling birds increase near human habitation. Crooks and Soule (1999) have recorded increased avian extirpation rates in habitat fragments as a result of these increased predator populations.

Avian nest predators such as crows also typically increase in proximity to residential development, in response to introduced nesting trees, increased food supplies, and increased hunting perches such as streetlights and other infrastructure (Steenhof et al. 1993; Marzluff et al. 2001). Predation of avian nests is also more intense along roads, urban edges, and other linear habitats (DeGeus 1990), presumably because of the increased use of linear rights-of-way by crows and mammalian predators (Knight et al. 1995). Avian mortality from vehicle collisions has also been significant in some areas (Shuford et al. 2008) and may increase with increased traffic generated by the proposed residential development.

### Reduction of Prey Base

Changes in the Cooper's hawk prey base (birds, small mammals, and insects) may result from residential development affecting adjacent mammalian predators and communities. Crooks and Soule (1999) quantified the effects of domestic cats on small animals, estimating that the average domestic cat population in moderately sized fragments (~50 acres of upland habitat bordered by 100 residences) annually return approximately 840 rodents, 525 birds, and 595 lizards to residences. Assuming that cats

do not bring back all killed prey, actual effects on prey numbers are probably underestimated. Similarly, Blair (1996) reported one-third fewer avian species in lands adjacent to residential development as compared to habitat preserves in the same area. The Cooper's hawk prey base could be reduced by the increase in mammalian predators that prey on the same small bird and rodent species as Cooper's hawk and the prey base could be reduced by the conversion of agricultural and semi-natural lands to urban development.

### Nest Disturbance

Human disturbance to nesting has been identified as a primary threat to raptor populations as several studies have demonstrated declines in raptor populations resulting from human-associated disturbance (Voous 1977; Swenson 1979; Craighead and Mindell 1981). It is possible that the anticipated human activity associated with the Study Area's 1,573 acres of urban structures could result in nest disturbance to Cooper's hawk nests in the Study Area which could result in decreased nest success.

### Overall Effects on Population Viability

The UWSP is unlikely to have an effect on Cooper's hawk population viability, as the Natomas Basin accounts for a very small portion of the Central Valley's Cooper's hawk population and its habitat since the Study Area is mostly agricultural lands with only a small amount of valley oak woodland habitat suitable for nesting and foraging is present. Implementation of the UWSP would result in the loss of some Cooper's hawk habitat available in the Natomas Basin. The Natomas Basin accounts for only a small portion of the habitat in the Central Valley that is available to support the Cooper's hawk population. Thus, the loss of a small portion of nesting habitat in the Natomas Basin as a result of the implementation of the UWSP and the conservation of habitat for GGS, SWHA, and WPT would not alter the viability of the Cooper's hawk population using the Natomas Basin. The UWSP has proposed measures that minimize and mitigate the impacts such as requiring surveys during the nesting season for this species and coordination with CDFW to determine appropriate mitigation in the event that this species is nesting in the Study Area and will be impacted by the proposed action. Therefore, the proposed action is minimized and unlikely to affect the survival of the Cooper's hawk in the Basin if it is present. Therefore, implementation of the UWSP would not affect the viability of the Cooper's hawk population using the Natomas Basin. Mitigation measures identified in Section 6 would reduce impacts to this species to less than significant.

## 5.2.5.2 Tricolored Blackbird

### Listing Status

TRBL is listed by CDFW as Threatened under CESA and is also a Species of Special Concern. The species is considered a Bird of Conservation Concern by USFWS. TRBL is afforded further protection under the MBTA of 1918.

### Life History and Habitat Requirements

TRBL is a highly colonial and nomadic species that is largely endemic to the lowlands of California although it also occurs sparsely in Oregon and northwestern Baja California. TRBL is considered the most intensely colonial of all North American passerine species (Orians 1961; Beedy et al. 1991; Beedy 2008). Historically, breeding colonies of up to 200,000 nests were recorded (Neff 1937), and up to 20,000 nests have been recorded in cattail marshes of 10 acres or less (DeHaven et al. 1975). Individual nests are

often built within a foot or less of each other (Neff 1937; Orians 1961). Breeding is highly synchronized with most pairs in a colony initiating nesting within a few days of each other (Neff 1937; Payne 1969). This highly synchronized and colonial breeding system evolved to exploit a rapidly changing environment where the locations of secure nesting habitat and rich food supplies were ephemeral and likely to change each year (Orians 1961; Payne 1969). TRBL tends to move from one nesting location to another between years, presumably in response to changes in the abundance of preferred prey or to nesting habitat suitability (Graves et al. 2013; Meese 2017; Airola et al. 2016).

The breeding season lasts until early August, and birds are occasionally observed breeding from September to November. The nest is a deep cup of leaves and stems attached to plant stalks and constructed by the female. Two broods of usually four young are reared. Eggs are incubated by the female for 11 days, and nestlings are tended by either just the female or both parents for 13 days until they leave the nest.

TRBL prefers freshwater marshes with dense vegetation often dominated by cattails for breeding. During the non-breeding season, colonies abandon the marsh and are itinerant across agricultural lands, ranches, golf courses, and residential parks. TRBL is an opportunistic generalist, taking insects, seeds, arthropods, and agricultural resources such as rice and wheat. Seed and insects are generally taken from the ground or gleaned from dense vegetation.

Due to the drastic decline in wetland nesting habitat over the last century, TRBL nesting habitat has switched to newly available nesting substrates. Surveys conducted from 1931 to 1936, documented that almost 93 percent of 252 breeding colonies observed in the Sacramento Valley, were in freshwater marshes dominated by cattails (*Typha* spp.) or bulrushes (*Schoenoplectus* spp.) with the remaining (7 percent) in willows (*Salix* spp.), blackberries (*Rubus* spp.), thistles (*Cirsium and Centaurea* spp.), and nettles (*Urtica* spp.; Neff 1937). By the 1970s, only 53 percent of colonies occurring in the Sacramento and San Joaquin valleys were in cattails and bulrushes and 47 percent utilized the non-native Himalayan blackberry (*Rubus armeniacus*) and milk thistle (*Silybum marianum*; DeHaven et al. 1975).

### Population Dynamics, Dispersal, and Detectability

As of 2017, 19,503 birds were reported from 34 locations in the Sacramento Valley (Butte, Colusa, Glenn, Sacramento, Sutter, Tehama, Yolo, and Yuba counties; Meese 2017). Numbers of birds were down in the Sacramento Valley and Sierra Foothills in 2017, with a combined decline of more than 32,000 birds. This represents a decrease of 33 percent from that observed in 2014 due entirely to a decrease of over 57 percent in Sacramento County; all other counties in the region showed small increases in abundance over 2014 (Meese 2017).

Most TRBLs move between the Central Valley, Sacramento Valley and Sacramento-San Joaquin Delta during the winter and move into the San Joaquin Valley, and Sacramento Valley during the breeding season. Post-breeding, the species resides in the Central Valley and surrounding foothills from March through July, then moves up into the Sacramento Valley until mid-November. During winter, TRBL moves down into the Sacramento-San Joaquin Delta and east to Merced County and coastal locations during winter (Tricolored Blackbird Working Group 2007).

### Rangewide and Local Distribution

TRBL occurs from the Central Valley to San Francisco Bay and south to northern Santa Barbara County at elevations from sea level to approximately 4,000 feet (Beedy *et al*. 2020). Disjunct populations are also

present along the south coast from southern Ventura County down to Baja California, with disjunct populations northward to Washington. The species is largely endemic to California, with smaller populations in Baja California, Nevada, Oregon, and Washington (DeHaven 2000).

During the breeding season, TRBL occurs in the Central Valley, the low foothills of the Sierra Nevada and Coast Range from Shasta County south to Kern County, along the coast from Sonoma County south to the Mexican border, and on the Plateau (Grinnell and Miller 1944; Beedy *et al*. 1991). Band recoveries from this species indicate that some wintering individuals travel nomadically along the entire length of the Central Valley, into the San Francisco Bay and Sacramento-San Joaquin Delta area, up to the northern and eastern plateau region of California, and into southern Oregon (DeHaven *et al*., 1975).

### Status in the Upper Westside Specific Plan

Historically, TRBL populations were in the millions, but with the extensive loss of wetlands and marshes throughout the Central Valley beginning in the 1930s, the population declined by approximately 50 percent. As of the 1970s, the TRBL population included only 41 nesting colonies and 133,000 birds (DeHaven 2000). Historically and currently, most California colonies have been located in the Sacramento and San Joaquin valleys and their surrounding foothills. There are several CNDDB reported occurrences within a 5-mile radius of the Study Area; with the nearest reported occurrence located approximately 1.9 miles northeast of the Study Area that documents an extirpated nesting colony from 1992 (CDFW 2024).

Upon conclusion of the statewide survey, Meese reported in 2017 that the Sacramento Valley hosted 19,503 birds from 34 locations (Meese 2017). The current population in the Central Valley as of 2017, is approximately 79,325. This includes 13 colonies identified in the surveys conducted by DeHaven and Hamilton in 2000. The DeHaven/Hamilton surveys indicated that the general range and major breeding areas of TRBL in the Central Valley have remained largely unchanged since the 1930s when Neff conducted surveys of the population (DeHaven 2000). There have been nine documented occurrences of TRBL (seven extant, two extirpated) in Sutter County. The two extirpated occurrences are located slightly northwest of the confluence of the Sacramento River and the Feather River, northwest of the Basin. TRBL was located 0.2 mile below the Sacramento/Sutter County line, west of Natomas Drain Levee Road.

TRBL was first documented nesting in the Natomas Basin in 2005, and nesting for this species was documented over the next six years. However, no nesting occurred in the Natomas Basin in 2012. TRBL nesting was then documented in 2020, for the first time in nine years (ICF 2020). No nesting was documented in 2021 (ICF 2022).

The Natomas Basin colony resides on a 330-acre parcel in the Natomas Basin that was acquired by The Natomas Basin Conservancy (TNBC); the Betts-Kismat-Silva reserve in the eastern edge of the Natomas Basin, approximately 6.4 miles north/northeast of the Study Area. The population of this nesting colony includes approximately 4,000 nesting birds, which have located their nests in five scattered clumps of blackberry bushes near irrigated pastureland (DeHaven 2000). The Study Area contains potential TRBL foraging and nesting habitat. This species was not observed within the 568.7 acres of lands surveyed by Bargas in either 2019 or 2020 (Bargas 2019, 2020) and it was not observed by HELIX in 2023.

## Project Effects to Tricolored Blackbird

### Habitat Loss, Fragmentation, and Reduction in Patch Size

Currently, the Study Area provides foraging and nesting habitat for TRBL. Foraging habitat in the Study Area consists of agricultural lands, annual grasslands, fallowed crops, and ruderal areas. With the implementation of the UWSP, TRBL potential foraging habitat will be reduced in the Natomas Basin and potential nesting habitat along canals and ditches will be reduced.

### Water Quality and Runoff

Aquatic communities may be greatly affected by surrounding land use. Urban areas can cause different and, in some cases, stronger effects than agricultural lands (Bury 1972; Moore and Palmer 2005). Residential developments typically result in increased runoff of hydrocarbons and pesticides, fertilizers, and/or herbicides used for lawns and gardens, and increased stormwater volume (and associated increases in depths and velocities) because of high coverage of impervious surfaces. Significant impacts to invertebrate communities that are prey items for species, such as TRBL, have been shown to occur because of exposure to herbicides, fertilizers, and/or pesticides (Sparling et al. 2010; Elliott et al. 2011). Aquatic habitat adjacent to the northwestern portion of the Study Area could be impacted by urban landscaping practices.

### Increased Predation

Many mammalian predators such as foxes, opossums, skunks, and other small predators increase near human habitation, and this increase has been shown to lead to increased avian extirpation rates in habitat fragments (Crooks and Soule 1999). Nest predators such as crows also typically increase in proximity to residential development, in response to introduced nesting trees, increased food supplies, and increased hunting perches such as streetlights and other infrastructure (Steenhof et al. 1993; Marzluff *et al*. 2001). Although increased predation near residential development would likely be much less for vigilant, mobile flocks of foraging TRBLs, predation rates would be expected to increase for all avian species near residential development.

### Nest Disturbance

Nesting colonies of TRBLs are highly sensitive to disturbance, which can cause nest abandonment or interfere with the incubation and feeding of young in a way that reduces reproductive success (City of Sacramento *et al*. 2003). Disturbance to TRBL nests would typically result from construction-related activities.

### Construction-Related Activities

Potential effects due to construction-related activities would be limited to the displacement of birds foraging or roosting within agricultural or semi-natural terrestrial habitat during the initial phases of construction. A summary of all conservation measures to be implemented with the construction and development of the Study Area is provided in Section 6. Implementation of UWSP conservation measures will avoid and/or minimize potential effects to the species' population due to construction-related activities.

**Overall Effect on Population Viability**

Implementation of the UWSP would have no overall effect on the population viability of TRBL as only a small amount of available nesting habitat is available in the Study Area. Further, the Study Area and the Natomas Basin account for only a small portion of the habitat in the Central Valley that is available to support the TRBL population. Thus, the loss of a small portion of nesting habitat in the Natomas Basin as a result of the implementation of the UWSP and the conservation of habitat for GGS, SWHA, and WPT would not alter the viability of the TRBL population using the Natomas Basin. The UWSP has proposed measures that minimize and mitigate the impacts, such as requiring nesting bird surveys during the nesting season for this species, and coordination with CDFW to determine appropriate mitigation in the event that this species is nesting in the Study Area and will be impacted by the proposed action. Therefore, the proposed action is minimized and unlikely to affect the survival of the TRBL in the Basin if it is present. Mitigation measures identified in Section 6 would further reduce impacts to this species to less than significant.

#### 5.2.5.3 Western Burrowing Owl

**Listing Status**

BUOW is a CDFW Species of Special Concern and is federally protected by the USFWS under the amended MBTA of 1918, which added protection to the original MBTA to include eagles, hawks, and owls (USFWS 1972). BUOW is also listed as "A Bird of Conservation Concern" by USFWS (CDFW 2023).

**Life History and Habitat Requirements**

Male and female BUOW can breed at 10 months of age, with intervals of one year between subsequent breeding. Nesting occurs from March through August, with BUOW pairs typically forming a bond for more than one year and exhibiting high site fidelity, reusing the same burrow year after year (Haug *et al.* 1993). Breeding in California typically begins in mid-April, with females laying between four to twelve eggs in an expanded cavity lined with debris several feet deep in a burrow (CA BUOW Consortium 1993). Both parents care for the young but play different roles. The female remains inside the burrow during most of the egg-laying and incubation period (~40 to 45 days) and is fed by the male throughout brooding. BUOW is an opportunistic feeder, consuming insects, small mammals, small birds, and occasionally, amphibians and reptiles (Haug *et al*. 1993).

The young are altricial at hatching and unable to move among nest burrows until approximately 10 days of age. Owlets emerge from burrows at approximately two weeks, where they wait for adults to bring food. Short flights are achieved at approximately four weeks and owlets can fly well by six weeks but remain close to the nest. Fledging occurs between 44 and 53 days of age (Poulin *et al.* 2020).

BUOW is generally found in dry, open areas of short grassland prairie habitat west of the Mississippi River in the continental U.S., southern portions of Canada, and further south into portions of Mexico and South America (Haug *et al.* 1993). In California, BUOW frequents open habitats that are characterized by short, sparse vegetation with few shrubs, level to gentle topography, and well-drained soils (Haug *et al.* 1993; Conway 2018), such as those occurring in grasslands, steppes, deserts, prairies, agricultural areas, ruderal grassy fields, vacant lots, and pastures. It is one of two diurnal owl species in California and is further distinguished by its use of small mammal burrows for protection from predators, and for roosting and breeding.

BUOW habitat is defined as including short or sparse vegetation (present for at least a portion of the year), and characterized by the presence of burrows, burrow surrogates, or fossorial mammal dens, well-drained soils, and abundant, available prey. Grassy fields, vacant lots, and pastures are all suitable habitat if they have low or open vegetation structures, small mammal burrows, and foraging habitat nearby (Gervais *et al*. 2008). The species is strongly associated with ground squirrel (*Otospermophilus beecheyi*), prairie dog (*Cynomys* spp.), and badger (*Taxidea taxus*) habitat.

### Population, Dynamics, and Dispersal

BBS data from 1966 to 2007 show significant increases in BUOW populations in California, Arizona, and New Mexico, and declines in Florida, Montana, Colorado, and South Dakota. However, the state-wide Institute for Bird Populations census in California demonstrated a decline of eight to 10 percent in BUOW breeding pairs since the 1993 census. Overall, the states of California and North Dakota have shown the sharpest declines in numbers in the past 20 years; California went from an increase of 5.3 percent per annum in 1997 to a decline of 1.79 percent per annum in 2017.

In a comprehensive review of BBS and Christmas Bird Count (CBC) data collected from 1966 to 2017, Sheffield found that almost all western states continue to show declining BUOW numbers (Sheffield 2021). In addition, a review of the peer-reviewed literature from 1997 to 2017 revealed that slight to steep population declines have been reported in the U.S. and Canada, and that in many locations where BUOW was formerly common, the species has disappeared at an alarming rate.

There are two distinct populations of BUOW differentiated by migratory behavior. Those that have been observed in the colder regions of the northern U.S. and Canada migrate to warmer climes for nesting and breeding activities but return to their northern territories following the end of the reproductive season. Populations in more temperate regions generally maintain year-round residence in the same geographic areas and do not migrate or may make only minor or local winter movements (Haug et al. 1993). California is believed to support the largest populations of resident and wintering BUOW in the western U.S., primarily in the Imperial Valley, where over 5,000 pair of BUOW are documented (Sheffield 1997).

### Rangewide and Local Distribution

BUOW is found in suitable open habitat throughout western North America from southern Canada to northern Mexico, as well as in Florida, the Caribbean, and Central and South Americas at elevations up to 5,250 feet (1,600 meters). Grinnell and Miller (1944) described historic BUOW range in California, indicating the species was present throughout most of the state and its islands, except the coastal counties north of Marin and mountainous areas. Historically, the species was abundant in suitable habitats occurring from Marin County to the Imperial Valley (Grinnell and Miller 1944). The historic range is also believed to have included Napa and Sonoma counties (Grinnell and Wythe 1927). Although BUOW has been assumed to be extirpated from these areas (Shuford and Garadali 2008), CNDDB documents a few verifiable historic records in Napa County (Townsend and Lenihan 2007) and four historical BUOW occurrences in Sonoma County. Therefore, assumptions that BUOW has been extirpated in these counties may be premature. In southwest Solano County, one locally abundant population has been documented in Benicia, with other known populations occurring near Travis Air Force Base. Wintering populations occur seasonally on Grizzly Island and on neighboring hilly ranchlands along the I-80 and I-680 corridors. Many of these occurrences represent documented wintering populations, although some BUOW in the Vacaville area are known to be resident year-round. Wintering

BUOW may be underrepresented from documented records, as most surveys for BUOW are undertaken during breeding periods. Six percent of the state's BUOW population is documented in nearby Yolo County, which is adjacent to Sacramento County.

### Status in the Upper Westside Specific Plan

BUOW has been documented in several locations in the Natomas Basin, including the higher terrace along the basin's eastern border, in the tree planter boxes in the Power Balance Pavilion parking lot, and along the higher berms of the larger irrigation and drainage canals in the central basin (City of Sacramento *et al*. 2003). This species was not observed within the 568.7 acres of lands within the Study Area surveyed by Bargas in 2019, 2020, or 2021 (Bargas 2019, 2020, 2022), or by HELIX in 2023.

## Project Effects to Western Burrowing Owl

### Habitat Loss, Fragmentation, and Reduction in Patch Size

Currently, foraging and nesting habitat are present in the Natomas Basin and the Study Area. With the implementation of the UWSP, potential foraging and nesting habitat for BUOW will be lost in the Natomas Basin and the Study Area with the construction of the urban developments.

Habitat fragmentation has been implicated as a major cause of population decline in grassland birds in general. Helzer and Jelinski (1999) found that overall avian species richness and the presence of several common grassland species decrease with smaller habitat patch sizes (especially when <50 ha) likely due to edge effects. Upland bird populations have been found to be unstable in fragmented habitats (Hinsley et al. 1995; Crooks et al. 2001). BUOW forages in larger habitat patches than the 45 smaller birds studied by Crooks et al. (2001) and are likely to be similarly affected by fragmentation.

With the application of the UWSP screening criteria, future reserves developed to mitigate for the loss of SWHA habitat from the development of the Study Area will concurrently benefit BUOW and assure that BUOW retain sufficient nesting and foraging habitat in perpetuity to successfully raise young.

### Reduction of Prey Base

Changes in the BUOW prey base (small mammals and insects) may result from residential development affecting adjacent mammalian predator communities. Crooks and Soule (1999) quantified the effects of domestic cats on small animals estimating that the average domestic cat population in moderately sized fragments (~50 acres of upland habitat bordered by 100 residences) annually return approximately 840 rodents, 525 birds, and 595 lizards to residences. Assuming that cats do not bring back all killed prey, actual effects on prey numbers are probably underestimated. Similarly, Blair (1996) reported one-third fewer avian species in lands adjacent to residential development as compared to habitat preserves in the same area.

### Increased Predation

Many wild predators of BUOW increase near human habitation including coyotes, foxes, opossums, skunks, and other small predators that can easily predate eggs or young birds (Sheffield 1997; Wellicome 1997; Crooks and Soule 1999). Domestic cats are a common predator of avian species (Novak 1989) and would increase in abundance following the construction of the UWSP proposed development. Crooks and Soule (1999) observed increased avian extirpation rates as a result of predator increases

related to habitat fragmentation. Ground- and burrow-nesting avian species such as BUOW are particularly vulnerable to predation by domestic dogs and cats.

### Nest Disturbance

Although BUOW are tolerant of human activity outside of the breeding season, the species has been shown to abandon nests if disturbed during egg incubation. In addition to nest abandonment, significant disturbances near BUOW burrows may interfere with parental care and feeding of young in a way that reduces nest success.

### Construction-Related Activities

Earth-moving activities may trap or injure BUOW in their burrows and disturbance near active nests may cause abandonment. Nests could also be abandoned due to the loss of surrounding foraging habitat during construction. General mitigation measures such as pre-construction surveys and avoidance of occupied burrows during the nesting season are discussed in Section 6.1 below and specific-species measures for BUOW identified in Section 6.2.6 should be followed to avoid impacts to this species.

### Overall Effect on Population Viability

The UWSP is unlikely to have an effect on BUOW population viability, as the Natomas Basin accounts for a very small portion of the Central Valley's BUOW population and its habitat (City of Sacramento *et al.* 2003). The species has not been observed within the Study Area, and there are no CNDDB records of the species in the Study Area. Thus, the loss of a small portion of nesting habitat in the Natomas Basin as a result of implementation of the UWSP and the conservation of habitat for GGS, SWHA, and WPT would not alter the viability of the BUOW population using the Natomas Basin. The UWSP has proposed measures that minimize and mitigate the impacts such as requiring surveys during the nesting and wintering season for this species and coordination with CDFW to determine appropriate mitigation in the event that this species is nesting in the Study Area and will be impacted by the proposed action. Therefore, implementation of the UWSP would not affect the viability of the BUOW population using the Natomas Basin. The implementation of mitigation measures provided in Section 6 would further reduce impacts to this species to less than significant.

## 5.2.5.4 Swainson's Hawk

### Listing Status

SWHA is listed as Threatened by the CDFW under the California Endangered Species Act (CESA), and is federally protected by the United States Fish and Wildlife Service (USFWS) under the amended MBTA of 1918, which added protection to the original MBTA to include eagles, hawks, and owls (USFWS MBTA 1972). SWHA is also listed as a "Bird of Conservation Concern (BCC)" by USFWS (CDFW 2023).

### Life History and Habitat Requirements

SWHA breeds throughout the central U.S., north to Canada, and south to northern Mexico, with separate populations occurring in California. This species has one of the longest migrations of any raptor, traveling from its breeding range in North America to Mexico and Central and South America, with some individuals migrating as far south as Argentina. Immature and non-breeding individuals begin to gather and migrate south in late August and September and return in March and April (Schmutz et al.

2006). SWHA is found in multiple populations in California, with the larger part of the species' distribution in the northeastern part of the state, and disjunct populations in the Sacramento and San Joaquin Valleys, as well as occasionally south to Antelope Valley and Joshua Tree.

SWHA largely prefers low, open, and generally flat terrain, although a few territories have been detected in low rolling hills or agricultural habitat with scattered trees or riparian strips for nesting. No territories have been detected in wooded or mountainous terrain (Bloom 1980). Throughout the range of the species, SWHA nests almost exclusively in trees, unlike many other raptors that commonly nest on cliffs or artificially-created structures, such as poles or towers (England et al. 1997). In central California, SWHA nests are most likely to be found within riparian forest or remnant riparian forest trees, but they may also be detected within isolated trees or small groves where nest trees are adjacent to, or within easy flying distance of, foraging habitat that provides abundant prey. Trees most commonly used for nesting include oak (*Quercus* spp.), cottonwood (*Populus* spp.), willow (*Salix* spp.), sycamore (*Platanus* spp.), Eucalyptus (*Eucalyptus* spp.), and walnut (*Juglans* spp.) (CDFG 1994). SWHA has also been recorded nesting in urban landscapes in the Central Valley of California, but always within five (5) miles of suitable foraging habitat.

SWHA prefers open grassland, which facilitates effective prey location. Smaller home ranges generally include areas that have preferred crops of low height, such as alfalfa, fallow fields, and dry pasture, while larger home ranges are found in areas with less suitable crops, such as mature grain, row crops, orchards, and vineyards (Bechard 1983; Estep 1989; Woodbridge 1991; Babcock 1995). Home range size may shift in response to agricultural practices becoming larger over the course of the breeding season as crops mature, and increasing ground cover make prey more cryptic (Bechard 1983; Estep 1989; Woodbridge 1991; Babcock 1995). Individuals cease foraging when crops become too tall and return after mowing or burning.

SWHA is largely insectivorous during the non-breeding season, foraging primarily on invertebrates, such as grasshoppers (*Conocephalinae*), crickets (*Gryllidae*), and dragonflies (*Odonata*), but while feeding developing chicks during the breeding season, adults hunt larger, more substantial prey, such as California meadow voles (*Microtus californicus*), valley pocket gophers (*Thomomys bottae*), deer mice (*Peromyscus maniculatus*), young California ground squirrels (*Otospermophilus beecheyi*), mourning doves (*Zenaida macroura*), western meadowlarks (*Sturnella neglecta*), and other passerines (songbirds) (Palmer 1988; Estep 1989). Later in the breeding season many SWHA forage in groups, following tractors during agricultural harvest activities.

SWHA breeding season begins upon arrival back in the breeding grounds in early March and continues until late August through mid-September (Vennum 2017). A large, relatively flat stick nest is constructed in a tree, often in riparian corridors. A clutch of two eggs is laid and incubated by both parents for approximately 28 days. Young are fed by both parents until they fly at four to five weeks.

### Population Dynamics, Dispersal, and Detectability

Prior to state listing, Bloom (1980) found that SWHA had declined to as few as 375 breeding pairs throughout their summer range in California. In a study conducted from 2003 through 2009, Gifford et al. (2012) showed an increase in SWHA population size for portions of the Central Valley. According to Kane et al. (2020), the Butte Valley SWHA population (Butte County, California) has increased fourfold in the past 40 years.

Furnas *et al.* (2022) evaluated SWHA population trends by analyzing data from 1,038 locations surveyed throughout California in either 2005, 2006, 2016, or 2018. They concluded that the SWHA summering population in California grew rapidly between 2005 and 2018 at a rate of 13.9 percent per year and estimated a total statewide population of 18,810 breeding pairs in 2018. The study found that alfalfa (*Medicago sativa*) cultivation, agricultural crop diversity, and the occurrence of non-agricultural trees for nesting were positively associated with SWHA density. Although the species is doing well in Northern and Central California, SWHA remains largely extirpated from Southern California, where it was historically common. Recent studies suggest that reproductive success and, in turn, population-level recruitment may be associated equally - if not more closely - with the availability of nesting sites than with the current distribution of land cover (Fleishman et al. 2016).

Nest placement is highly cryptic and frequently obscured from view by tree foliage. Discovering a nest requires a keen knowledge of the natural history of the species, as well as patience and often, just plain luck. Most nests are only detected when a hawk enters or leaves the tree. It is important when surveying for this species to conduct an early survey (e.g., December) when trees are bare to identify the location of stick nests prior to initiating protocol surveys.

### Rangewide and Local Distribution

Once common throughout much of California, SWHA populations have declined precipitously within the state, and are now extirpated from many historical breeding areas (Bloom 1980; Woodbridge 1998). Many causative factors have been associated with this decline, including eggshell thinning, pesticide poisoning, mortality during migration, and breeding and wintering habitat loss and degradation. It is likely that causes of the population decline are multi-factorial (SWHA TAC 2000). The Central Valley region of California may support the highest density of nesting SWHA, as over 70 percent of recorded nest sites occur within the Great Valley ecoregion, which encompasses the Sacramento Valley and Sacramento-San Joaquin Delta (Bloom 1980; Gifford et al. 2012). In the Natomas Basin, SWHA nests primarily in the riparian areas along the Sacramento and American Rivers and along the Natomas Cross Canal. Home range sizes vary widely, as prey resources are influenced by land uses near the nest site.

Using radio-tracking technology Fleishman et al. tracked 23 adults SWHA in Natomas Basin from 2011 to 2013. Their results showed that the majority of adult SWHA radio-tracked throughout the breeding season traveled distances up to 5 to 6.8 miles from the nest; however, they also found that home-range sizes varied substantially among individuals, years, and life stages (e.g., arrival, courtship, hatching, nestling, fledging, and pre-migratory) (Fleishman et al. 2016). Home ranges generally were smallest when adult SWHAs were caring for young. Seasonal home-range sizes radio-tracked from 2011 to 2013 ranged from 5 to 886 miles. Home ranges of pre-migratory SWHA averaged 60 miles in 2011, 124 miles in 2012, and 55 miles in 2013.

There are several CNDDB reported occurrences for this species within a five-mile radius of the Study Area and this species is well documented as nesting and foraging in the Study Area and in the region. There are two documented CNDDB reported occurrences of this species nesting on the Study Area; the record documents nesting activity in cottonwoods and oak trees in 1992 and 1993 (CDFW 2024).

### Status in the Upper Westside Specific Plan

The Central Valley counties of Yolo, Solano, Sacramento, and San Joaquin are believed to support the largest and densest populations of SWHA in California (Gifford *et al.* 2012). In Butte Valley (Siskiyou

County, California), on the western edge of the Great Basin, the annual apparent survival of adults varied between 0.85 to 0.9 over 30 years (Briggs *et al*. 2011), and food availability locally may be associated with temporal variation in brood size and nestling survival (Schmutz et al. 2006). From 2001 to 2013, 43 to 65 nesting territories were active each year, and the number of pairs nesting in the Natomas Basin was stable, if not gradually increasing (ICF 2014). The mean number of young fledged per active nesting territory per year during this period was 1.00 (Fleishman *et al*. 2016).

Kane et al. (2020) conducted surveys from 1979 through 2018 in and around the Butte Valley observing 279 known-age adult SWHA 1,315 times. The average age of breeding SWHA in the Butte Valley across all surveyed years was 8.3 years. The oldest individual in the population whose age was known was 26 years old and the average age at death was 9.2. No difference in longevity was observed based on sex.

As of 2011, the Natomas Basin showed a fairly stable nesting population with the number of active nesting territories ranging from 43 to 62 between 2001 and 2011 (ICF 2012). Reproductive effort is reported to have remained relatively stable during this period ranging from 1.38 to 1.67 young per successful nest. Sixty-two nesting territories were confirmed active in 2011, representing the largest number of active territories since monitoring began in 2001.

Surveys from 2019 and 2020 documented at least three pairs of SWHA nesting on or within 0.5 mile of the Study Area. Nesting by one of the three pairs was within the Study Area and resulted in the successful fledging of one chick (Bargas 2019, 2020).

## Project Effects to Swainson's Hawk

### Habitat Loss, Fragmentation, and Reduction in Patch Size

Currently, SWHA foraging habitat and nesting habitat are present in the Natomas Basin and the Study Area. Foraging habitat in the Study Area is limited to 1,573 acres which is approximately the patch size required to potentially support two nesting pairs of SWHA. The Study Area is a partially fragmented, somewhat isolated patch of agricultural land as it is surrounded on the eastern, northeastern, and southeastern boundaries by the dense urban environs of the City of Sacramento. The western boundary of the Study Area abuts Garden Highway, which parallels the Sacramento River. The western portion (approximately 0.75 mile) of the northern boundary abuts TNBC preserve lands whereas the remaining eastern portion of the northern boundary (approximately 0.75 mile) abuts the City of Sacramento, where it intersects with I-5. The proximity of foraging habitat and nest sites can be a factor in breeding success as long foraging flights carry higher energetic costs and reduce the amount of time adults are present to defend nests from predators. The majority of adult SHWA travel distances of up to five to six miles foraging from the nest throughout the breeding season (Fleishman *et al*. 2016). During the SWHA breeding season, small mammals generally comprise the majority of the biomass consumed by SWHA adults and delivered to nestlings, whereas during the non-breeding season, SWHA feeds opportunistically with insects (especially grasshoppers) as a primary food source (Fleishman et al. 2016). The UWSP Development Area would become urban land cover, contiguous with the City of Sacramento. As SWHA is documented to nest and forage in the Study Area, there is a potential for impacts to successful breeding due to a loss of foraging and nesting habitat, increased distance from nest sites to foraging grounds, and the loss of the prey base in the Study Area resulting from the conversion of agricultural lands to urban development.

### Reduction of Prey Base

Changes in the SWHA prey base (small mammals and insects) may result from residential development affecting adjacent mammalian predators and communities. Crooks and Soule (1999) quantified the effects of domestic cats on small animals, estimating that the average domestic cat population in moderately sized fragments (~50 acres of upland habitat bordered by 100 residences) annually return approximately 840 rodents, 525 birds, and 595 lizards to residences. Assuming that cats do not bring back all killed prey, actual effects on prey numbers are probably underestimated. Similarly, Blair (1996) reported one-third fewer avian species in lands adjacent to residential development, as compared to habitat preserves in the same area. The SWHA prey base could be reduced by the increase in mammalian predators that prey on the same rodent species SWHA preys upon, and the prey base could be reduced by the conversion of agricultural and semi-natural lands to urban development.

### Increased Predation

The majority of SHWA nesting records are documented along the riparian habitat on both sides of the Sacramento River (CDFW 2024). Corvids (crows and magpies) and great horned owls are the most common predators of SWHA eggs and nestlings (England *et al*. 1997). Corvid populations typically increase near human settlement because of the supplemental food source of human refuse and additional perches provided by urban trees, streetlights, and other infrastructure (Steenhof *et al*. 1993; Marzluff et al. 2001). This increase in predator abundance can result in increased nest predation near residential development. The conversion of 1,573 acres of agricultural lands to urban development could result in increased predator abundance in the Natomas Basin and an increase in SWHA nest predation as a result.

### Nest Disturbance

SWHA responses to nest disturbance vary with each nesting pair and the timing, regularity, and nature of the disturbance. Research shows varying responses with some disturbed nest sites successfully fledging young (Estep 1989; England *et al*. 1995), while other disturbed nest sites are abandoned, particularly if the disturbance occurred during nest construction and egg incubation (Bent 1937; Stahlecker 1975). Significant disturbances near SWHA nests can result in nest abandonment or interference with parental care and feeding of young resulting in decreased nest success.

The majority of SHWA nesting records are documented within riparian habitat present on both sides of the Sacramento River (CDFW 2024; eBird 2024). These riverine areas are also occupied by rural residential development that lie on the west side of Garden Highway and are termed riverfront properties in most cases. SWHA documented as regularly nesting along the Sacramento River appear to be habituated to the level of disturbance that is associated with the rural residences. It is possible that the anticipated human activity associated with UWSP's 1,573 acres of urban structures could result in nest disturbance to SWHA nests within 0.5 mile of the Study Area which could result in decreased nest success.

### Construction-Related Activities

Construction of the proposed development of the UWSP as well as habitat restoration and enhancement activities at future reserve mitigation sites has the potential to displace and/or disturb SWHA if construction activities occur during the SWHA nesting season. Noise, dust, and sound vibrations resulting from the operation of heavy construction equipment and human activity within 0.5 mile of

SWHA nest sites could cause nest abandonment or interfere with parental care, which could reduce nest success. The implementation of mitigation measures provided in Section 6 would further reduce impacts to this species to less than significant.

**Overall Effects on Population Viability**

Development of the UWSP proposed development could cause both adverse and beneficial effects on the SWHA population nesting and foraging in the Natomas Basin. Development of the Study Area would result in the loss of SWHA foraging habitat and trees suitable for SWHA nesting habitat in the Study Area. The UWSP has proposed measures that minimize and mitigate the impacts, such as requiring surveys during the nesting and wintering season for this species and coordination with CDFW in the event that this species is nesting in the Study Area and will be impacted by the proposed action. Implementation of mitigation measures provided in Section 6 would reduce impacts to this species to less than significant.

#### 5.2.5.5 Northern Harrier

**Listing Status**

Northern harrier is listed as Species of Special Concern by CDFW. Northern harrier is not a Covered Species under the NBHCP.

**Life History and Habitat Requirements**

Northern harrier is a slender hawk approximately 17 inches in size, with a wingspan of 43 inches and a weight of approximately 15 ounces. The long tail shows a very distinctive white rump patch prominently displayed during flight. Females are larger than males and have a brown back, brown wings, light-brown underside, and a streaked breast and belly. Immature birds of both sexes appear alike and resemble adult females, except that the underside is rufous-colored. Males are gray.

Primary foraging and breeding habitat include open, treeless habitats, most commonly fresh- or saltwater marshes, edges of streams or lakes, grasslands, densely planted agricultural areas, and desert sinks. In North America, populations of Northern harrier with the highest densities are associated with large tracts of undisturbed, dense vegetation. While hunting, Northern harrier often glides less than a meter over low-profile vegetation, scanning for prey both visually and aurally. When a potential prey item is detected, this species can reverse course abruptly in mid-flight to drop onto potential prey. Prey primarily consist of small mammals and birds, but can include amphibians, reptiles, and arthropods (Davis and Niemela 2008).

Adult males generally arrive to breed in suitable habitat 5 to 10 days before females. Northern harriers nest on the ground in densely vegetated areas with less than 30 percent woody cover. Aerial courtship and territorial displays begin when adult females arrive in late February to mid-May, and the breeding season extends through August. Most pairs are monogamous, but polygyny occurs with approximately one-third of females breeding in harems of two to five. Northern harrier raises a single brood per year (Simmons and Smit 1987).

Nesting occurs on slightly elevated ground within patches of dense, often tall, vegetation, such as cattails (*Typha* spp.; Baicich and Harrison 1997; Smith *et al*. 2011). The ground nest is constructed by the female of small sticks and reeds and lined with grass. The nest structure is generally fairly insubstantial

but can be significantly larger in more mesic areas. Nest-building is initiated from March to early June and takes as little as a few days or as much as two weeks. Females incubate eggs for 31 to 32 days (Baicich and Harrison 1997; Davis and Niemela 2008; Smith *et al*. 2011). The semi-altricial young remain in the nest for six weeks while being fed by both sexes. Fledging occurs approximately 35 days post-hatching, typically from late July to early August, and juveniles remain in the vicinity of the nest for up to four weeks (Schmutz and Schmutz 1975).

### Population Dynamics, Dispersal, and Detectability

Many populations in California are resident, but some northern populations migrate south from August to December and return north from February through May (Beske 1982). Northern harrier populations have been shown to fluctuate in response to changes in prey species abundance, particularly vole (*Microtus* spp.) populations (Collopy and Bildstein 1987). Due to its diet, northern harrier is prone to higher levels of pesticide contamination and lead poisoning than other species. Despite this, the most significant threat to northern harrier is habitat loss. As a species that requires large tracts of land for breeding, the continuing destruction of wetland and grassland habitat is a serious concern that could lead to drastic population declines.

### Rangewide and Local Distribution

Northern harrier is widespread in North America, but local distribution is dependent on habitat availability. The species occurs in suitable habitat throughout California at elevations from below sea level to 9,000 feet, but breeding has been extirpated in much of Southern California, due to habitat loss. The species is a widespread winter resident and migrant in suitable habitat. California populations have decreased in recent decades, but the species can be locally abundant where suitable habitat remains free of disturbance, especially from intensive agriculture. Northern harrier is most abundant in the Central Valley at present, despite considerable loss of habitat in that region. It is less abundant in coastal northwestern California than elsewhere and occurs only very locally in the southwestern deserts.

### Status in the Upper Westside Specific Plan

A total of 18 CNDDB occurrences of northern harrier are documented within the nine-quad search area, with the closest occurrence 10.56 miles from the Study Area. There are no CNDDB occurrences of northern harrier documented in the Study Area or within five miles of the Study Area (CDFW 2024). However, the species was observed utilizing habitat within the Study Area in 2019 and 2021, particularly in the eastern and northern portions of the SWHA survey area (Bargas 2019, 2021).

## Project Effects to Northern Harrier

### Habitat Loss, Fragmentation, and Reduction in Patch Size

Currently, foraging and nesting habitat for northern harrier is present in the Natomas Basin and within the Study Area. With the implementation of the UWSP, northern harrier habitat will be lost in the Natomas Basin. Habitat loss has been implicated as a major cause of population decline of northern harrier as it is primarily a species of grasslands and marshes. Conversion of these habitats to agriculture is a major factor in the decline of the species in the last century (Hands *et al*. 1989).

### Reduction of Prey Base

Implementation of the UWSP could result in the decrease in prey base as result of developing land that previously supported prey animals and introducing nonnative predator competition as described in Section 5.2.2.7 for Cooper's Hawk under Reduction in Prey Base.

### Nest Disturbance and Increased Predation

Northern harrier nests on or near to the ground, and thus is extremely vulnerable to human disturbance and predation. Dogs, cats, and wildlife, such as foxes, coyotes, badgers, ravens, owls, and racoons, can easily predate eggs or young birds. Domestic cats are a common predator of avian species (Luukkonen 1987; Novak 1989) and would increase in abundance following the proposed development. Many mammalian predators, such as foxes, opossums, skunks, and other small predators also increase near human habitation. Crooks and Soule (1999) have recorded increased avian extirpation rates in habitat fragments as a result of these predator increases.

Nest predators such as crows also typically increase in proximity to residential development, in response to introduced nesting trees, increased food supplies, and increased hunting perches such as streetlights and other infrastructure (Steenhof et al. 1993; Marzluff *et al*. 2001).

### Construction-Related Activities

Construction activities associated with the proposed development in the Study Area or construction of the proposed reserve sites could disturb or displace northern harriers and may cause nest abandonment or nest destruction if nests are not detected prior to the start of construction. General mitigation measures provided in Section 6 include a requirement to conduct pre-construction surveys for a variety of avian species which would include all raptors such as northern harrier prior to the start of construction activities. If an active northern harrier nest is found, the disturbance would be avoided during the nesting season to the maximum extent possible. Similarly, the implementation of restoration activities in future reserves could impact this species if it is present. With the implementation of conservation measures, construction-related effects to Northern harrier would be minimized.

### Overall Effects on Population Viability

Although the UWSP would reduce the overall acreage of foraging and nesting habitat in the Natomas Basin, no effect on the viability of the northern harrier population would occur because the Natomas Basin represents only a small portion of the habitat used by the species in the Central Valley and throughout California (Hands *et al*. 1989). Based on CNDDB records northern harrier has not been documented nesting in the Natomas Basin. Thus, the loss of a small portion of nesting habitat in the Natomas Basin as a result of the implementation of the UWSP and the conservation of habitat for GGS, SWHA, and WPT would not alter the viability of the northern harrier population using the Natomas Basin. The UWSP has proposed measures that minimize and mitigate the impacts such as requiring surveys during the nesting season for this species and coordination with CDFW to determine appropriate mitigation in the event that this species is nesting in the Study Area and will be impacted by the proposed action. Therefore, the proposed action is minimized and unlikely to affect the survival of the northern harrier in the Basin if it is present. The implementation of mitigation measures provided in Section 6 would further reduce impacts to this species to less than significant.

#### 5.2.5.6 White-Tailed Kite

### Listing Status

White-tailed kite is listed as Fully Protected by CDFW under CESA and is federally protected under the amended MBTA of 1918. White-tailed kite is not a Covered Species under the NBHCP.

### Life History and Habitat Requirements

White-tailed kite is a relatively small member of the Accipitridae family approximately 16 inches in body length, with a 39-inch wingspan, and an average weight of 12 ounces (Dunk 1995; Sibley 2003). The species is distinguishable due to the white coloring on the underside, grey back, black scapulars, and marginal coverts. White-tailed kite is recognizable by the distinctive hovering and kiting style of hunting.

White-tailed kite is found primarily in open, low-elevation habitats with scattered trees (below 2,000 feet elevation), including grassland, agricultural fields, wetlands, oak-woodland, riparian, marshes, and savannahs (Clark and Banks 1992; Dunk 1995). This species specializes in hunting small mammals, primarily voles, but will also occasionally take birds, insects, reptiles, and amphibians. Hunting is conducted on the wing with stops to hover or "kite" while searching the ground for prey. When a prey item is sighted birds drop near the ground, often hover briefly, then snatch prey with their feet.

Breeding occurs from late January through October, with the peak season from May to August. White-tailed kite is a monogamous breeder but will nest semi-colonially in favorable habitat conditions (Dixon et al. 1957; Sibley 2003). Nests are constructed between January and August in a wide range of nesting substrates, including a variety of trees, such as willows (*Salix* spp.) and eucalyptus, and shrubs, such as saltbush and coyote bush (*Baccharis pilularis*) (Dunk 1995; Baicich and Harrison 1997). Nests are hastily built loose structures constructed over the course of one to four weeks. One brood (sometimes a second if the first is lost) of four to five eggs is laid in a twig nest lined with grass. Nests are usually found in the upper part of trees varying in height from 10 to 160 feet (Dunk 1995). Young hatch after 28 to 30 days of incubation by the female, with the male bringing food. Young fledge 35 to 40 days after hatching, and may be observed in large groups, as multiple broods gather within the local area while developing flight and hunting skills (Baicich and Harrison 1997).

### Population Dynamics, Dispersal, and Detectability

There is little understanding of the migration patterns of this species; some populations may be year-round residents, while others may be nomadic or fully migratory. In coastal California, the species is a year-round resident (Small 1994). During fall, white-tailed kites gather in large roosts of as many as 100 individuals between September and November.

### Rangewide and Local Distribution

White-tailed kite occurs throughout California, primarily west of the Sierra Nevada and southwestern deserts (Small 1994). The species is a common to uncommon, yearlong resident in coastal and valley lowlands; rarely found away from agricultural areas.

### Status in the Upper Westside Specific Plan

CNDDB documents 78 occurrences of white-tailed kite within the nine-quad search area. Eighteen occurrences are documented within five miles of the Study Area to the north and east; however, there are no occurrences of the species documented in CNDDB for the Natomas Basin. The nearest CNNDB reported occurrence is located approximately 2.6 miles south of the Study Area (and documents a nest from 2017 in a large oak tree in a residential neighborhood (CDFW 2024). White-tailed kite was observed foraging within the Study Area during surveys conducted by Bargas. One potential nest site was observed during the SWHA protocol survey during the 2019 and 2021 SWHA surveys. White-tailed kite was observed multiple times near the 2019 potential nest site, but no nesting activity was reported. White-tailed kite was observed to the east of the Study Area during the 2021 surveys with no nesting activity observed (Bargas 2022).

## Project Effects to White-tailed Kite

### Habitat Loss, Fragmentation, and Reduction in Patch Size

Currently, foraging and nesting habitat for white-tailed kite are present in the Natomas Basin and within the Study Area. With the implementation of the UWSP, foraging and nesting habitat will be reduced in the Study Area. Some of the agricultural fields and annual grasses and forbs land cover in the Study Area provide potential foraging habitat, and Fremont cottonwood and valley oak tree groves provide suitable nesting habitat for the species. Habitat fragmentation has been implicated as a major cause of population decline in grassland birds in general. Helzer and Jelinski (1999) found that overall avian species richness and the presence of several common grassland species decrease with smaller habitat patch sizes (especially when <50 ha) likely due to edge effects. Upland bird populations have been found to be unstable in fragmented habitats (Hinsley et al. (1995) and Crooks et al. (2001). White-tailed kite survival and reproduction are likely to be higher in larger, more contiguous habitat areas.

### Reduction of Prey Base

Implementation of the UWSP could result in the decrease in prey base as a result of developing land that previously supported prey animals and introducing nonnative predator competition, as described in Section 5.2.2.7 for Cooper's Hawk under Reduction in Prey Base.

### Increased Predation

Implementation of the UWSP could result in the increase of mammalian predators and other nest predators, in addition to other causes of bird mortality, as discussed previously in Section 5.2.2.7 for Cooper's Hawk under Increased Predation.

### Nest Disturbance

Human disturbance to nesting has been identified as a primary threat to raptor populations as several studies have demonstrated declines in raptor populations resulting from human-associated disturbance (Voous 1977; Swenson 1979; Craighead and Mindell 1981).

Despite the common observation of the species (ICF 2021), there are no records in CNDDB documenting white-tailed kite nesting in the Natomas Basin nor in the Study Area. It is possible that the anticipated

human activity associated with UWSP's 1,573 acres of urban structures could result in nest disturbance to white-tailed kite nests near the Study Area which could result in decreased nest success.

### Overall Effects on Population Viability

The UWSP is unlikely to affect white-tailed kite population viability, as the Natomas Basin accounts for a very small portion of the Central Valley's white-tailed kite population and its habitat (City of Sacramento et al. 2003). Implementation of the UWSP would result in the loss of a small portion of white-tailed kite habitat available in the Natomas Basin. Thus, the loss of a small portion of nesting habitat in the Natomas Basin as a result of the implementation of the UWSP and the conservation of habitat for GGS, SWHA, and WPT would not alter the viability of the white-tailed kite population using the Natomas Basin. The UWSP has proposed measures that minimize and mitigate the impacts, such as requiring surveys during the nesting season for this species and coordination with CDFW to determine appropriate mitigation in the event that this species is nesting in the Study Area and will be impacted by the proposed action. Therefore, the proposed action is minimized and unlikely to affect the survival of the white-tailed kite in the Basin if it is present. The implementation of mitigation measures provided in Section 6 would further reduce impacts to this species to less than significant.

## 5.2.5.7 Loggerhead Shrike

### Listing Status

Loggerhead shrike is a USFWS BCC and is listed as a Species of Special Concern by CDFW. This species is further protected by the MBTA. In 1987, the USFWS designated the shrike as a Migratory Nongame Bird of Management Concern in the U.S.

### Life History and Habitat Requirements

Loggerhead shrike is one of three shrikes found in North America, and despite its taxonomic classification as a passerine (i.e., songbird), it behaves like a raptor or bird-of-prey. Sometimes called the "butcher bird" (*Lanius is Latin for butcher*), shrikes kill their prey with sharply hooked, raptor-like beaks, and then impale it on sharp thorns or barbs (Collins 2008). Loggerhead shrike diets vary seasonally and include arthropods (e.g., grasshoppers, crickets, beetles, and caterpillars), reptiles, amphibians, small rodents, and birds (Craig 1978).

Many loggerhead shrike pairs stay together through winter. Nesting season begins in January or February in the southern part of the range and late April or May in the north. Loggerhead shrike often lays two to three broods of four to nine eggs. A bulky cup nest is constructed primarily or completely by the female in dense vegetation, preferably with thorns or spikes, possibly for protection from predators. The female incubates the eggs for 14 to 16 days, with the young able to leave the nest 17 to 21 days after hatching. The young are cared for by both parents, with the female brooding for several days after hatching (Yosef and Grubb 1994; Shuford and Gardali 2008). The young become independent in July or August.

Shrikes, in general, utilize a variety of shrub, open woodlands, and grassland habitats that vary from shrub-steppe in the western United States to pasturelands in northeast Canada. Despite the diversity in habitats, a common characteristic of all occupied habitats includes open grassy foraging areas with scattered hunting perches (e.g., trees, shrubs, fences, and power lines), and small trees or shrubs for use as nest sites. In addition, shrikes require features such as barbed wire fencing or thorny, or multi-

stemmed shrubs to use as impaling sites for prey storage and manipulation (Craig 1978; Morrison 1980; Yosef 1996). Consequently, shrike foraging habitat requirements differ little between the breeding and nonbreeding seasons. Many shrikes now occupy "artificial" habitat that has been created or extensively altered by human activities.

### Population Dynamics, Dispersal, and Detectability

Loggerhead shrike populations have undergone a drastic decline, shrinking 76 percent since 1966 (Bohall-Wood 1987; Brooks and Temple 1990; USFWS 2000). It is one of the most persistently declining species surveyed by the North American Breeding Bird Survey (BBS); survey wide, the species declined at an average rate of 3.7 percent per year during the period 1966-1998 (USFWS 2000). The continuing loss of foraging habitat and hunting perches to modern agricultural practices seems the most likely explanation (Novak 1989, Pittaway 1991; USFWS 2000); however, it appears that this species is particularly vulnerable to diseases, such as West Nile Virus (WNV) (Smallwood and Nakamoto 2009; Schutten 2021) as well as pesticide poisoning that has been correlated with eggshell thinning (Morrison 1980).

Loggerhead shrike has been described as a partial migrant, with populations in the northern half of the breeding range being largely migratory while southern populations are resident. Miller (1931) suggested that permanent resident populations of loggerhead shrike occupy areas where snow cover does not persist for more than 10 days each winter.

### Rangewide and Local Distribution

Loggerhead shrike was once widely distributed and common over most of North America, occupying a wide variety of plant associations. The species was apparently always most abundant in the southern and western portions of its range, with high breeding densities observed from Florida to Texas and throughout the arid western U.S. (Grinnell and Miller 1944; Humple 2008). Deforestation and an increase in small-scale agriculture in the 1800s facilitated a northeastward expansion in range followed by a similar north-central expansion in the 1900s with agricultural development of the northern Great Plains and aspen parklands (Cade and Woods 1997). Since the 1940s, with forest regeneration, ongoing loss of pasturelands, and large increases in intensive row-crop agriculture, contraction of range and a decrease in numbers have been noted in parts of the loggerhead shrike range.

Loggerhead shrike occurs throughout much of California where suitable habitat exists and historically was described as abundant (Grinnell and Miller 1944). It is absent from northwestern California (except as a rare winter visitor along the coast from Del Norte County south to southern Mendocino County), much of the south Coast Ranges, the Sierra Nevada and southern Cascades, and high elevations of the Transverse Ranges (Sauer et al. 2017). Most are resident, though populations in the northernmost parts of the range move south for winter.

### Status in the Upper Westside Specific Plan

Loggerhead shrike declined 63 percent along all routes surveyed by Smallwood and Nakamoto in the Sacramento Valley between the four winters of 1990–1995 and the three winters of 2005–2008 (Smallwood and Nakamoto 2009). West Nile virus arrived in the Sacramento Valley of California in 2004 and began killing many corvids. This species appears to be extremely sensitive to WNV infection, which may have contributed to declines in the Study Area. Loggerhead shrike is a year-round resident of the Natomas Basin and found throughout the NBHCP area (City of Sacramento *et al*. 2003). Monitoring

conducted by TNBC has documented a decline in detections of loggerhead shrike since 2012, with a record low number of observations recorded in 2019 (ICF 2020). The mean number of loggerhead shrike detections per survey on reserve lands decreased again in 2020. Shrike detections have been decreasing substantially on reserve lands since 2012, with a more severe decline evident on non-reserve lands. The reasons for the decline are unknown. This species was not observed within the 568.7 acres of lands surveyed by Bargas in either 2019 or 2020 (Bargas 2019, 2020).

## Project Effects to Loggerhead Shrike

### Habitat Loss, Fragmentation, and Reduction in Patch Size

Currently, loggerhead shrike foraging and nesting habitat are present in the Natomas Basin and within the Study Area. With the implementation of the UWSP, loggerhead shrike foraging and nesting habitat will be lost in the Natomas Basin. Some of the agricultural fields and annual grasses and forbs land cover in the Study Area provide potential foraging habitat, and Fremont cottonwood and valley oak tree groves provide suitable nesting habitat for the species. Habitat fragmentation has been implicated as a major cause of population decline in grassland birds in general and is likely to specifically affect loggerhead shrike. Helzer and Jelinski (1999) found that overall avian species richness and the presence of several common grassland species decrease with smaller habitat patch sizes (especially when <50 ha) likely due to edge effects. Upland bird populations have been found to be unstable in fragmented habitats (Hinsley *et al*. 1995; Crooks *et al*. 2001). Shrike survival and reproduction are likely to be higher in larger, more contiguous habitat areas.

### Increased Predation

Implementation of the UWSP could result in the increase of mammalian predators and other nest predators in addition to other causes of bird mortality, as discussed previously in Section 5.2.2.7 for Cooper's Hawk under Increased Predation.

### Nest Disturbance

Loggerhead shrikes will abandon nests if disturbed by humans during egg-laying or early in incubation. Shrikes are generally tolerant of human activity near nests later in the breeding season, and nest abandonment is not generally a significant factor in nest failure (Collister 1994). The implementation of the 542.4-acre Agricultural Buffer should reduce the potential for nest disturbance due to the conversion of agricultural lands to urban development and the concomitant increase in human activities.

### Construction-Related Activities

Construction activities associated with the proposed development in the Study Area or construction of the proposed reserve sites could disturb or displace loggerhead shrikes and may cause nest abandonment. General mitigation measures include pre-construction surveys for loggerhead shrike prior to the start of construction activities. If loggerhead shrike is found, the disturbance would be avoided during the nesting season to the maximum extent possible. Similarly, the implementation of restoration activities in future reserves could impact this species if it is present. With the implementation of conservation measures, construction-related effects to loggerhead shrike would be minimized.

**Overall Effects on Population Viability**

Although the UWSP would reduce the overall acreage of foraging and nesting habitat in the Natomas Basin, no effect on the viability of the loggerhead shrike population would occur because the Natomas Basin represents only a small portion of the habitat used by loggerhead shrike in the Central Valley (City of Sacramento et al. 2003). Thus, the loss of available habitat in the Natomas Basin as a result of the implementation of the UWSP and the conservation of habitat for GGS, SWHA, and WPT would not alter the viability of the loggerhead shrike population using the Natomas Basin. The UWSP has proposed measures that minimize and mitigate the impacts, such as requiring surveys during the nesting season for this species and coordination with CDFW to determine appropriate mitigation in the event that this species is nesting in the Study Area and will be impacted by the proposed action. Therefore, the proposed action is minimized and unlikely to affect the survival of the loggerhead shrike in the Basin if it is present. The implementation of mitigation measures provided in Section 6 would further reduce impacts to this species to less than significant.

#### 5.2.5.8 Song Sparrow (Modesto Population)

##### Listing Status

Song sparrow (Modesto population) is listed as Species of Special Concern by CDFW. Song sparrow (Modesto population) is not a Covered Species under the NBHCP.

##### Life History and Habitat Requirements

Modesto song sparrow is a resident and endemic species in California that breeds from March through August (Shuford and Gardali 2008). This species feeds mostly on vegetable matter, such as seeds, but will also feed on invertebrates. Modesto song sparrow nests low to the ground in dense vegetation associated with wetland or riparian habitats along waterways. Males are typically found singing on a perch of moderate height. Modesto song sparrow often lays three to four eggs with up to two broods and rarely three. Both parents tend to the nest, with the young leaving the nest at 10 days and independent of the parents at 25 days (Zeiner *et al.* 1990).

##### Population Dynamics, Dispersal, and Detectability

This endemic subspecies of song sparrow of California is a year-round resident (Shuford and Gardali 2008). There are a total of 24 subspecies of song sparrow, with nine of those subspecies occurring in California. This subspecies is locally abundant where found but has been extirpated from much of its range along with the decline in riparian and wetland habitat throughout the Central Valley. Largest populations of the Modesto song sparrow are in the Butte Sink and the Sacramento–San Joaquin Delta (Shuford and Gardali 2008). The primary threats to the Modesto song sparrow include the loss of habitat, the degradation of habitat, and nest predation. Habitat conversion is thought to increase the abundance and benefit potential nest predators (Shuford and Gardali 2008).

##### Rangewide and Local Distribution

Modesto song sparrow is an endemic sparrow subspecies of California to an otherwise widespread species in North America. This species is common where it still occurs but has been locally extirpated where its habitat has been developed or degraded.

### Status in the Upper Westside Specific Plan

There is one CNDDB reported occurrence for this species within a five-mile radius of the Study Area, which is not specific with its location. The record documents breeding in a canal along the edge of a wheat field in 1877 (CDFW 2024). Song sparrow was observed in the Study Area during surveys conducted by Bargas and is noted in the species list as detected in 2019 (Bargas 2020).

## Project Effects to Modesto Song Sparrow

### Habitat Loss, Fragmentation, and Reduction in Patch Size

Currently, foraging and nesting habitat are present for Modesto song sparrow in the Natomas Basin and within the Study Area. The Study Area provides potential foraging habitat in agricultural lands, and Fremont cottonwood, valley oak tree woodland, and low vegetation along canals and ditches provide suitable nesting habitat for the species. The primary cause of the population decline of Modesto song sparrow is habitat fragmentation, loss, and degradation. Modesto song sparrow survival and reproduction are likely to be higher in larger, more contiguous habitat areas, such as riparian and oak woodlands along the Sacramento River. Implementation of the UWSP will result in a decrease of marginal habitat in the Natomas Basin, which would be considered to be of little effect to the species as a whole.

### Increased Predation

Implementation of the UWSP could result in the increase of mammalian predators and other nest predators in addition to other causes of bird mortality as discussed previously in Section 5.2.2.7 for Cooper's Hawk under Increased Predation.

### Nest Disturbance

Modesto song sparrows will abandon nests if disturbed by humans during egg-laying or early in incubation. Modesto song sparrows are generally tolerant of human activity near nests later in the breeding season, and nest abandonment is not generally a significant factor in nest failure (Collister 1994). Modesto song sparrows in the Sacramento area typically nest in woodlands or in vegetation along ditches and canals. The implementation of the 542.4-acre Agricultural Buffer should reduce the potential for nest disturbance due to the conversion of agricultural lands to urban development and the concomitant increase in human activities.

### Construction-Related Activities

Construction activities associated with the proposed development in the Study Area or construction of the proposed reserve sites could disturb or displace Modesto song sparrows and may cause nest abandonment. General mitigation measures include pre-construction surveys for nesting birds prior to the start of construction activities. If Modesto song sparrow is found, the disturbance would be avoided during the nesting season to the maximum extent possible. Similarly, the implementation of restoration activities in future reserves could impact this species if it is present. With the implementation of conservation measures, construction-related effects to Modesto song sparrow would be minimized.

### Overall Effects on Population Viability

Although the UWSP would reduce the overall acreage of foraging and nesting habitat in the Natomas Basin, no effect on the viability of the Modesto song sparrow population would occur because the Natomas Basin represents only a small portion of the habitat used by Modesto song sparrow in the Central Valley (Shuford and Gardali 2008). Thus, the loss of marginally suitable habitat in the Natomas Basin as a result of the implementation of the UWSP and the conservation of habitat for GGS, SWHA, and WPT would not alter the viability of the Modesto song sparrow population using the Natomas Basin. The UWSP has proposed measures that minimize and mitigate the impacts, such as requiring surveys during the nesting season for this species and coordination with CDFW to determine appropriate mitigation in the event that this species is nesting in the Study Area and will be impacted by the proposed action. Therefore, the proposed action is minimized and unlikely to affect the survival of the Modesto song sparrow in the Basin if it is present. The implementation of mitigation measures provided in Section 6 would further reduce impacts to this species to less than significant.

#### 5.2.5.9 Osprey

##### Listing Status

Osprey is listed as a Watch List species by CDFW. Osprey is not a Covered Species under the NBHCP.

##### Life History and Habitat Requirements

Osprey breeds in Northern California from the Cascade Ranges southward to Lake Tahoe, and along the coast south to Marin County. The species preys primarily on fish but will also prey on small mammals, birds, reptiles, and invertebrates. Foraging areas include open, clear waters of rivers, lakes, reservoirs, bays, estuaries, and surf zones. Habitat and nesting requirements include large trees, snags, and dead-topped trees in open forest habitats for cover and nesting (Zeiner *et al.* 1990).

##### Population Dynamics, Dispersal, and Detectability

Osprey is widespread throughout the world, except in South America, with many populations increasing. Northern populations in North America are migratory and arrive in breeding locations between March and May. Osprey populations were previously impacted by the use of pesticides during the 1960s and 1970s, but populations have since been increasing. Ongoing threats to this species include the ongoing use of organochlorine-based biocides in Central America. Organochlorine-based pesticides result in egg shelling thinning. Other threats to osprey include shooting, electrocution, or fishing nets. Due to its diet, osprey is susceptible to local population declines that are a result of declining or lost fish populations or disrupted nesting habitat (NatureServe 2024).

##### Rangewide and Local Distribution

Osprey is widespread in North America, where it breeds from northwestern Alaska and south to Baja California and as far south as Belize and to the east in Florida. Northern populations will winter in the Central Valley of California, the Gulf of Mexico, Bermuda, Central America, and South America (NatureServe 2024).

### Status in the Upper Westside Specific Plan

There are no CNDDB occurrences of osprey documented within the nine-quad search area. However, the species was observed utilizing habitat within the UWSP in 2019 and 2020, where it was observed during SWHA surveys (Bargas 2020), and it was observed by HELIX in 2023.

## Project Effects to Osprey

### Habitat Loss, Fragmentation, and Reduction in Patch Size

Currently, nesting habitat for osprey is present in the Natomas Basin and within the Study Area. With the implementation of the UWSP, nesting habitat will be reduced in the Study Area. Foraging habitat is not present in the Study Area. Fremont cottonwood, valley oak tree woodland, and structures such as radio towers or cellular towers provide suitable nesting habitat for the species. Osprey survival and reproduction are likely to be higher in larger, more contiguous habitat areas, especially along the Sacramento River and associated riparian or oak woodland habitats.

### Reduction of Prey Base

Osprey is a piscivorous bird of prey, and foraging habitat is considered to be absent from the Study Area. This species is expected to forage along the Sacramento River or other nearby bodies of water with an adequate supply of fish. Development of the Study Area will have no impacts on the prey base of osprey.

### Increased Predation

Implementation of the UWSP could result in the increase of mammalian predators and other nest predators in addition to other causes of bird mortality as discussed previously in Section 5.2.2.7 for Cooper's Hawk under Increased Predation.

### Nest Disturbance

Human disturbance to nesting has been identified as a primary threat to raptor populations as several studies have demonstrated declines in raptor populations resulting from human-associated disturbance (Voous 1977; Swenson 1979; Craighead and Mindell 1981). Despite the observation of the species by HELIX in 2023, there are no records in CNDDB documenting osprey nesting in the Natomas Basin nor in the Study Area. It is possible that the anticipated human activity associated with UWSP's 1,573 acres of urban structures could result in nest disturbance to osprey nests near the Study Area which could result in decreased nest success.

## Overall Effects on Population Viability

The UWSP is unlikely to affect osprey population viability, as the Natomas Basin accounts for a very small portion of the Central Valley's osprey population and its habitat, and there are no documented occurrences of this species nesting within 10 miles of the Study Area (CDFW 2024). Implementation of the UWSP would result in the loss of a small portion of osprey nesting habitat available in the Natomas Basin, and development of the UWSP would have no effect on foraging habitat. Therefore, the implementation of the UWSP and the conservation of habitat for GGS, SWHA, and WPT would not affect the viability of the osprey population using the Natomas Basin. The UWSP has proposed measures that

minimize and mitigate the impacts, such as conservation of habitat for GGS, SWHA, and WPT and requiring surveys during the nesting season for this species, and coordination with CDFW to determine appropriate mitigation in the event that this species is nesting in the Study Area and will be impacted by the proposed action. Therefore, the proposed action is minimized and unlikely to affect the survival of the osprey in the Basin if it is present. The implementation of mitigation measures provided in Section 6 would further reduce impacts to this species to less than significant.

#### 5.2.5.10 White-faced ibis

##### Listing status

White-faced ibis was listed by CDFW as a Species of Special Concern until 2008. The species was downgraded to the CDFW Watch List in 2008.

##### Life History and Habitat Requirements

White-faced ibis is considered a shorebird that forages by wading in shallow water and probing in wetland mud for aquatic and soil-dwelling insects, crustaceans, and earthworms. The species will ingest amphibians and small fishes (Sibley 2003).

White-faced ibis is a colonial breeder and builds a shallow nest in low trees, shrubs, or thick emergent vegetation (e.g., tule and cattail). White-faced ibis typically breeds at two to three years of age (Capen 1977) fostering one brood per season with an average of three to four eggs. Both parents incubate the eggs, which hatch in 17 to 26 days. As young approach fledging, adults forage farther from nesting colonies, and adults and newly fledged young fly to more distant irrigated fields and mudflats along rivers and around lakes and reservoirs (Taylor *et al*. 1989).

White-faced ibis depends on shallow, emergent wetlands with high-quality fresh water. Safran et al. (2000) found that white-faced ibis foraged close to vegetation where prey abundances are greater. Wet meadows, irrigated pastures, flooded pond edges, and wet cropland (e.g., rice fields) can be suitable foraging habitat. Results of Shuford et al. (1996) suggested that white-faced ibis responds opportunistically to changing food resources, particularly by shifting from managed wetlands to agricultural lands after heavy winter rains. Overwintering white-faced ibis inhabits many of the same coastal wetland habitats used in summer and will also use flooded or partially flooded rice fields in Louisiana and California (Remsen *et al*. 1991; Ryder and Manry 2020).

##### Population Dynamics, Dispersal, and Detectability

White-faced ibis nesting populations and numbers of colonies in North America decreased precipitously during the 1960s and 1970s due to pesticide contamination and loss of habitat to drought and drainage (Ryder 1967). The winter population reached a low point in the 1970s, then began rising in the 1980s, with a sharp increase in the early 1990s as habitat improved. Both breeding and wintering populations have increased greatly in California since the 1980s (Shuford *et al*. 1996, Earnst *et al*. 1998), and estimates from the mid-1990s show winter populations in California at 28,000, and numbers appear to be continuing to increase, particularly in the Sacramento Valley rice country. The Colusa National Wildlife Refuge population increased from 50 to 500 pairs from 1985 to 1989 (Shuford *et al*. 1996).

Breeding range and populations have expanded in the last two decades, owing in part to improved nesting habitat management in federal and state refuges, increased planting of alfalfa used by feeding

birds, the banning of DDT and other pesticides in the 1970s, and improved breeding success at major nesting centers.

White-faced ibis is present year-round in southern California, coastal Texas and Louisiana but is migratory elsewhere, although migration between North and South America does not occur. Within North America, birds breeding in northern areas of the range move south to wintering areas. A highly mobile species, the northernmost populations undertake regular north-south migrations. All populations show some post-breeding wandering, with movements often coinciding with changing water levels and water quality. (Ryder and Manry 2020).

### Rangewide and Local Distribution

White-faced ibis is a New World species occurring only in the Americas which breeds in two discontinuous areas, western North America and the southern half of South America (Ryder 1967). The species is present in the western U.S. from California to Montana and the Dakotas and even includes Canada south to Durango and Jalisco states in Mexico. The largest breeding colonies are found in Utah, Nevada, Oregon, and coastal Texas, and Louisiana (Ryder and Manry 2020). In North America, white-faced ibis nest as far south as Tampico Lagoons and Tabasco Lagoons in Mexico. In South America, the species nests primarily in Peru, Bolivia, Paraguay, and extreme southern Brazil, Chile, and central Argentina. In the U.S., most white-faced Ibis winter in Mexico or along the Gulf Coast in Texas and Louisiana (Ryder 1967).

### Status in the Upper Westside Specific Plan

White-faced ibis is a year-round resident of the Sacramento Valley**,** breeding in permanent and semi-permanent wetlands during the summer and foraging in seasonal wetlands and flooded rice fields throughout the fall and winter.

White-faced ibis has not nested in the Natomas Basin since 2013, and no nests were detected in the most recent surveys conducted in 2020 (ICF 2020). Over the monitoring period, the species has been found to typically occur in very low numbers outside the breeding season and move into the Natomas Basin in large numbers from May through September.

There are no previously recorded occurrences of this species in the Study Area. White-faced Ibis nesting colonies have been periodically observed on several Natomas Basin Habitat Conservation Plan (NBHCP) protected lands north of the Plan Area, including the Central Basin Reserve in 2010 and Willey Wetlands Preserve in 2012 and 2013, but nesting has not been observed within the Natomas Basin since 2013 (ICF 2020).

## Project Effects to white-faced ibis

### Habitat Loss, Fragmentation, and Reduction in Patch Size

Currently, the Study Area provides foraging habitat in the Natomas Basin for white-faced ibis. Foraging habitat in the Study Area consists of agricultural lands, annual grasslands, fallowed crops, and ruderal areas. With the implementation of the UWSP, white-faced ibis potential foraging habitat will be reduced in the Natomas Basin.

### Increased Predation

Implementation of the UWSP could result in the increase of mammalian predators and other nest predators in addition to other causes of bird mortality as discussed previously in Section 5.2.2.7 for Cooper's Hawk under Increased Predation.

### Nest Disturbance

There are no records in CNDDB documenting white-faced ibis nesting in the Natomas Basin nor in the Study Area, although approximately 24,900 acres of suitable winter habitat (i.e., rice, alfalfa, and other agricultural fields) exist in the Natomas Basin as foraging habitat for ibis. The land use attributed to urban development in the Basin, and would result in the overall net loss of potential foraging and roosting habitat acreage for white-faced ibis.

### Construction-Related Activities

Potential effects due to construction-related activities would be limited to the displacement of birds foraging or roosting within agricultural or semi-natural terrestrial habitat during the initial phases of construction. If white-faced ibis is found, the disturbance would be avoided during the nesting season to the maximum extent possible. Similarly, the implementation of restoration activities in future reserves could impact this species if it is present. With the implementation of conservation measures, construction-related effects to white-faced ibis would be minimized.

### Overall Effects on Population Viability

The UWSP is unlikely to affect white-faced ibis population viability, as the species is a rare visitor to the Natomas Basin, and there are no documented occurrences of this species nesting within Sutter or Sacramento counties (CDFW 2024). Therefore, implementation of the UWSP and the conservation of habitat for GGS, SWHA, and WPT would not affect the viability of the white-faced ibis population using the Natomas Basin. The UWSP has proposed measures that minimize and mitigate the impacts, such as conservation of habitat for GGS, SWHA, and WPT and requiring surveys during the nesting season for this species and coordination with CDFW to determine appropriate mitigation in the event that this species is nesting in the Study Area and will be impacted by the proposed action. Therefore, the proposed action is minimized and unlikely to affect the survival of the white-faced ibis in the Basin if it is present. The implementation of mitigation measures provided in Section 6 would further reduce impacts to this species to less than significant.

## 5.2.5.11 Purple Martin

### Listing Status

Purple martin is a CDFW Species of Special Concern and is federally protected by the USFWS under the amended MBTA of 1918.

### Life History and Habitat Requirements

Purple martin is a summer resident and migrant in California from March through September (Shuford and Gardali 2008), where it is considered a rare to uncommon species (Zeiner *et al*. 1990). This species migrates to and from South America and feeds on the wing, hawking insects high above the ground and

occasionally feeding on terrestrial insects (Zeiner *et al*. 1990). Purple martin nests in cavities in open areas with low canopy cover at the height of the nest, near large bodies of water that support high densities of large insects. Martins use a variety of cavities, including bridges, large tree snags, and collapsed lava tubes. The species is very sensitive to competition from European starlings and is extirpated from most low-elevation areas by starlings (Shuford and Gardali 2008).

Purple martin frequents old-growth forests, multi-layered forests, open woodlands with snags during the breeding season. Nesting season begins in April through August, Purple martin often lays three to eight eggs with up to two broods. Both parents tend to the nest, with the young leaving the nest at 24 to 31 days. Nests are located in old woodpecker cavities or human-made structures such as nesting boxes, bridges, or culverts (Zeiner *et al*. 1990).

### Population Dynamics, Dispersal, and Detectability

Purple martin populations are widely distributed and locally rare, and historically were considered to be common from sea level to 5,900 feet (Shuford and Gardali 2008). Purple martin populations were considered stable from the 1940s through the 1970s as this species was more thoroughly documented (Shuford and Gardali 2008). This species is most abundant in northwestern California, but breeding populations are scattered throughout California. In lowland habitats, competition with European starlings and the loss of riparian habitat are considered the major threats to this species (Shuford and Gardali 2008). No major threats to this species are known in other habitats, and purple martin appears to be tolerant of human presence in urban areas, such as nesting under bridges in weep holes. Purple martin use of weep holes in bridges avoids direct competition with European starlings, which do not use bridge structures for nesting. Declines of this species have been reported but have not been thoroughly documented (Shuford and Gardali 2008).

### Rangewide and Local Distribution

Purple martin populations statewide are estimated to consist of approximately 900 to 1,350 pairs that are widely distributed and locally rare, but more numerous in northwestern California (Shuford and Gardali 2008). Nesting populations appear to rely on redwood forest habitat, and the largest population occurs in northwestern California. Smaller populations in the Cascade Range, the Sierra Nevada, and the Tehachapi also support small populations of purple martin. Purple martins in the Central Valley nest in riparian areas and buildings from the Delta north through the Sacramento Valley. However, purple martin was largely extirpated in the Central Valley after the introduction of European starlings, with the exception of nesting colonies in Sacramento that use hollow spaces in bridges (Shuford and Gardali 2008).

### Status in the Upper Westside Specific Plan

Purple martin has not been documented in the Natomas Basin but has been documented at several locations in the City of Sacramento using weep holes under bridges. There nearest reported CNNDB record is located 2.5 miles south of the Study Area, where this species was identified using weep holes under the I-5 bridge in 2007 (CDFW 2024). However, purple martin has not been documented to occur in the Study Area (Bargas 2020). Purple martin could forage over the entire 2,102-acre Study Area but was not observed within the 568.7 acres of lands surveyed by Bargas in 2019, 2020, or 2021 (Bargas 2019, 2020, 2022).

## Project Effects to Purple Martin

### Habitat Loss, Fragmentation, and Reduction in Patch Size

Currently, purple martin foraging and nesting habitat are present in the Natomas Basin and within the Study Area. With the implementation of the UWSP, a small amount of suitable foraging and nesting habitat for purple martin habitat will be lost in the Natomas Basin. The Study Area provides potential foraging habitat over agricultural lands, and Fremont cottonwood and valley oak woodlands provide suitable nesting habitat for the species. The primary cause of purple martin population declines is competition with European starlings for habitat with cavities and tree snags in addition to habitat fragmentation, loss, and degradation. Purple martin survival and reproduction are likely to be higher in larger, more contiguous habitat areas, such as riparian and oak woodlands along the Sacramento River, where insect prey is abundant. Purple martin is known to occupy weep holes or other places under bridges that are not suitable nest sites for European starling. European starlings have nearly extirpated purple martin from native habitats in California, with a remnant population using weep holes under bridges almost exclusively.

### Increased Predation

Implementation of the UWSP could result in the increase of mammalian predators and other nest predators in addition to other causes of bird mortality as discussed previously in Section 5.2.2.7 for Cooper's Hawk under Increased Predation.

Songbird nest predators such as crows also typically increase in proximity to residential development, in response to introduced nesting trees, increased food supplies, and increased hunting perches such as streetlights and other infrastructure (Steenhof *et al*. 1993; Marzluff *et al*. 2001). Predation of bird nests is also more intense along roads, urban edges, and other linear habitats (DeGeus 1990), presumably because of the increased use of linear rights-of-way by crows and mammalian predators (Knight *et al*. 1995).

### Nest Disturbance

Purple martin will abandon nests if disturbed by humans during egg-laying or early in incubation. Purple martin is generally tolerant of human activity near nests later in the breeding season, and nest abandonment is not generally a significant factor in nest failure (Collister 1994). Purple martin in the Sacramento area is primarily limited to nesting in artificial structures such as bridges since they have been nearly extirpated from natural habitats by European starlings. Artificial nest structures are not located in the Study Area. The implementation of the 542.4-acre Agricultural Buffer should reduce the potential for nest disturbance due to the conversion of agricultural lands to urban development and the concomitant increase in human activities.

### Construction-Related Activities

Construction activities associated with the proposed development in the Study Area or construction of the proposed reserve sites could disturb or displace purple martin and may cause nest abandonment. General mitigation measures include pre-construction surveys for nesting birds prior to the start of construction activities. If purple martin is found, the disturbance would be avoided during the nesting season to the maximum extent possible. Similarly, the implementation of restoration activities in future

reserves could impact this species if it is present. With the implementation of conservation measures, construction-related effects to purple martin would be minimized.

**Overall Effects on Population Viability**

Although the UWSP would reduce the overall acreage of foraging and nesting habitat in the Natomas Basin, no effect on the viability of the purple martin population would occur because the Natomas Basin represents only a small portion of suitable habitat used by purple martin in the Central Valley (City of Sacramento et al. 2003) and primary threats to purple martin include competition from nonnative species such as European starling. Thus, the loss of the suitable habitat in the Natomas Basin as a result of the implementation of the UWSP and the conservation of habitat for GGS, SWHA, and WPT would not alter the viability of the purple martin population using the Natomas Basin. The UWSP has proposed measures that minimize and mitigate the impacts, such as requiring surveys during the nesting season for this species and coordination with CDFW to determine appropriate mitigation in the event that this species is nesting in the Study Area and will be impacted by the proposed action. Therefore, the proposed action is minimized and unlikely to affect the survival of the purple martin in the Basin if it is present. With the implementation of mitigation measures provided in Section 6, impacts to this species would be reduced to less than significant.

#### 5.2.5.12 Yellow-headed Blackbird

##### Listing Status

Yellow-headed blackbird is listed as Species of Special Concern by CDFW. Yellow-headed blackbird is not a Covered Species under the NBHCP.

##### Life History and Habitat Requirements

Yellow-headed blackbird is a summer resident and migrant in California that breeds from April through July (Shuford and Gardali 2008). This species feeds mostly on seeds and grain but will also feed on invertebrates during the breeding season. Yellow-headed blackbird nests in dense emergent vegetation associated with wetland in lakes or ponds. This species is a colonial nester that typically nests during peak abundance of insects. Yellow-headed blackbird is a polygynous nester, each male may have up to five mates nesting on his territory. A single brood is most common, consisting of two to five eggs. Both parents tend to the nest, with the young leaving the nest 12 days after hatching, and flight capable at 20 days (Zeiner *et al*. 1990).

##### Population Dynamics, Dispersal, and Detectability

Yellow-headed blackbird populations are widely distributed across California, with populations in the Central Valley, east of the Sierra Nevada and Cascade ranges, in the deserts in southern California, and is considered locally common in these areas (Zeiner *et al.* 1990). This species is abundant in Canada and the rest of the United States and is most abundant in the Great Plains or in areas with expansive and productive marsh habitat. Historically they were considered to be common from sea level to 6,600 feet, with the largest population in northeastern California. The greatest declines of this species are considered to be in southern California where its marsh habitat has been drained, manipulated, and/or developed. Yellow-headed blackbird breeding range has changed little since the 1940s though local extirpations continue to occur largely as a result of wetland habitat degradation. The species has been known to expand into areas where wetlands have been created as a result of human habitation; in the

Sacramento Valley, it is known to breed at refuges with expansive marsh habitat (Shuford and Gardali 2008).

### Rangewide and Local Distribution

Yellow-headed blackbird populations are widely distributed across California with populations in the Central Valley, east of the Sierra Nevada and Cascade ranges, and in the deserts in southern California, and is considered locally common in these areas (Zeiner *et al*. 1990). This species is abundant in Canada and the rest of the United States and is most abundant in the Great Plains or in areas with expansive and productive marsh habitat. In the Sacramento Valley, this species is known to breed at refuges with expansive marsh habitat, such as the Yolo Bypass Wildlife Area, Davis Wetlands, and Sacramento Wildlife Area, among others (Shuford and Gardali 2008).

### Status in the Upper Westside Specific Plan

There is one CNDDB occurrence of yellow-headed blackbird documented in CNDDB within the nine-quad search area centered on the Study Area. There are no CNDDB reported occurrences within a five-mile radius of the Study Area (CDFW 2024). Yellow-headed blackbird was observed in the Study Area during surveys conducted by Bargas and is noted in the species list for 2020 (Bargas 2020).

## Project Effects to Yellow-headed Blackbird

### Habitat Loss, Fragmentation, and Reduction in Patch Size

Currently, the Study Area provides foraging and nesting habitat in the Natomas Basin for yellow-headed blackbird. Foraging habitat in the Study Area consists of agricultural lands, annual grasslands, fallowed crops, and ruderal areas. With the implementation of the UWSP, yellow-headed blackbird potential foraging habitat will be reduced in the Natomas Basin, and the potential nesting habitat along canals and ditches will be reduced.

### Water Quality and Runoff

Aquatic communities may be greatly affected by surrounding land use. Urban areas can cause different and, in some cases, stronger effects than agricultural lands (Bury 1972; Moore and Palmer 2005). Residential developments typically result in increased runoff of hydrocarbons and pesticides, fertilizers, and/or herbicides used for lawns and gardens, and increased stormwater volume (and associated increases in depths and velocities) because of high coverage of impervious surfaces. Significant impacts to invertebrate communities that are prey items for species such as yellow-headed blackbird, have been shown to occur because of exposure to herbicides, fertilizers, and/or pesticides (Sparling et al. 2010; Elliott et al. 2011). Aquatic habitat adjacent to the northwestern portion of the Study Area could be impacted by urban landscaping practices.

### Increased Predation

Implementation of the UWSP could result in the increase of mammalian predators and other nest predators in addition to other causes of bird mortality as discussed previously in Section 5.2.2.7 for Cooper's Hawk under Increased Predation.

### Nest Disturbance

Nesting colonies of yellow-headed blackbirds are typically found nesting with other blackbird colonies. Yellow-headed blackbirds are typically tolerant of low-intensity human activity, but similar to other blackbirds are intolerant of large disturbances to breeding colonies and are typically afforded large buffer distances from active nest colonies (Pacific Gas and Electric 2015). Disturbance to yellow-headed blackbird nests would typically result from construction-related activities.

### Construction-Related Activities

Potential effects due to construction-related activities would be limited to the displacement of birds foraging or roosting within agricultural or semi-natural terrestrial habitat during the initial phases of construction. If yellow-headed blackbird is found, disturbance would be avoided during the nesting season to the maximum extent possible. Similarly, the implementation of restoration activities in future reserves could impact this species if it is present. With the implementation of conservation measures, construction-related effects to yellow-headed blackbird would be minimized.

### Overall Effect on Population Viability

Implementation of the UWSP would have no overall effect on the population viability of yellow-headed blackbird as only a small amount of available aquatic foraging-nesting habitat is available in the Study Area. Further, the Study Area and the Natomas Basin account for only a small portion of the habitat in the Central Valley that is available to support the yellow-headed blackbird population. Thus, the loss of the suitable habitat in the Natomas Basin as a result of the implementation of the UWSP and the conservation of habitat for GGS, SWHA, and WPT would not alter the viability of the yellow-headed blackbird population using the Natomas Basin. The UWSP has proposed measures that minimize and mitigate the impacts, such as requiring surveys during the nesting season for this species and coordination with CDFW to determine appropriate mitigation in the event that this species is nesting in the Study Area and will be impacted by the proposed action. Therefore, the proposed action is minimized and unlikely to affect the survival of the yellow-headed blackbird in the Basin if it is present. The implementation of mitigation measures provided in Section 6 would further reduce impacts to this species to less than significant.

## 5.2.6 Special-status Mammals

### 5.2.6.1 Pallid Bat

### Listing Status

Pallid bat is a CDFW Species of Special Concern.

### Life History and Habitat Requirements

Pallid bat is common in open and dry habitats with rocky areas for roosting and forages along grasslands, shrublands, woodlands, and forests. This species has a good urine concentrating ability, and thus, is less reliant on sources of water than other bat species. Pallid bat is known to roost primarily in caves, crevices, mines, and occasionally in hollow trees and buildings. Roosting maternity colonies may consist of up to 100 individuals, with males typically roosting separately. Young are typically born from April through June and weaned by seven weeks after birth, and volant by July or August. Reproduction

typically occurs individually, with each liter consisting of one to three young. Pallid bat is very sensitive to disturbance of roost sites (Zeiner *et al.* 1990).

### Population Dynamics, Dispersal, and Detectability

Seasonal movements of this species are poorly known, as well as locations of hibernacula and winter roosting sites. Information is also limited as to how much pallid bat tolerates disturbance of roosting sites. However, this species is known to be sensitive to disturbance of roosting sites. Several roosting sites documented in museum records in coastal California have been extirpated, and this species is likely intolerant of suburban and urban development, even when patches of suitable habitat remain. However, pallid bat appears to be more tolerant of rural development. Threats to the species include vandalism, mine closures, recreation, timber harvest or other vegetation management activities, urbanization, and demolition of occupied structures (Bolster, ed. 1998). This species is difficult to detect in day roosts but is easier to detect during acoustic monitoring and visual observations, during emergence surveys, and with the use of mist netting (Western Bat Working Group 2023).

### Rangewide and Local Distribution

This species ranges widely across California up to elevations of 3,000 meters in low desert, oak woodland, coastal redwood forests. There are at least three subspecies of pallid bat occurring in California, with *A. pallidus* present in the Central Valley. Pallid bat is also found in Cuba, Mexico, British Columbia, and as far east as Texas in the U.S. (Bolster, ed. 1998).

### Status in the Upper Westside Specific Plan

Pallid bat has not been documented in the Natomas Basin, and there is one previously recorded occurrence of this species within the nine-quad database search area (CDFW 2024). There are no CNDDB records of pallid bat within five miles of the Study Area; however, this highly mobile species may forage over the Study Area or roost in suitable habitat within the Study Area. The documented occurrence of this species is a non-specific record from the collection of an individual that was preserved in the Museum of Vertebrate Zoology at Berkeley (CDFW 2024).

## Project Effects to Pallid Bat

### Habitat Loss, Fragmentation, and Reduction in Patch Size

The Study Area provides potential foraging habitat over agricultural lands, and Fremont cottonwood and valley oak tree groves provide suitable roosting habitat for the species. Abandoned buildings in the Study Area may also provide suitable roosting habitat, but most structures in the Study Area appear to be in use and are unlikely to provide roosting habitat for this species. The primary cause of population decline of pallid bat is the destruction or disturbance of their roosting sites. Pallid bat survival and reproduction are likely to be higher in larger, more contiguous habitat areas, such as riparian and oak woodlands along the Sacramento River and edge habitats with insect prey over agricultural fields and grasslands abutted to woodland habitats. Pallid bats are known to occupy caves, crevices, mines, and occasionally in hollow trees and buildings. Most of these habitats are not present in the Study Area, but tree hollows and crevices in trees or structures are present. Implementation of the UWSP will result in a marginal decrease of available habitat in the Natomas Basin which would be considered of little effect to the species.

### Roost Disturbance

Pallid bats will abandon roosts if disturbed by humans. Pallid bats are generally intolerant of human activity near roost sites and generally avoid roosting in areas with frequent activity. Potential pallid bat roosts in the Study Area are limited to valley oak woodland, small groves of trees, and abandoned buildings. The implementation of the 542.4-acre Agricultural Buffer should reduce the potential for roost disturbance due to the conversion of agricultural lands to urban development and the concomitant increase in human activities.

### Construction-Related Activities

Construction activities associated with the proposed development in the Study Area or construction of the proposed reserve sites could disturb or displace pallid bats and may cause roost abandonment. If pallid bat is found, the disturbance would be avoided during the maternity roosting season to the maximum extent possible. Similarly, the implementation of restoration activities in future reserves could impact this species if it is present. With the implementation of conservation measures, construction-related effects to pallid bat would be minimized.

### Overall Effects on Population Viability

Although the UWSP would reduce the overall acreage of foraging and roosting habitat in the Natomas Basin, no effect on the viability of the pallid bat population would occur because the Natomas Basin represents only a small portion of the habitat used by pallid bat in the Central Valley and in California. Thus, the loss of a small portion of roosting habitat in the Natomas Basin as a result of implementation of the UWSP and the conservation of habitat for GGS, SWHA, and WPT would not alter the viability of the pallid bat population using the Natomas Basin. The UWSP has proposed measures that minimize and mitigate the impacts, such as conservation of habitat for GGS, SWHA, and WPT and requiring surveys for bat roosts for this species and coordination with CDFW to determine appropriate mitigation in the event that this species is roosting in the Study Area and will be impacted by the proposed action. Therefore, the proposed action is minimized and unlikely to affect the survival of the pallid bat in the Basin if it is present. The implementation of mitigation measures provided in Section 6 would further reduce impacts to this species to less than significant.

## 5.2.7 Migratory Birds and Raptors

### 5.2.7.1 Nesting Impacts

The Project site and adjacent areas provide nesting habitat for a variety of native birds common to the region, and several species of birds were observed on and adjacent to the site (see Appendix D). The structures, radio towers, utility poles, shrubs, annual vegetation, bare ground, and trees on the Study Area provide potential nesting habitat for species that use these areas for nesting. Large trees adjacent to the Study Area also provide nesting habitat for migratory birds, including raptors. Active nests were not observed during surveys, although existing nest structures that belong to raptors and yellow-billed magpie (*Pica nuttalli*) were abundant in the Study Area. Raptor nests were observed in large trees and radio towers throughout the Study Area. Yellow-billed magpie nests were observed in valley oak woodland in the western portion of the Study Area. Ruderal areas dominated by annual grasses provide habitat for ground nesting birds, such as western meadowlark, red-wing blackbird, and a variety of sparrows.

Project activities during construction would directly disturb trees or shrubs and could result in noise and other indirect disturbances that have the potential to cause nest destruction, nest failure, and project activities will affect herbaceous vegetation, which could contain nests. In the absence of proposed mitigation, destruction of nests, eggs, or nestlings by vegetation clearing or ground-disturbing activities or indirect impacts to birds nesting off-site that resulted in forced fledging or nest abandonment could occur if construction commenced during the avian breeding season (February through August). This could occur with both common and special-status bird species. Such impacts would be considered a violation of California Fish and Game Codes and would be a significant impact. The UWSP has proposed measures that minimize and mitigate the impacts such as conservation of habitat for GGS, SWHA, and WPT and requiring surveys during the nesting season for these species and coordination with CDFW to determine appropriate mitigation in the event that these species are nesting in the Study Area and will be impacted by the proposed action.

Therefore, the proposed action is minimized and unlikely to affect the survival of the migratory birds in the Basin if is present. With the implementation of mitigation measures provided in Section 6, impacts to migratory birds and raptors would be reduced to less than significant.

## 5.3 SENSITIVE NATURAL COMMUNITIES

There are 31.75 acres of canals and ditches that support wetland vegetation that occur as an interconnected network throughout the Study Area that are potential waters of the U.S. and State could be considered a sensitive natural community. The proposed Project, as designed, could result in fill of these features. Potential impacts to the canals are discussed in Section 5.4, and mitigation is proposed to reduce impacts to these features to less than significant. There are no other sensitive natural communities in the Study Area. The site consists almost entirely of agricultural land that supports a mixture of non-native and native species and lacks native or naturalized vegetation communities. The Sacramento River and riparian habitat adjacent to the site are sensitive natural communities; however, the Project has been designed to avoid impacts to these features.

## 5.4 JURISDICTIONAL WATERS AND WETLANDS

A total of 45.08 acres of aquatic resources have been delineated in the Study Area. It should be noted, approximately 0.14 acre of aquatic resources were added to the Study Area after the delineation took place in 2023, due to a minor change of the Study Area boundary. This acreage is comprised of portions of West Drainage Canal that overlap the revised Study Area boundary. The original 44.94 acres of aquatic resources included in the 2023 delineation by HELIX are comprised of a total of 11.22 acres of aquatic resources that were verified by the USACE in 2020 (SPK-2020-00237), and a total of 33.72 acres of aquatic resources that were delineated by HELIX in 2023. A Preliminary Jurisdictional Determination has been issued for the 33.72 acres of wetlands on February 23, 2024 (SPK-2020-00237). The additional 0.14 acre of added aquatic resources are likely potential jurisdictional waters, and have been added to the appropriate Project applications. SAFCA-owned lands that consist of 43.62 acres of wetland creation are still under development and likely do not meet wetland criteria or currently qualify as potential waters of the U.S. This acreage is part of a conservation area and will be preserved in perpetuity. The canals and ditches and associated valley oak woodland community may also fall under the jurisdiction of Section 1600 of the California Fish and Game Code.

## 5.5 WILDLIFE NURSERIES AND MOVEMENT CORRIDORS

A wildlife corridor is a link of wildlife habitat, generally native vegetation, which joins two or more larger areas of similar wildlife habitat. Corridors are critical for the maintenance of ecological processes, including facilitating the movement of animals and the continuation of viable populations. Historically, the Study Area was part of the floodplain that belonged to the Sacramento River, with riparian forests along the river prior to the Sacramento River levees and agricultural practices. The majority of this area has been converted to urban and agricultural uses, fragmenting and separating riparian habitat. Riparian habitat is limited to the levee west of the Study Area, where the understory has been mostly developed. In addition, Garden Highway, I-5, and I-80 serve as barriers between the adjacent areas, with I-80 and the Garden Highway functioning as partial barriers since I-80 occurs as a bridge and Garden Highway is a small highway with periods of infrequent traffic where terrestrial wildlife may cross the road.

The Study Area is not included in any corridors mapped by the California Essential Habitat Connectivity project and does not provide any unique movement or dispersal habitat relative to surrounding lands for several miles in all directions. The Project site and surrounding lands, which consist predominately of row crop agriculture and urban development provide limited dispersal habitat. Currently, the Sacramento River west of the Study Area and associated riparian communities provide a dispersal habitat for wildlife movement in the region. No significant impacts to wildlife corridors would occur as a result of the proposed Project. In addition, open space and agricultural lands will be preserved, which may provide some benefit to dispersing wildlife. Impacts to wildlife corridors resulting from the proposed Project would be less than significant.

## 5.6 LOCAL POLICIES

### 5.6.1 Swainson's Hawk Mitigation Fee Program

The County Code and the General Plan provide protection for SWHA habitat. The County Code requires project proponents to provide Title or Easement to approved SWHA mitigation lands, with one acre preserved for each one-acre impacted. Removing or otherwise affecting Swainson's hawk habitat without compliance with the Swainson's Hawk Mitigation Fee Program would be a violation of local ordinances and would have a potentially significant impact. With the implementation of mitigation measures provided in Section 6, impacts to this species would be reduced to less than significant.

### 5.6.2 Tree Protection

The County Code and the General Plan provide protection for native oaks and other protected trees. Regulated activities include grading, trenching, or filling within the dripline, or removal, destruction, or the killing of a protected tree. Removing or otherwise affecting protected trees without a tree permit would be a violation of local ordinances and would have a potentially significant impact. With the implementation of mitigation measures provided in Section 6, impacts to protected trees would be reduced to less than significant.

### 5.6.3 Potential for Spread of Invasive Weeds

Ongoing agricultural activities in the Study Area likely reduce the spread of invasive species compared to leaving the land fallow because active agriculture regularly removes established vegetation and replaces it with a crop monoculture. Abandoned fields typically become overgrown with invasive species,

including host plants for agricultural pests. Converting active agricultural land to a developed community has the potential to result in increased establishment of weedy species by reducing the frequency of disturbance and would be a potentially significant impact. With the implementation of mitigation measures provided in Section 6, impacts resulting from the spread of invasive species would be reduced to less than significant.

## 5.7 HABITAT CONSERVATION PLANS/NATURAL COMMUNITY CONSERVATION PLANS

USFWS has approved the NBHCP and issued Incidental Take Permits to the City and Sutter County for take of federally listed species to result from urban development in the Natomas Basin. Sacramento County is not a permittee under the NBHCP, and the NBHCP does not cover urban development for unincorporated portions of Sacramento County, although the NBHCP does provide for land acquisition in these unincorporated areas on a willing-seller basis for conservation purposes. The NBHCP currently authorizes take associated with 17,500 acres of urban development in southern Sutter County and within the City and Metro Air Park (MAP) in Sacramento County.

The UWSP is located within an unincorporated area of Sacramento County within the boundaries of the NBHCP Plan Area, but not within the City of Sacramento or Sutter County Permit Areas, as defined by the NBHCP, where take of NBHCP Covered Species was previously authorized. As a result, potential effects related to the development of the UWSP were not evaluated in the NBHCP.

This BRA includes an analysis of the UWSP's effects on the special-status species covered under the NBHCP. The analysis includes two species that were heavily discussed in the NBHCP—GGS and Swainson's hawk. The NBHCP's goals and objectives place a high priority on the preservation and long-term management of high-quality habitat for GGS and Swainson's hawk in the Natomas Basin, which by default benefits the other 20 Covered Species. The NBHCP established a program to allow development in the Basin while maintaining the long-term viability of the Covered Species by allowing 17,500 acres of authorized development to occur within the City of Sacramento, Sutter County, and MAP and establishing 8,750 acres of reserves to offset the effects resulting from authorized development.

### 5.7.1 Potential Effects to NBHCP Conservation Strategy Key Components

The Study Area was evaluated to identify the potential effects of the proposed development on key components of the NBHCP[4] (taken from Chapter IV, Section C.1 of the NBHCP), which were developed to mitigate for 17,500 acres of urban development projected in 2003. The NBHCP key components are as follows:

a. Basis for 0.5 to 1 mitigation ratio (Section IV.C.1.a),

b. Preparation of site-specific management plans (SSMPs) (Section IV.C.1.b),

c. Buffers within the reserve lands (Section IV.C.1.c),

d. Connectivity (Section IV.C.1.d),

[4] The key component related to vernal pools is excluded from this EA as there is no vernal pool habitat within the UWSP.

e. Foraging habitat (Section IV.C.1.e), and

f. 2,500-acre/400-acre minimum habitat block size requirements (Section IV.C.1.f).

The goal of the NBHCP is the conservation of Covered Species through the acquisition (conservation easement or fee title), protection, and enhancement of existing habitats in the Natomas Basin, minimizing impacts of Covered Activities, including development activities, water facility maintenance, and reserve management activities, and focusing upon the preservation of the overall habitat values in the Natomas Basin. The NBHCP was developed to allow some urban development to occur, while ensuring that habitat values are maintained and increased, to the maximum extent practicable, within the Natomas Basin. The NBHCP sets forth guidelines and practices including the size and acreage of reserves to be established, acquisition criteria for upland and wetland areas to be acquired and managed by TNBC, and reserve management practices to be employed to ensure successful habitat enhancement to support the Covered Species.

The Study Area supports suitable habitat for most of the NBHCP Covered Species; however, the Study Area is adjacent to and largely surrounded by existing urbanized areas and is partially bisected by a peninsula of existing urban development.

The potential effects related to the development of the UWSP on key NBHCP components are discussed in the following sections.

### 5.7.2 Mitigation Ratio

The NBHCP proposed a minimum 0.5-to-1 mitigation ratio to be applied to authorized development covered under the NBHCP. In describing the basis for the 0.5:1 mitigation ratio, the NBHCP states that the 0.5:1 ratio mitigates the impacts of the incidental take authorized under the NBHCP because much of the land to be developed does not provide habitat or provides only marginal habitat, and the TNBC-managed reserves will provide habitat of higher quality than the eliminated habitat. The UWSP would not alter the habitat value of land authorized for development under the NBHCP and, as further discussed in Section 5.7.3 and Section 5.7.4 below, would not adversely affect the habitat value of existing TNBC reserves established under the NBHCP. Therefore, the UWSP would not affect the efficacy of the 0.5:1 mitigation ratio identified by the NBHCP. Although the UWSP would result in the net conversion of 1,529.7-acre acres of agricultural land and open space to urban development in addition to the 17,500 acres of permitted development under the NBHCP, the UWSP would fully mitigate that loss by preserving habitat of higher quality than the habitat that would be adversely affected by the development of the UWSP. This would provide higher quality habitat for protected species and other more common species that would be preserved in perpetuity and not subject to urban disturbances. The conversion of agricultural land to urban development proposed by the UWSP would therefore result in a minimal change to the conditions in which the NBHCP conservation strategy anticipated and is currently being implemented.

The UWSP would not alter the habitat value of land authorized for development under the NBHCP and would not adversely affect the habitat value of TNBC reserves established under the NBHCP; therefore, the UWSP would not affect the effectiveness of the 0.5-to-1 mitigation ratio for the 17,500 acres of urban development authorized by the NBHCP.

### 5.7.3 Site-Specific Management Plan

Development of the UWSP is not anticipated to adversely affect any Site Specific Management Plans ("SSMPs") for existing or future TNBC reserves in the vicinity of any of the properties associated with the UWSP. TNBC prepares and implements an SSMP for each reserve that addresses the specific resources and habitat values of each reserve site, and how these will be managed in support of the goals and objectives of the NBHCP. SSMPs for each existing TNBC reserve are currently designed to maximize benefits to NBHCP Covered Species using the resources within that individual reserve or reserve block and incorporate adaptive management strategies. Thus, changes in land use outside of an existing TNBC reserve are unlikely to necessitate changes to an SSMP. Although the UWSP would reduce available Swainson's hawk foraging habitat within the UWSP, which is in the vicinity of two existing TNBC reserves, this external factor would not alter the site-specific management of either nearby reserve. The two reserves include the 50-acre "Alleghany" property, which is part of the NBHCP reserve system managed by TNBC, and the approximately 56-acre Cummings Reserve, which is also part of the NBHCP reserve system, lies just north of the UWSP Agricultural Buffer Area, and west of the northernmost portion of the UWSP development area. The Allegheny Reserve will be embedded within the proposed Agricultural Buffer planned for the UWSP and thus would not be anticipated to be affected by development (**Appendix A, Figure 7, Natomas Basin Conservancy Mitigation Lands as of 2023**).

The proposed Agricultural Buffer is a ±505-acre area located between Garden Highway and the Study Area. This area contains Ag Residential and Ag Cropland land use designations and is utilized for small-scale farming and habitat mitigation. This area also contains ±33.6 acres of Open Space intended to provide a buffer between the agricultural and mitigation lands and proposed development. Included in this Open Space is a ±24.2-acre Open Space area providing a 250-foot setback from the south levee of Fisherman's Lake and the ±12.1-acre 30-foot to 50-foot West Edge Corridor. The Agricultural Buffer is not included in the County's growth lines; as such, existing farming operations and habitat are expected to continue, and the Agricultural Buffer will provide a physical separation between the development area and residential uses along Garden Highway.

Agricultural lands and their associated buffers can provide habitat for a variety of protected and common species. These lands often contain valuable nesting and foraging habitat for SWHA and other avian species, and if canals or other waterways are present, can also provide habitat for aquatic species such as GGS and western pond turtle. Agricultural land adjacent to existing preserved land can extend habitat values of the preserve into the adjacent agricultural land and provide connectivity to other areas, unlike urban or other more populated or impacted areas.

Changes in land use outside of an existing TNBC reserve as a result of the development of the UWSP are unlikely to necessitate changes to existing SSMPs.

### 5.7.4 Buffers within Reserve Lands

Per the NBHCP, buffers ranging from 30- to 70-foot-wide strips of native or ruderal vegetation along the edge of the reserve are often incorporated into TNBC reserves to minimize the effects of incompatible adjoining land uses. The NBHCP includes a requirement that reserves be initially sited at least 800 feet from existing or planned urban lands at the time of acquisition (City of Sacramento *et al*. 2003, page IV-16). The UWSP includes a 536.2-acre Agricultural Buffer Area. Certain project-related improvements are proposed within the Buffer Area, including roadway extensions with tie-ins to the Garden Highway, the

construction of which will necessitate the reworking of existing levees and patrol roads, and the grading of levee side slopes.

The Agricultural Buffer Area includes the Alleghany property and is adjacent to the Cummings Reserve to the north. The Alleghany property is located directly north of the proposed San Juan Road tie-in to Garden Highway. While the southern portion of the property, which borders San Juan Road, may experience temporary impacts during the improvement activities, it's important to note that these improvements will be carried out on an existing section of San Juan Road. An SSMP has been prepared for the preserve and should be reviewed to provide further clarification regarding the preserve boundary in relation to the existing road. To support minimal impacts to the preserve during the improvement activities, measures similar to those currently in place are expected to be implemented. For instance, access roads have already been created off San Juan Road adjacent to the southwestern corner of the preserve for a SAFCA levee improvement project.

Development of the north end of the UWSP is buffered from the Cummings Reserve by a proposed 250-foot Open Space corridor to the south of Fisherman's Lake Slough. Thus, planned urban development within the UWSP is not adjacent to existing TNBC reserves, and would, therefore, not alter the effectiveness of buffers within these reserve lands. As a result, implementation of the UWSP will not affect buffers within existing TNBC reserves.

### 5.7.5 Habitat Connectivity

The UWSP is not expected to significantly affect the connectivity of reserve habitat relative to avian species covered under the NBHCP due to their highly mobile and migratory nature. Most of the avian species that frequent the Natomas Basin and the TNBC reserves are migratory in nature, and no effects on habitat connectivity of TNBC reserves for avian species are anticipated due to the development of the Study Area. The Allegheny Reserve, recently acquired as part of SAFCA lands along the western border, will be embedded within the planned 542.4-acre Agricultural Buffer and thus would remain connected through the SAFCA lands to the north.

The NBHCP emphasizes maintaining connectivity of aquatic habitat between TNBC reserves to facilitate GGS movement within the Natomas Basin. This species is focal for two reasons: (1) GGS is the most prevalent Covered Species within the Basin that requires land/water connectivity to travel within the Basin, and (2) if adequate connectivity is provided for GGS, then it is anticipated that other Covered Species will also be afforded adequate opportunities to migrate within the Natomas Basin.

Aquatic habitat in the Natomas Basin consists primarily of drainage and flood control channels. RD 100, a public agency, operates the primary drainage canals within the Natomas Basin and is responsible for conveying and pumping nonurban stormwater runoff from the Natomas Basin. Runoff from agricultural lands within the Natomas Basin flows into numerous local drainage ditches that ultimately flow into the primary RD 1000 canals. RD 1000's primary system of interior drains includes the following:

- The East Drainage Canal conveys drainage water from the northern and eastern Natomas Basin to its confluence with the Main Drainage Canal northwest of the I-80/I-5 interchange. At its closest point, the East Drainage Canal is approximately 70 feet from the Study Area.

- The West Drainage Canal conveys drainage water from the western Natomas Basin northwest of Sacramento International Airport to its confluence with the Main Drainage Canal. Fisherman's

Lake, a natural slough, is a portion of the West Drainage Canal. The West Drainage Canal intersects with a small portion of the Study Area due to off-site improvements at the intersection of El Centro Road.

- The Main Drainage Canal conveys the combined flows of the East and West Drainage Canals from their confluence northwest of the I-80/I-5 interchange through portions of Willow Creek and Metro Center south of I-80. The Main Drainage Canal is within the Study Area at the confluence of the West and Main Drainage Canals.

- The Cross Canal conveys drainage water from central portions of Sutter County westward to the Sacramento River. The Cross Canal connects with the Sacramento River approximately 11.25 miles north of the Study Area.

- The Natomas East Main Drainage Canal conveys drainage water from Dry Creek, Arcade Creek, and a large portion of the Natomas area north of the confluence with Dry Creek. The Natomas East Main Drainage Canal is also referred to as Steelhead Creek. The Natomas East Main Drainage Canal is 1.3 miles from the Study Area.

In addition, NCMWC, a private water company, provides irrigation water through water diversions at five locations along the Sacramento River and the Natomas Cross Canal and distributes this water throughout the Basin through a series of canals and pump stations. These drainage and irrigation canals form a network throughout the Natomas Basin and provide a series of interconnected corridors for aquatic species to disperse and forage.

Pinch points for wildlife movement exist at culvert locations throughout the network of canals and ditches. While some species will utilize culverts, many do not and instead attempt to travel overland trying to cross major roads to return to aquatic habitat on the opposite side. In general, the use of culverts decreases with their length and with the presence of fencing or debris pits; conversely, the use of culverts increases with the presence of adjacent habitat or cover, roadside fencing that "funnels" animals towards culverts, and increased visibility through the culvert (Yanes 1995; Rodriguez *et al*. 1996; Clevenger *et al*. 2001; Forman *et al*. 2003; Ng *et al*. 2004).

Implementation of the UWSP will result in the loss of approximately 18.77 acres of existing canals and irrigation ditches (**Appendix A, Figure 8, Impacts to Upper Westside Specific Plan Aquatic Resources Map**). A few aquatic features are incorporated into the UWSP proposed development for recreation (e.g., biking and pedestrian walkways) but will not be connected to the Natomas Basin irrigation or drainage system. Currently, the Study Area is a partially fragmented, somewhat isolated patch of agricultural land surrounded on its eastern, northeastern, and southeastern boundaries by the dense urban environs of the City of Sacramento. The western boundary of the Study Area abuts Garden Highway, which parallels the Sacramento River. The western portion of the northern boundary (approximately 0.75 mile) abuts TNBC preserve lands, whereas the remaining eastern portion of the northern boundary (approximately 0.75 mile) abuts the City of Sacramento. For GGS, a highly mobile but largely aquatic species, the majority of the Study Area is essentially a dead-end as it is cutoff from potentially suitable GGS habitat to the south, east, and west. The impacts within West Drainage Canal are considered temporary, and the habitat would remain hydrologically connected to Fisherman's Lake after culvert replacement. Given that the majority of the UWSP development area does not currently provide connectivity of reserves or habitats, it would not reduce such connectivity following development, even though the removal of canals and ditches within the Study Area will eliminate the

Study Area from use by GGS, WPT, and other aquatic species. Further, off-site mitigation for the UWSP would be sited, to the extent feasible, to enhance connectivity between existing reserves or more conducive GGS habitats within the Natomas Basin.

### 5.7.6 SWHA Foraging Habitat

As stated in the NBHCP, suitable cover types for foraging habitats include, in order of suitability: (1) native grassland; (2) agriculture soon after discing; (3) alfalfa and other hay crops;(4) fallow fields; (5) lightly grazed pasture; (6) combinations of hay, grain, and row crops; (7) rice fields prior to flooding and after draining; and (8) heavily grazed pasture. Unsuitable cover types for foraging habitat include vineyards, mature orchards, cotton, thistle in fallow fields, and any crop where prey are unavailable due to high vegetation height and density, as well as flooded rice fields.

Based on the analysis in this BRA, the UWSP would reduce the overall upland land cover in the Basin, providing foraging habitat for Swainson's hawk by approximately 1,573.92 acres. Pursuant to the Sacramento County Swainson's hawk mitigation ordinance, however, the project will be required to provide mitigation for impacts to Swainson's hawk foraging habitat at a 1:1 ratio (Sacramento County Code, Chapter 16.130). The majority of the UWSP's development area is currently zoned for agriculture. However, the success of the NBHCP does not require a certain amount of agricultural land remaining in the basin.

The success of the NBHCP does not require a certain amount of agricultural land remaining in the basin. For example, portions of the UWSP area, along with other "uncommitted" agricultural acreage, were acknowledged by the NBHCP to provide foraging habitat for Swainson's hawk, but such "existing baseline foraging habitat is not considered mitigation under the NBHCP" (NBHCP, IV-13). Similarly, CDFW found that the impacts of development authorized by the NBHCP were fully mitigated by the implementation of the NBHCP avoidance and minimization measures, as well as the "establishment, enhancement, and active management of as much as 8,750 acres of high-quality reserve habitat in perpetuity designed and managed specifically for the benefit of the Covered Species" (NBHCP California Endangered Species Act Findings, p. 11.). CDFW's analysis did not mention, nor rely on, any additional "uncommitted" acreage remaining in agriculture.

The NBHCP identified a corridor along the Sacramento River known as the Swainson's Hawk Zone. This zone is defined as the lands that were not developed at the time the NBHCP was approved (excluding the 252 acres of land designated "Urban" on the City of Sacramento General Plan and the North Natomas Community Plan located within the City of Sacramento) and which are located within the Natomas Basin and within one mile east of the Sacramento River and extending from the Natomas Cross Canal on the north and Interstate 80 on the south. The City of Sacramento and Sutter County have limited development within that zone as part of their permits under the NBHCP.

SWHA is a focal species that shares habitat requirements with numerous NBHCP Covered Species in addition to other special-status species not covered by the NBHCP. The effects of the UWSP on foraging habitat would not alter the viability of any of the populations of NBHCP Covered Species.

### 5.7.7 Giant Garter Snake Habitat

The GGS inhabits agricultural wetlands and other waterways, such as irrigation and drainage canals, rice lands, marshes, sloughs, ponds, small lakes, low-gradient streams, and adjacent uplands in the Central

Valley. This species prefers freshwater marshes and low-gradient streams, and has adapted to drainage canals and irrigation ditches for habitat.

As stated in the NBHCP, the Natomas Basin contains a fairly widespread distribution of GGS, with nearly all observations from rice field areas. Within these areas, GGS are strongly associated with the rice fields themselves and the associated canal/drain components of the water conveyance system. The NBHCP presented an estimate for the amount of GGS habitat in the Natomas Basin at the time the NBHCP analysis was prepared by correlating it with the number of rice fields and associated canals/drainages in the Natomas Basin. At that time, these were estimated at 22,692 acres of rice fields and about 247 miles of canals and drains.

However, as stated in Section 5.2.3.1, due to the presumed infrequent use of the Study Area by foraging GGS and the Study Area's geographic location surrounded on three sides by barriers to more suitable habitat, the loss of habitat in the Study Area would not adversely affect GGS, and the overall effect of the Study Area on population viability would be minimal. The impacts within West Drainage Canal are considered temporary, and the habitat would remain hydrologically connected to Fisherman's Lake after culvert replacement. Although some potentially suitable habitat may be lost or temporarily impacted because of the construction of the Study Area proposed development, the outcome of that development will be the procurement of additional reserves of natural habitat for GGS. Habitat preservation ensures that suitable aquatic habitat and upland hibernacula will remain in perpetuity for the benefit of GGS. GGS will benefit from the addition of new lands complementing the existing TBNC preserve system that will be acquired to mitigate for the loss of habitat in the Study Area.

### 5.7.8 Minimum Block Size

The NBHCP stipulates that, by the end of its 50-year life span, the TNBC reserve system will have reached 8,750 acres with one habitat block at least 2,500 acres in size and the balance of reserve lands in habitat blocks of at least 400 acres in size. The NBHCP provides following the basis for the size requirements:

1. Large blocks minimize the "perimeter effect";

2. Large blocks promote biodiversity by allowing multiple species and niches to occupy the site;

3. The benefit to the genetic diversity of dispersing interconnected reserves throughout the Natomas Basin; and

4. The 400-acre reserve size is considered the minimum size to allow the persistence of Covered Species.

Implementation of the UWSP would not prevent TNBC from establishing 8,750 acres of reserves in the Natomas Basin as identified in the NBHCP as the Study Area constitutes only 3.86 percent of the acreage in the Natomas Basin.

The NBHCP is now about 20 years into that 50-year timeframe, and it has already successfully completed its largest land acquisition milestone by completing the 2,500-acre block requirement (Table 5). The requisite 2,500-acre block is made up of the following preserves, as shown on the NBHCP "2023 Base Map." **Figure 7** provides a visual representation of the preserves in relation to UWSP.

**Table 5**
**NBHCP 2,500-ACRE BLOCK ACREAGE**

| Tract | Acq. Date | Acres |
|---|---|---|
| 4. Bennett North | 05.17.99 | 227 |
| 5. Bennett South | 05.17.99 | 132 |
| 7. Lucich South | 05.18.99 | 352 |
| 14. Atkinson | 06.12.03 | 181 |
| 15. Ruby Ranch | 06.23.03 | 91 |
| 16. Huffman West | 09.30.03 | 158 |
| 17. Huffman East | 09.30.03 | 136 |
| 21. Bolen North | 04.29.05 | 114 |
| 22. Bolen South | 04.29.05 | 102 |
| 23. Vestal | 09.12.05 | 95 |
| 24. Bolen West | 09.01.06 | 155 |
| 25. Nestor | 09.01.06 | 233 |
| 31. Lauppe South | 06.30.20 | 172 |
| 32. Verona (CE) | 07.02.20 | 116 |
| 34. Willey | 10.19.20 | 108 |
| 36. Lauppe North | 01.05.22 | 185 |
| Total Acres in Block: | | 2557 |

Source: The Natomas Basin Conservancy, 2023 Base Map (https://natomasbasin.org/maps/; accessed 4-21-23).

With regard to habitat blocks of at least 400 acres, as shown on **Figure 7** the nearest NBHCP habitat blocks to the UWSP site include the Rosa East, Rosa Central, Souza, and Natomas Farms reserves totaling approximately 301 acres, and the Cummings and Rudin reserves, totaling approximately 109 acres. (See The Natomas Basin Conservancy, 2023 Base Map (https://natomasbasin.org/maps/; accessed April 21, 2023). The UWSP site does not include the property lying between these two nearby clusters of reserve land and would not preclude the future acquisition of connectivity between those two areas by TNBC.

Thus, when looking at all the above factors, the UWSP will not reduce the effectiveness of the NBHCP's operating conservation strategy.

# 6.0 PROPOSED MITIGATION MEASURES

The proposed mitigation measures for the Plan Area for reducing and avoiding UWSP impacts to special-status species and habitats are presented below. These avoidance and minimization measures would protect special-status species during construction activities within the Plan Area as well as during the development of the on- and off-site Reserves. Species with and without specific conservation measures will benefit from the habitat enhancement and preservation element through the project's regulatory permitting process, which includes establishing conservation reserves for the benefit of all the Covered Species.

In light of the unique circumstances associated with the location of the UWSP and surrounding HCPs, a biological conservation strategy will be prepared to characterize baseline ecological conditions within the UWSP, define resource conservation goals and objectives for the UWSP, and describe proposed conservation measures identified to avoid, minimize and/or reduce resource impacts during project implementation, as well as to identify proposed feasible/practicable mitigation options for project-

related impacts to biological and agricultural resources. Additionally, an effects analysis of the Upper Westside Specific Plan will be prepared and include an evaluation of the potential effects of implementation of the proposed UWSP on species covered by the Natomas Basin Habitat Conservation Plan, as well as potential effects to the NBHCP, including the ability of the NBHCP to achieve adopted goals and objectives. These documents will also outline anticipated regulatory authorizations required for the development of the UWSP and preliminary strategies to obtain required regulatory authorizations.

Known or potential biological constraints in the Study Area include the following:

- Potential habitat for special-status plants, including wooly rose-mallow and Sanford's arrowhead
- Potential habitat for special-status wildlife, including valley elderberry longhorn beetle, giant garter snake, western pond turtle, tricolored blackbird, Swainson's hawk, burrowing owl, loggerhead shrike, white-faced ibis, pallid bat, and migratory birds;
- Protected trees and canopy;
- Invasive Species; and
- Jurisdictional waters of the U.S and State.

## 6.1 Special-Status Plant Species

As discussed previously, potentially suitable habitat is present for special-status plant species, including woolly-rose mallow and Sanford's arrowhead that are known to occur in the vicinity of the Study Area.

A qualified botanist should conduct one botanical survey in July within the Study Area, which will overlap with the typical identification period of both potentially occurring special-status plant species. It should be noted that weather conditions during any given survey year may require surveys to be conducted earlier or later in the typical blooming period in order to conduct the survey during the appropriate weather conditions. This timing may result in the need to conduct more than one round of plant surveys to adequately survey all potentially occurring special-status plant species. The results of these surveys should be documented in a letter report to Sacramento County. If no special-status plants are observed during the botanical survey, no additional measures for special-status plants are recommended.

If any of the non-listed special-status plants are identified within areas of potential construction disturbance, the plants and/or the seedbank should be transplanted to suitable habitat within the Study Area outside of the project footprint or off-site if suitable habitat is not available within the Study Area. A qualified biologist should prepare an avoidance and mitigation plan detailing protection and avoidance measures, transplanting procedures, success criteria, and long-term monitoring protocols. In addition, pre-construction worker awareness training should be conducted, alerting workers to the presence of and protections for special-status plants in the vicinity of the work area.

In the absence of the proposed mitigation measures, potential adverse effects to special-status plants could include take of individuals during construction.

**MM BIO-1a** To avoid impacts to special-status plants, the following mitigation measures are recommended:

- Prior to the start of construction, a qualified biologist shall conduct focused survey(s) for wooly rose-mallow and Sanford's arrowhead within suitable habitat on the Study Area during the appropriate blooming season (June-September for wooly-rose mallow, May - October for Sanford's arrowhead). Multiple surveys may be required to determine the status of these species in the Study Area. If survey results are negative, no further mitigation would be necessary.

- If special-status plants are documented on the site, a report shall be submitted to CNDDB to document the status of the species on the site. If the project is designed to avoid impacts to habitat for special-status plants and/or individuals and habitat, no further mitigation for special-status plants would be necessary.

- If special-status plants are documented within the site, and project impacts to individuals and habitat are anticipated, the project shall be designed to avoid impacts to special-status plants if feasible. If it is not feasible to avoid impacts to this species, consultation with USFWS and/or CDFW shall be conducted to develop a mitigation strategy. The proponent shall notify USWFS and/or CDFW, providing a complete description of the location, size, and condition of the occurrence, and the extent of proposed direct and indirect impacts to it. The project proponent shall comply with any additional mitigation requirements imposed by USFWS and/or CDFW. Additional requirements could include but are not limited to, obtaining take authorization if necessary, the development of a plan to relocate special-status plants (seed, propagules, etc.) to a suitable location outside of the impact area, and monitoring the relocated population to demonstrate transplant success.

## 6.2 Valley Elderberry Longhorn Beetle

Based on numerous CNDDB records in riparian habitat along the Sacramento River (CDFW 2023) adjacent to the Study Area, elderberry shrubs that may provide habitat for VELB may occur in valley oak woodland in the Study Area. If elderberry shrubs are present in the Study Area, then VELB may occur in the Study Area and be impacted by the proposed project. If elderberry shrubs are determined to be present, then coordination with USFWS will be required to obtain concurrence on the potential for this species to be present in the Study Area and/or be impacted by the proposed project as well as to develop mitigation measures to avoid any potential take of the species. To avoid potential impacts to this species, the following measures are provided as recommendations, but potential impacts to this species and/or potentially suitable habitat for this species will require formal consultation with USFWS as required under Section 7 of the Endangered Species Act due to anticipated permitting associated with the project.

Conservation practices for the VELB set forth in the *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (Desmocerus californicus dimorphus)*, dated May 2017 (Framework) (USFWS 2017) should be followed. The Framework assumes that any effects to riparian habitat with elderberry shrubs present or effects to any elderberry shrub with exit holes in non-riparian areas within the range of the species are likely to result in adverse effects to VELB and must be mitigated according to the Framework. The measures provided below are consistent with Framework.

**MM BIO 2a** A pre-construction survey will be conducted prior to construction-related ground disturbance by a qualified biologist. If such survey determines VELB habitat is present (elderberry shrub within project footprint and if exit holes are present in stems greater than one-inch in diameter), the Implementing/lead agency shall require the developer to follow the following appropriate measures to avoid take and minimize of individuals:

- If elderberry shrubs are found on or adjacent to the site, a 100-foot wide avoidance buffer (measured from the dripline of the plant) will be established around all elderberry shrubs with stems greater than one-inch diameter at ground level and will be clearly identified in the field by staking, flagging, or fencing. No construction activities involving mechanized equipment will occur within the buffer areas. Human access may be permitted in the buffer, provided that it does not cause disturbance to the shrubs.

- Compensatory mitigation for adverse effects may include the transplanting of elderberry shrubs during the dormant season (November 1 to February 15), if feasible, to an area protected in perpetuity as well as required additional elderberry and associated native plantings as approved by the USFWS.

- If off-site compensation includes the dedication of conservation easements, purchase of mitigation credits, or other off-site conservation measures, the details of these measures will be included in the mitigation plan and must occur with full endowments for management in perpetuity. The plan will include information on responsible parties for long-term management, holders of conservation easements, long-term management requirements, and other details, as appropriate, for the preservation of long-term viable populations.

**MM BIO 2b** If elderberry plants cannot be avoided, or if project activities will result in the death of stems or the entire shrub, they shall be transplanted during the dormant season (November 1 to February 15) to an area protected in perpetuity and approved by the USFWS.

- The elderberry shrub will be cut back 3 to 6 feet from the ground or to 50 percent of its height (whichever is taller) by removing branches and stems above this height. The trunk and all stems measuring 1 inch or greater in diameter at ground level will be replanted. Any leaves remaining on the plant will be removed.

- A hole will be excavated of adequate size to receive the transplant.

- The elderberry shrub will be excavated using a Vermeer® spade, backhoe, front-end loader, or other suitable equipment, taking as much of the root ball as possible, and will be replanted immediately. The plant will only be moved by the root ball. The root ball will be secured with wire and wrapped with damp burlap. The burlap will be dampened as necessary to keep the root ball wet. Care will be taken to ensure that the soil is not dislodged from around the roots of the transplant. Soil at the transplant site will be moistened prior to transplant if the soil at the site does not contain adequate moisture.

- Replacement seedling plants will be provided at a ratio of 2 to 1 to 5 to 1 depending on the extent of VELB utilization of the plants moved or lost. An 1,800-square-foot area will be provided for each transplanted elderberry shrub or every five elderberry seedling plants.

**MM BIO 2c** Annual monitoring of VELB habitat will be provided in the planted mitigation sites for a 10-year period.

- Replacement elderberry shrubs will meet a 60% survival rate by the end of the 10-year period and the 60% survival rate shall be required for the term of the applicable permit.
- Final habitat acreages, mitigation ratios, and other project-specific compensatory mitigation requirements should be determined through consultation between USACE/USFWS/CDFW as part of the required project-specific regulatory permitting processes, currently anticipated to consist of Section 404 Authorization/FESA Section 7 Consultation/CDFW Streambed Alteration Agreement and 2081 Incidental Take Permit.

## 6.3 Giant Garter Snake

**MM BIO-3a** To avoid impacts to potential giant garter snake and their habitat, defined as 200 feet surrounding delineated aquatic resources in the project area, the following mitigation measures are recommended:

- A USFWS/CDFW–approved biologist will identify suitable giant garter snake habitat. If suitable habitat is identified, the project proponent will avoid and minimize impacts to the maximum extent practicable. Avoidance measures should include relocating impacts away from the habitat. Avoidance and minimization measures will be incorporated into the project design and other portions of the application package prior to submission for coverage under the Plan. If the project does not fully avoid impacts to suitable habitat, pre-construction surveys will be required.

- Prior to any ground disturbance related to construction activities, a USFWS/CDFW–approved biologist will conduct a pre-construction survey in construction areas identified as having suitable garter snake habitat and 200 feet of adjacent uplands, measured from the outer edge of each bank. The surveys will delineate suitable habitat and document any sightings of giant garter snake.

- If impacts on giant garter snake habitat as a result of construction activities are not avoided, the following measures will be implemented. These measures are based on USFWS's Standard Avoidance and Minimization Measures during Construction Activities in Giant Garter Snake Habitat (USFWS 1999).

    - Limit construction activity that disturbs habitat to the period between May 1 and September 30. This is the active period for giant garter snake, and direct mortality is minimized because snakes are more likely to independently move away from disturbed areas. If activities are necessary in giant garter snake habitat between October 1 and April 30, the USFWS Sacramento Field Office will be contacted to determine if additional measures beyond those described below are necessary to minimize and avoid take.

  - In areas where construction is to take place, dewater all irrigation ditches, canals, or other aquatic habitat between April 15 and September 30, to remove habitat of garter snakes. Dewatered areas must remain dry, with no puddled water remaining, for at least 15 consecutive days prior to the excavation or filling of that habitat. If a site cannot be completely dewatered, netting and salvage of prey items may be necessary.

- If suitable habitat for giant garter snake cannot be avoided between October 1 and April 30, the USFWS Sacramento Field Office will be contacted to determine if additional measures beyond those described below are necessary, and the following actions will be performed. A USFWS-approved biologist will conduct a construction survey no more than 24 hours before construction in suitable habitat and will be on-site during construction activities in potential aquatic and upland habitat to monitor construction and watch for the presence of giant garter snake. The biologist will provide USFWS with a field report form documenting the monitoring efforts within 24 hours of the commencement of construction activities. The monitor will be available thereafter. If a snake is encountered during construction activities, the monitor will have the authority to stop construction activities until appropriate corrective measures have been completed or it is determined that the snake will not be harmed. Giant garter snakes encountered during construction activities should be allowed to move away from the construction area on their own. Only personnel with a USFWS recovery permit pursuant to Section 10(a)(1)(A) of the ESA will have the authority to capture and/or relocate giant garter snakes that are encountered in the construction area. The project area will be reinspected whenever a lapse in construction activity of two weeks or more has occurred.

- To preserve nearby aquatic habitat for giant garter snake outside construction areas from potential effects of construction, silt fencing will be erected to clearly define the aquatic habitat to be avoided; restrict working areas, spoils, and equipment storage and other project activities to areas outside of aquatic or wetland habitat; and maintain water quality and limit construction runoff into wetland areas through the use of fiber bales, filter fences, vegetation buffer strips, or other appropriate methods.

  - Fill or construction debris may be used by giant garter snakes as over-wintering sites. Therefore, upon completion of construction activities, any temporary fill or construction debris must be removed from the site.

- Construction personnel will be trained to avoid harming giant garter snakes. A qualified biologist approved by USFWS will inform all construction personnel about the life history of giant garter snakes; the importance of irrigation canals, marshes/wetlands, and seasonally flooded areas such as rice fields to giant garter snakes; and project mitigation related to avoiding and minimizing impacts on giant garter snake.

**MM BIO-3b** If suitable habitat for giant garter snake cannot be avoided, compensatory mitigation for adverse effects to habitat may include preserving, creating, and/or enhancing upland and/or aquatic habitats in perpetuity at a location and ratio approved by the USFWS.

- If off-site compensation includes the dedication of conservation easements, purchase of mitigation credits, or other off-site conservation measures, the details of these measures will be included in the mitigation plan and must occur with funding for management in perpetuity. The plan will include information on responsible parties for long-term management, holders of conservation easements, long-term management requirements, and other details, as appropriate, for the preservation of long-term viable populations.

## 6.4 Western (Northwestern) Pond Turtle

The Project Area provides aquatic habitat suitable to support this species, with marginal upland habitat also present.

**MM BIO-4a** To avoid impacts to potential western pond turtle and their habitat The following mitigation measures are recommended:

- A qualified biologist should conduct a pre-construction survey within 14 days prior to the start of ground disturbance within 500 feet of riparian habitat or intermittent drainage. If no western pond turtles are observed, no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, a new survey is recommended.

- If western pond turtles are found, additional avoidance measures are recommended, including having a qualified biologist conduct a pre-construction survey within 24 hours prior to the commencement of construction activities, performing a Worker Awareness Training to all construction workers, and being present on the site during grading activities within 500 feet of the intermittent drainage and their surrounding riparian habitat for the purpose of relocating any western pond turtles found within the construction footprint to suitable habitat away from the construction zone, but within the property.

## 6.5 Tricolored Blackbird And Other Special-Status Birds (Loggerhead Shrike) And Nesting Migratory Birds And Raptors

Special-status birds and migratory birds and raptors protected under federal, State, and/or local laws and policies have the potential to nest and forage within the Study Area. Tricolored blackbird may nest and forage within the Study Area. Other migratory bird species have the potential to nest and forage within the Study Area. The Study Area and adjacent land contain suitable habitat to support a variety of nesting birds within trees, shrubs, structures, and on bare ground.

Active nests and nesting birds are protected by the California Fish and Game Code Sections 3503 and 3503.5, 3513, and the MBTA. Ground-disturbing and other development activities, including grading,

vegetation clearing, tree removal/trim, and construction could impact nesting birds if these activities occur during the nesting season (generally February 1 to August 31). To avoid impacts to nesting birds, all ground-disturbing activities should be completed between September 1 and January 31, if feasible.

**MM BIO-5a** If construction cannot occur outside of the nesting season, the following measures are recommended to avoid impacts to special-status and nesting migratory birds:

- If construction activities occur during the nesting season, a qualified biologist should conduct a nesting bird survey to determine the presence of any active nests within the Study Area. Additionally, the surrounding 500 feet of the Study Area should be surveyed for active raptor nests, where accessible. The nesting bird survey should be conducted within 14 days prior to the commencement of ground-disturbing or other development activities. If the nesting bird survey shows that there is no evidence of active nests, no additional measures are recommended. If development does not commence within 14 days of the nesting bird survey, or halts for more than 14 days, then an additional survey is required prior to starting or resuming work within the nesting season.

- If active nests are found, then the qualified biologist should establish a species-specific buffer to prohibit development activities near the nest and minimize nest disturbance until the young have successfully fledged or the biologist determines that the nest is no longer active. Buffer distances may range from 30 feet for some songbirds and 0.5 mile for some raptors. Nest monitoring may also be warranted during certain phases of construction to ensure nesting birds are not adversely impacted. If active nests are found within any trees slated for removal, then an appropriate buffer should be established around the tree and all trees within the buffer should not be removed until a qualified biologist determines that the nest has successfully fledged and/or is no longer active.

- A qualified biologist should conduct environmental awareness training that is given to all on-site personnel prior to the initiation of work.

If construction occurs outside of the nesting bird season (September 1 to January 31), a nesting bird survey and environmental training for nesting birds would not be required.

## 6.6 Burrowing Owl

**MM BIO-6a** To avoid impacts to potential burrowing owl and their habitat The following mitigation measures are recommended:

- A qualified biologist shall conduct focused burrowing owl surveys in the Project area and surrounding 500 feet, where accessible, in accordance with the CDFW's Staff Report on Burrowing Owl Mitigation (Staff Report), published March 7, 2012. Surveys shall be repeated if project activities are suspended or delayed more than 14 days.

    - According to the Staff Report, four survey visits shall be conducted during the breeding season (February 1 to August 31): (1) at least one site visit between February 15 and April 15, and (2) a minimum of three survey visits, at least three weeks apart, between April 15 and July 15, with at least one visit after June 15.

- Non-breeding season surveys shall be conducted during four site visits, spread evenly apart.

- Take avoidance surveys may also be conducted. An initial take avoidance survey shall be conducted no less than 14 days prior to initiating ground disturbance activities using the methods outlined in the Staff Report. Implementation of avoidance and minimization measures would be triggered by positive owl presence on the site where project activities will occur. The development of avoidance and minimization approaches would be informed by monitoring the burrowing owls. Burrowing owls may re-colonize a site after only a few days. Time lapses between project activities trigger subsequent take avoidance surveys, including but not limited to a final survey conducted within 24 hours prior to ground disturbance.

If no burrowing owls are detected, no further measures are required. If active burrowing owl burrows are detected, the avoidance, minimization, and mitigation methodologies outlined in the CDFW's Staff Report on Burrowing Owl Mitigation shall be followed prior to initiating Project related activities that may impact burrowing owls.

## 6.7 Special-Status Birds and Nesting Migratory Birds and Raptors

**MM BIO-7a** To avoid impacts to potential special-status birds and nesting migratory birds and raptors, the following mitigation measures are recommended:

Active nests and nesting birds are protected by the California Fish and Game Code Sections 3503 and 3503.5, 3513, and the MBTA. Ground-disturbing and other development activities, including grading, vegetation clearing, tree removal/trim, and construction could impact nesting birds if these activities occur during the nesting season (generally February 1 to August 31). To avoid impacts to nesting birds, all ground-disturbing activity should be completed between September 1 and January 31, if feasible. If construction cannot occur outside of the nesting season, the following measures are recommended:

- If construction activities occur during the nesting season, a qualified biologist should conduct a nesting bird survey to determine the presence of any active nests within the Study Area. Additionally, the surrounding 500 feet of the Study Area should be surveyed for active raptor nests, where accessible. The nesting bird survey should be conducted within 14 days prior to the commencement of ground-disturbing or other development activities. If the nesting bird survey shows that there is no evidence of active nests no additional measures are recommended. If development does not commence within 14 days of the nesting bird survey, or halts for more than 14 days, then an additional survey is required prior to starting or resuming work within the nesting season.

    - If active nests are found, then the qualified biologist should establish a species-specific buffer to prohibit development activities near the nest to and minimize nest disturbance until the young have successfully fledged or the biologist determines that the nest is no longer active. Buffer distances may range from 30 feet for some songbirds and 0.5 mile for some raptors. Nest monitoring may also be warranted during certain phases of construction to ensure nesting birds are not adversely impacted. If active nests are found within any trees slated for removal, then an appropriate buffer should be established around the tree and all trees within the

buffer should not be removed until a qualified biologist determines that the nest has successfully fledged and/or is no longer active.

- A qualified biologist should conduct environmental awareness training that is given to all onsite personnel prior to the initiation of work.

- If construction occurs outside of the nesting bird season (September 1 to January 31), a nesting bird survey and environmental training for nesting birds would not be required.

## 6.8 Swainson's Hawk

**MM BIO-8a** To avoid impacts to potential Swainson's hawk, the following mitigation measures are recommended:

- If construction activities will begin during the Swainson's hawk nesting season (March 20 to September 15), a qualified biologist should conduct at least the minimum number of surveys called for within at least two survey periods prior to the initiation of construction in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000) or the current

  CDFW-approved protocol. Current survey periods specified by the Guidelines are March 20 to April 5, April 5 to April 20, April 21 to June 10, and June 10 to July 30. All potential nest trees within 0.5 mile of the proposed Project footprint should be visually examined for potential Swainson's hawk nests, as accessible.

- If no active Swainson's hawk nests are identified on or within 0.5-mile of the proposed Project, a letter report documenting the survey methodology and findings should be submitted to the Project proponent, and no additional mitigation measures are recommended.

- If active Swainson's hawk nests (a nest becomes active once the first egg is laid and remains active until the fledged young are no longer dependent on the nest [USFWS 2018]) are found within 0.5 mile of the Project footprint, a survey report should be submitted to CDFW, and an avoidance and minimization plan should be developed for approval by CDFW prior to the start of construction. The avoidance plan should identify measures to minimize impacts to the active Swainson's hawk nest depending on the location of the nest relative to the project footprint. These measures may include:

  - Conduct a worker awareness training program prior to the start of construction;

  - Establish a buffer zone and work schedule to avoid impacting the nest during critical periods. If possible, no work will occur within 200 yards of the nest while it is in active use. If work will occur within 200 yards of the nest, then construction will be monitored by a qualified biologist to ensure that no work occurs within 50 yards of the nest during incubation or within 10 days after hatching (Swainson's Hawk Technical Advisory Committee 2000);

- Have a biological monitor conduct regular monitoring of the nest during construction activities; and

- Should the project biologist determine that the construction activities are disturbing the nest; the biologist should halt construction activities until the CDFW is consulted.

- The Study Area contains cropland habitats, which provide suitable foraging habitat for Swainson's hawks. CDFW has provided guidelines for mitigating impacts to Swainson's hawk foraging habitat as summarized below (CDFW 1994):

  a) Projects within one mile of an active nest tree shall provide:

  - One acre of foraging habitat for each acre of development at a ratio of 1:1. Mitigated lands shall consist of 10 percent of the land requirements met by fee title acquisition or a conservation easement allowing for the active management of the habitat, and the remaining 90 percent of the land protected by a conservation easement on agricultural lands or other suitable habitats which provide foraging habitat for Swainson's hawk (grasslands, rangeland, etc.) and no requirements for active management of the habitat; or

  - One-half acre of foraging habitat for each acre of development authorized at a ratio of 0.5:1. All the land requirements shall be met by fee title acquisition or a conservation easement, which allows for the active management of the habitat for prey production on the land. Prey abundance and availability are determined by land and farming patterns, including crop types, agricultural practices, and harvesting regimes. Actively managed land for prey production may result in the land becoming less valuable for crop production due to management limitations but increases the value for Swainson's hawk through functional lift.

  b) Projects within five miles of an active nest tree but greater than one mile from the nest tree shall provide 0.75 acre of foraging habitat for each acre of urban development at a ratio of 0.75:1. All foraging habitat may be protected through fee title acquisition or conservation easement on agricultural lands or other suitable habitats.

  c) Projects within 10 miles of an active nest tree, but greater than five miles from an active nest, tree shall provide 0.5 acre of Habitat Management land for each acre of urban development at a ratio of 0.5:1. All foraging habitat may be protected through fee title acquisition or a conservation easement on agricultural lands or other suitable habitat.

Sacramento County Office of Planning and Environmental Review (PER) assumes that parcels zoned as AG-40 (Agriculture) or larger, are considered to have 100 percent habitat value, and the value decreases as the minimum parcel size drops. Properties zoned AR-5 and smaller, parcels zoned as RD-1 thru 40, and commercial and industrial zonings retain no foraging habitat value. Parcels within the Study Area are zoned SC (Shopping Center), LC (Light commercial), and RD-40 (Multiple Family Residential) (Sacramento County 2016). With the implementation of the measures provided in Section 6.8, the

Project would not affect the viability of the SWHA population in the Natomas Basin and would contribute to the overall success of the SWHA population in the Natomas Basin and beyond.

## 6.9 White-Faced Ibis

The Study Area contains foraging habitat, which consists of agricultural lands, annual grasslands, fallowed crops, and ruderal areas.

**MM BIO-9a** To avoid impacts to white-faced ibis, the following mitigation measures are recommended:

- A qualified biologist should conduct a pre-construction survey of potential breeding and nesting habitat for presence of breeding and nesting white-faced ibis.
- No more than three days prior to construction (if occurring during the nesting season), a white-faced ibis nesting survey will be conducted.
- If surveys determine the presence of active white-faced ibis nest sites, disturbance within 0.25 mile of nests will be avoided within the nesting season of May 15 through August 31 or until a qualified biologist, with concurrence of USFWs and CDFW, has determined that young have fledged or that the nest is no longer occupied.

## 6.10 Pallid Bat

Pallid bat has the potential to occur within the Study Area. The Study Area provides potential foraging habitat over agricultural lands, and Fremont cottonwood and valley oak tree groves provide suitable roosting habitat for the species.

**MM BIO-10a** To avoid impacts to potential pallid bat, the following mitigation measures are recommended:

- A qualified biologist should conduct a pre-construction survey for special-status bat species within 14 days prior to development or ground disturbing activities, including grading, vegetation clearing, tree removal, or construction. If no bats are observed, no additional measures are recommended. If development does not commence within 14 days of the pre-construction survey, or halts for more than seven days, an additional survey is required prior to resuming or starting work.
- If special-status bats are present and roosting in the Study Area or the surrounding 100 feet of the Study Area, the qualified biologist should establish an appropriate no disturbance buffer around the roost site prior to the commencement of ground-disturbing activities or development. No trees should be removed until the biologist has determined that a roost site is no longer active, and no bats are present. If avoidance is not feasible, then the CDFW should be consulted for additional avoidance measures and additional mitigation measures, such as the installation of bat boxes or alternate roost structures.

- A qualified biologist should conduct environmental awareness training for all construction personnel prior to the initiation of work.

## 6.11 PROTECTED TREES AND CANOPY

**MM BIO-11a** The project site contains trees potentially protected by the Sacramento County Tree Preservation Ordinance. Trees on the site should be protected from removal as well as from ground disturbance within the protection zone without a tree permit from the County. Prior to any removal, or ground disturbance within a radius of one foot greater than the maximum dripline of a protected tree, a tree survey should be conducted by an ISA-Certified Arborist to document the species, size, and condition of all trees in the Study Area. A tree permit will be required prior to the removal or impact of any protected native oak tree. The person requesting the permit, or the property owner, may also be required to pay the cost of obtaining and planting the replacement trees.

Mitigation for loss of both protected oak trees and other tree canopy may be implemented as a combination of avoidance, protection, on-site replacement, where feasible, and off-site preservation or creation of oak woodland habitat. Recommended tree protection measures below include Sacramento County guidelines for protection measures to be implemented around trees that will remain in the Study Area.

- Tree Protection Fencing, consisting of four-foot tall, brightly-colored, high-visibility plastic fencing, shall be placed around the perimeter of the tree protection zone (TPZ) (dripline radius + 1 foot) on the project side of existing oak trees;

- Tree protection fencing shall not be moved without prior authorization from the Project Arborist or Sacramento County;

- No parking, portable toilets, dumping or storage of any construction materials, grading, excavation, trenching, or other infringement by workers or domesticated animals is allowed in the TPZ;

- No signs, ropes, cables, or any other item shall be attached to a protected tree, unless recommended by an ISA-Certified Arborist;

- Underground utilities should be avoided in the TPZ where feasible (as previously discussed, trenching within the dripline of trees along the western side of the existing driveway is not expected to further impact these trees);

- Cut or fill within the dripline of existing native oak trees should be avoided;

- Pruning of living limbs or roots over two inches in diameter shall be done under the supervision of an ISA-Certified Arborist; and

- Where trenching results in impacts to the roots of protected trees, the roots should be trimmed to a clean edge.

## 6.12 INVASIVE SPECIES

**MM BIO-12a** Prior to the issuance of a grading permit, the Applicant shall prepare a Weed Control Plan for review and approval by the County. Prior to the start of construction activities, the Applicant shall implement a comprehensive, adaptive Weed Control Plan for pre-construction and construction invasive weed abatement. The long-term Weed Control Plan, shall include, but is not limited to, the following:

- A pre-construction weed inventory shall be conducted by surveying all areas subject to ground-disturbing activity, including but not limited to, staging areas, access roads, and areas subject to grading.
- Weed populations that (1) are rated High or Moderate for negative ecological impact in the Cal-IPC database, and (2) aid and promote the spread of wildfires (such as cheatgrass, Saharan mustard, and medusa head) shall be mapped and described according to density and area covered.
- In areas subject to ground disturbance, weed infestations shall be treated prior to construction according to control methods and practices for invasive weed populations.
- The Weed Control Plan shall be updated and utilized for eradication and monitoring postconstruction.
- Weed control treatments shall include all legally permitted herbicide, and manual and mechanical methods. The application of herbicides shall be in compliance with all state and federal laws and regulations under the prescription of a Pest Control Advisor and implemented by a Licensed Qualified Applicator.
- The timing of weed control treatment shall be determined for each plant species in consultation with USFWS with the goal of controlling populations before they start producing seeds.
- Surveying and monitoring of the identified and treated populations shall be required at all sites impacted by construction, and shall occur annually for years one to five and bi-annually for years six to ten.
- During project pre-construction and construction, vehicles and all equipment shall be washed (including wheels, undercarriages, and bumpers) prior to commencing work in off-road areas.

## 6.13 JURISDICTIONAL WATERS

**MM BIO-13a** Prior to the start of construction, the project proponent shall secure any required aquatic resources permits for impacts to jurisdictional waters of the U.S./State from the USACE, RWQCB, and CDFW, pursuant to Sections 404 and 401 of the Clean Water Act and Section 1600 of the Fish and Game Code and shall comply with all conditions of such permits including providing compensatory mitigation as required to achieve no net loss of wetlands or other waters.

Mitigation for potential impacts to jurisdictional waters shall consist of avoidance of preserved jurisdictional waters on or adjacent to the site. In the event such waters cannot be avoided, the project applicant shall obtain the appropriate permits and provide compensatory mitigation at a minimum of a 1:1 ratio. The type of mitigation shall be determined based upon the currently availability of mitigation options at the time of permitting.

- The Project shall be designed to avoid impacts to jurisdictional waters on and adjacent to the site. If jurisdictional waters cannot be avoided, prior to the start of construction, the Project applicant shall secure any required aquatic resources permits for impacts to jurisdictional waters of the U.S. and waters of the State from the USACE, Sacramento RWQCB, and CDFW, and shall comply with all conditions of such permits including providing compensatory mitigation as required to achieve no net loss of wetlands or other waters.

- For those waters of the U.S. and waters of the State and CDFW jurisdictional areas that are not avoided by Project construction, compensatory mitigation shall be provided. As approved by the Sacramento RWQCB and CDFW, the project applicant may purchase mitigation credits from an approved mitigation bank at a minimum 1:1 ratio or implement another method of mitigation satisfactory to the USACE, Sacramento RWQCB, and CDFW.

- Impacts shall also be minimized by the use of Best Management Practices to protect preserved waters of the U.S./State to ensure that water quality standards are not compromised in preserved wetlands and other waters within the watershed. These practices can include installing orange construction fencing buffers and straw wattles to keep fill from entering preserved/avoided wetlands and other waters, and other protective measures.

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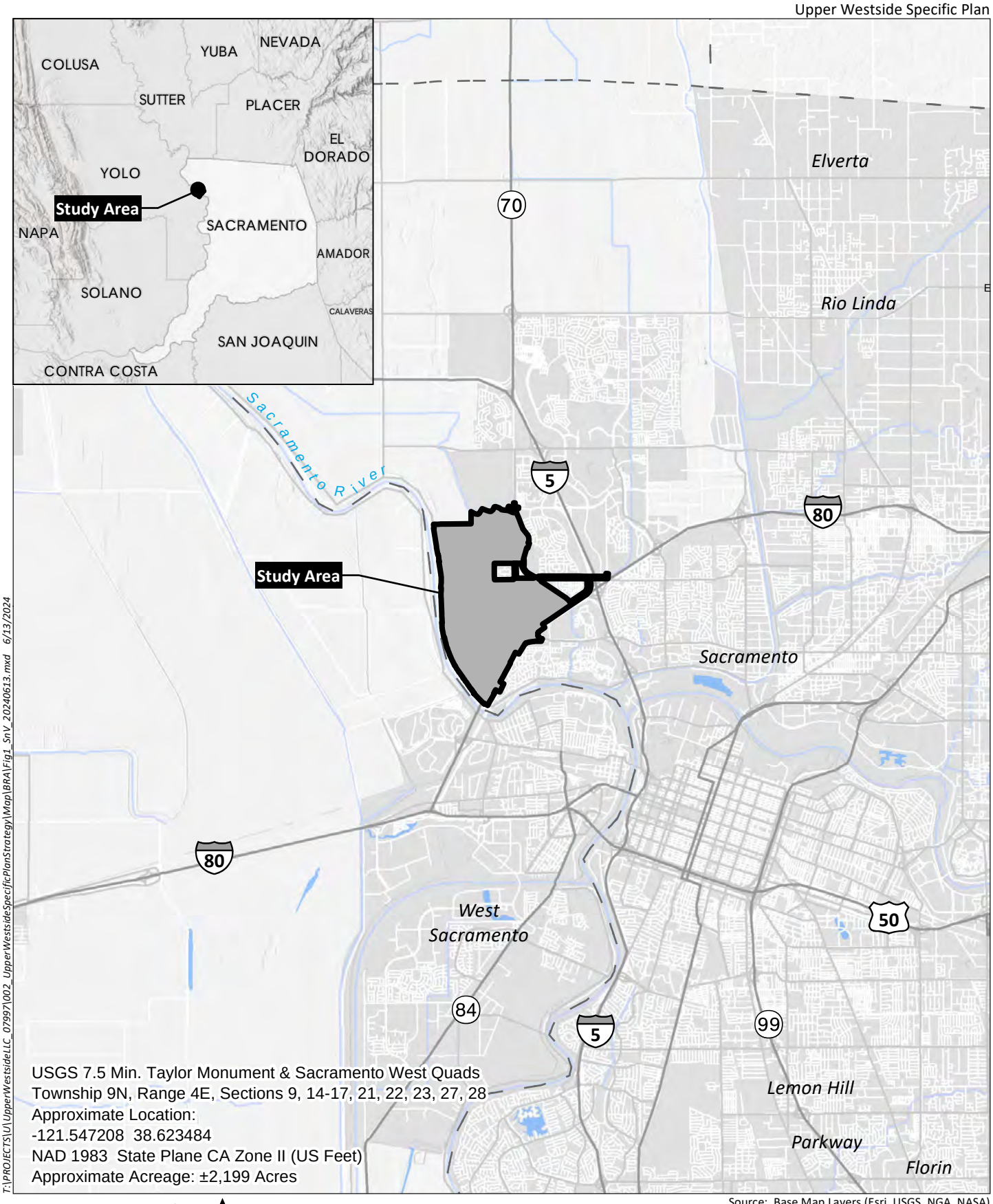
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# Appendix A

## Figures

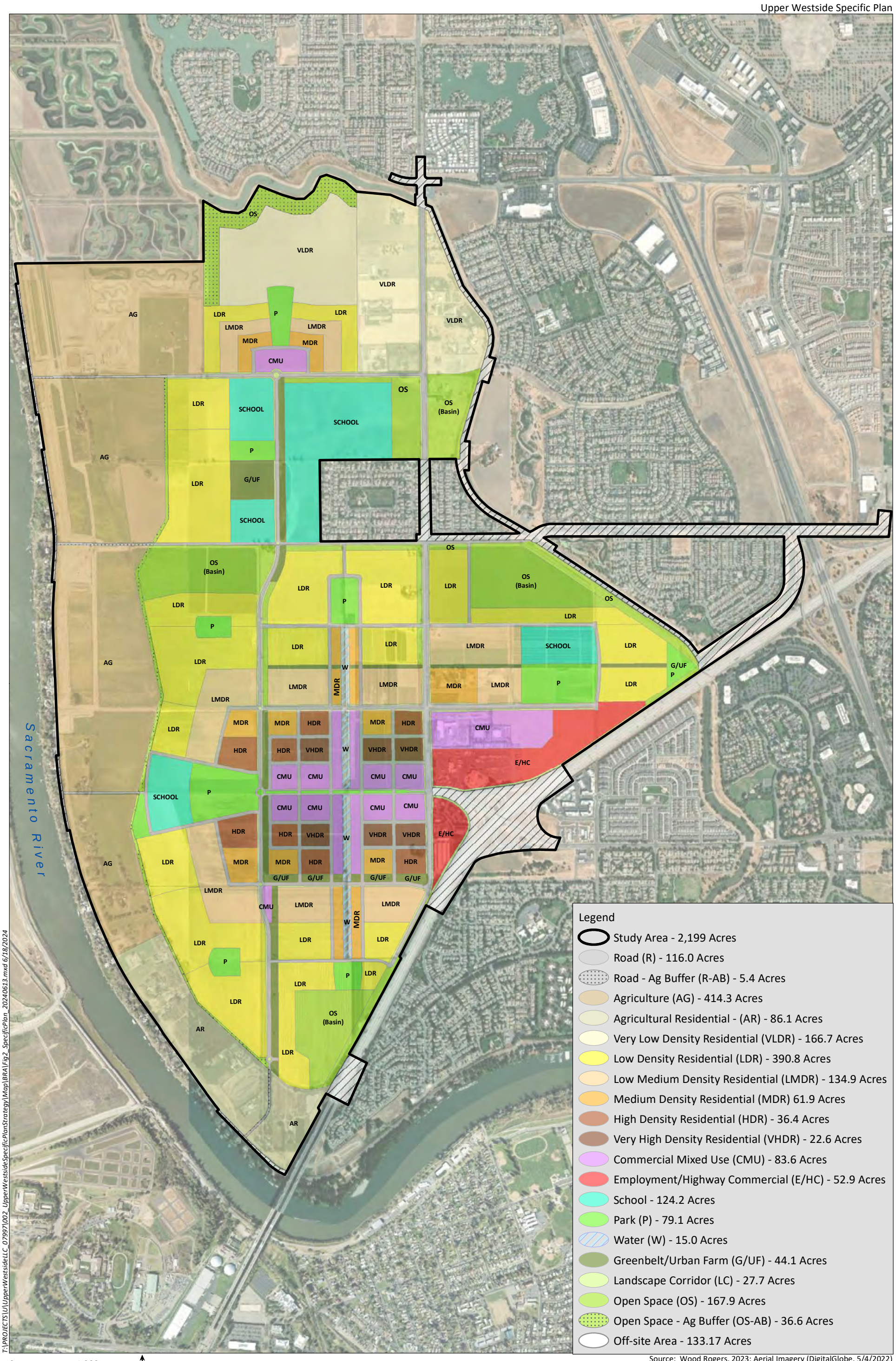



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HELIX Environmental Planning

# Vicinity Map

Figure 1



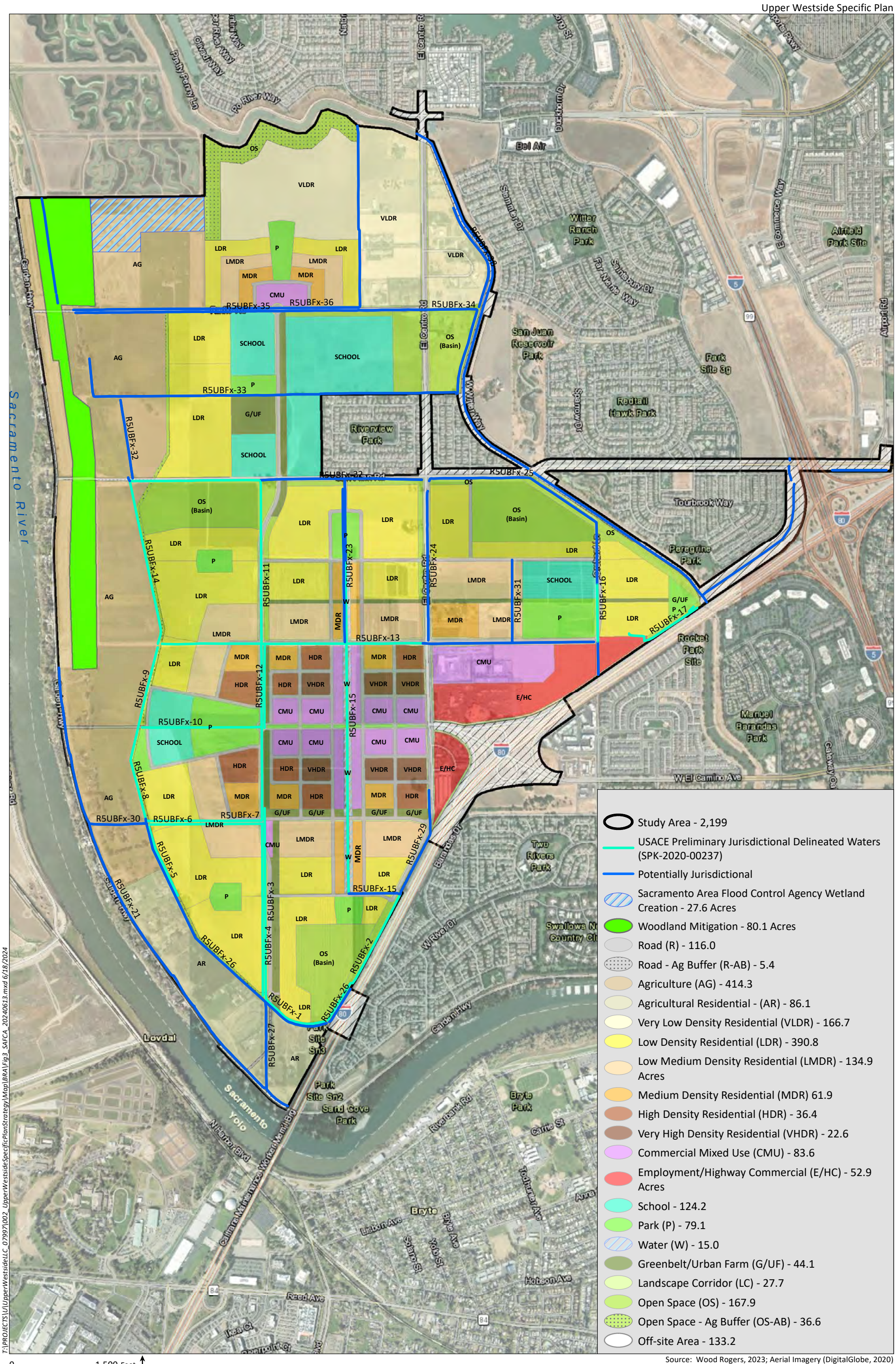

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Source: Wood Rogers, 2023; Aerial Imagery (DigitalGlobe, 5/4/2022)

HELIX Environmental Planning

## Proposed Project - Upper Westside Specific Plan

Figure 2



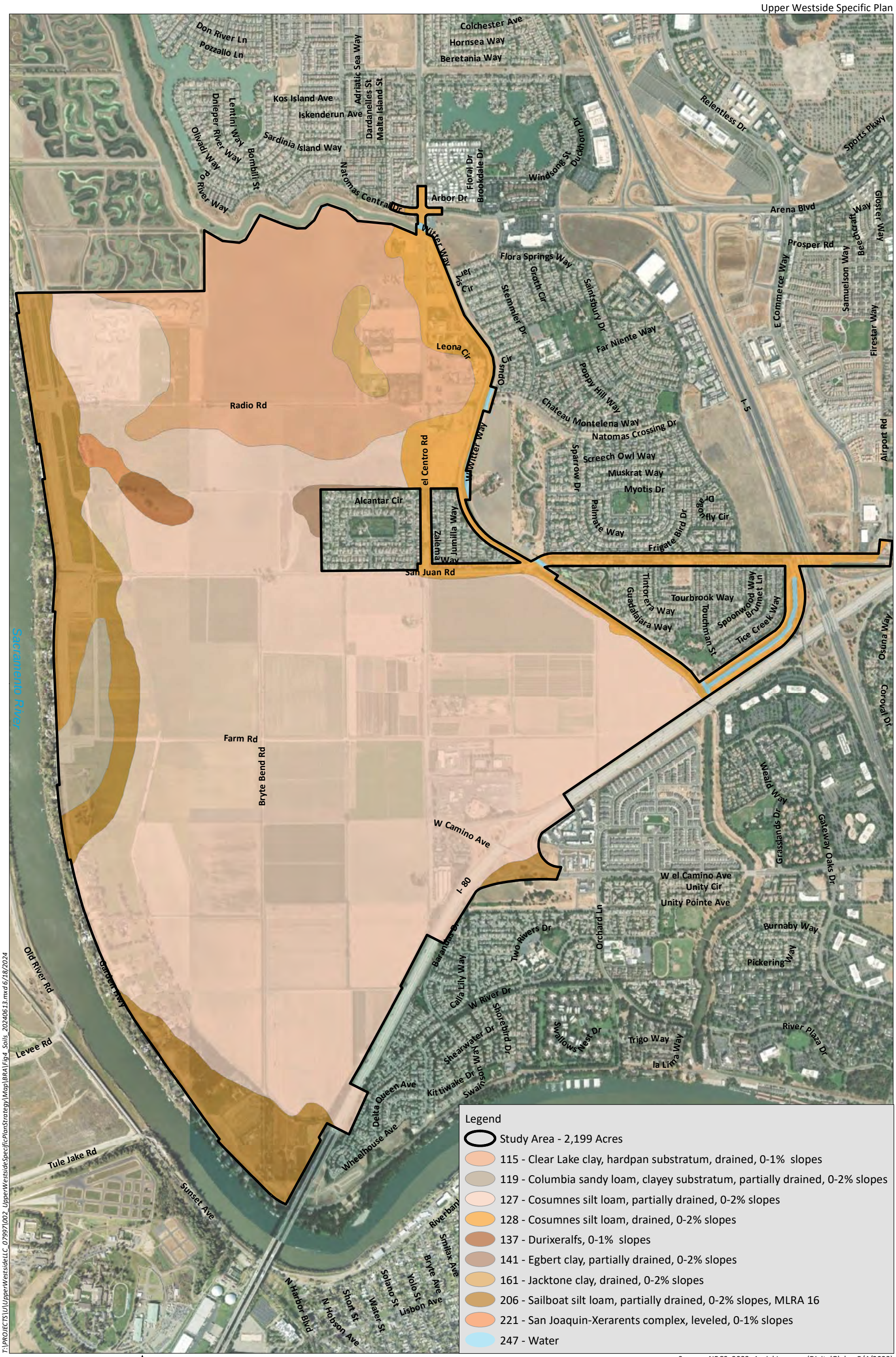

Source: Wood Rogers, 2023; Aerial Imagery (DigitalGlobe, 2020)

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HELIX Environmental Planning

# Upper Westside Specific Plan and Sacramento Area Flood Control Agency Properties

Figure 3



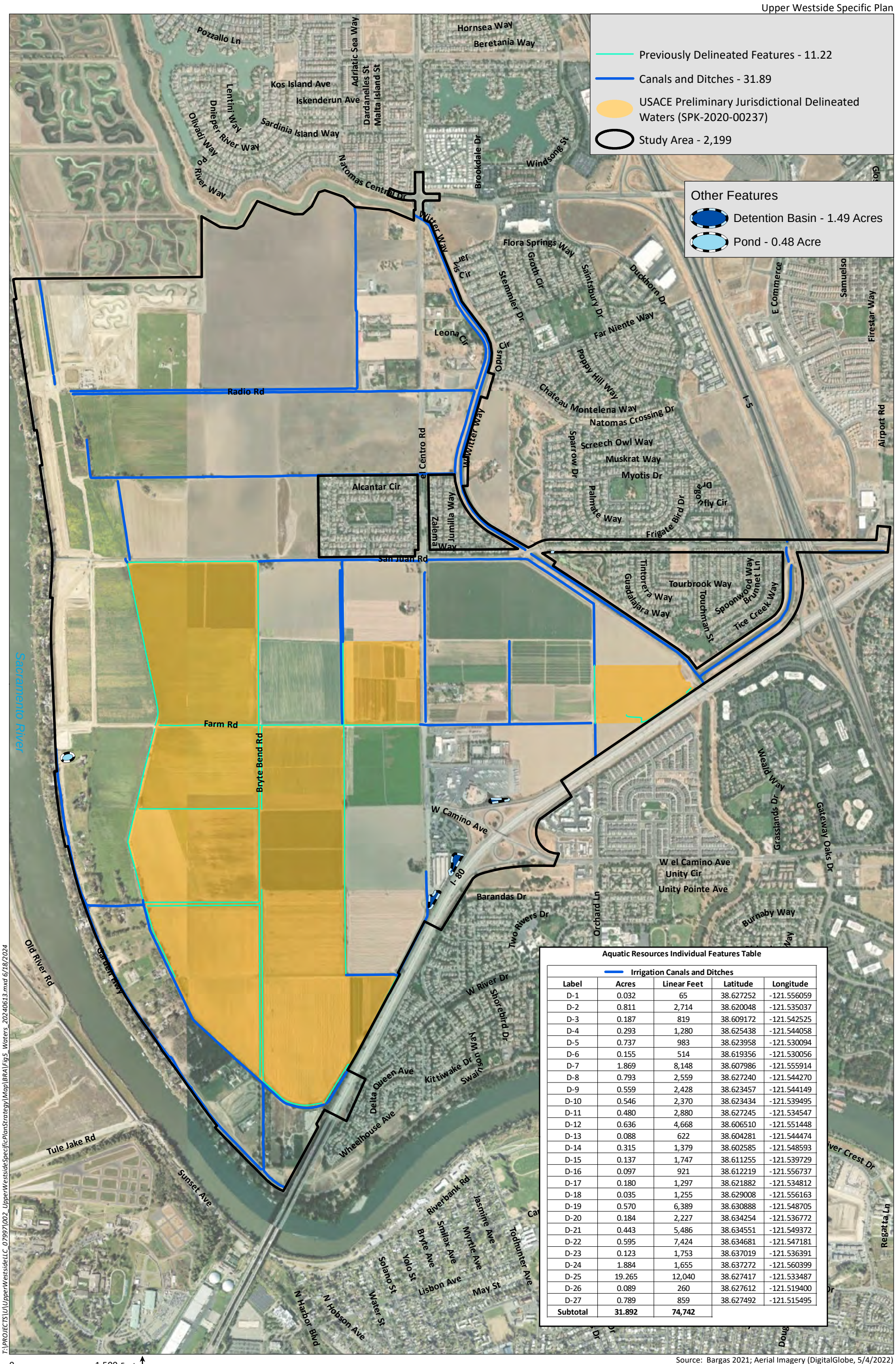

Source: NRCS, 2022; Aerial Imagery (DigitalGlobe, 5/4/2022)

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HELIX Environmental Planning

# Soils Map

Figure 4




**Aquatic Resources Individual Features Table**

| Irrigation Canals and Ditches | | | | |
|---|---|---|---|---|
| **Label** | **Acres** | **Linear Feet** | **Latitude** | **Longitude** |
| D-1 | 0.032 | 65 | 38.627252 | -121.556059 |
| D-2 | 0.811 | 2,714 | 38.620048 | -121.535037 |
| D-3 | 0.187 | 819 | 38.609172 | -121.542525 |
| D-4 | 0.293 | 1,280 | 38.625438 | -121.544058 |
| D-5 | 0.737 | 983 | 38.623958 | -121.530094 |
| D-6 | 0.155 | 514 | 38.619356 | -121.530056 |
| D-7 | 1.869 | 8,148 | 38.607986 | -121.555914 |
| D-8 | 0.793 | 2,559 | 38.627240 | -121.544270 |
| D-9 | 0.559 | 2,428 | 38.623457 | -121.544149 |
| D-10 | 0.546 | 2,370 | 38.623434 | -121.539495 |
| D-11 | 0.480 | 2,880 | 38.627245 | -121.534547 |
| D-12 | 0.636 | 4,668 | 38.606510 | -121.551448 |
| D-13 | 0.088 | 622 | 38.604281 | -121.544474 |
| D-14 | 0.315 | 1,379 | 38.602585 | -121.548593 |
| D-15 | 0.137 | 1,747 | 38.611255 | -121.539729 |
| D-16 | 0.097 | 921 | 38.612219 | -121.556737 |
| D-17 | 0.180 | 1,297 | 38.621882 | -121.534812 |
| D-18 | 0.035 | 1,255 | 38.629008 | -121.556163 |
| D-19 | 0.570 | 6,389 | 38.630888 | -121.548705 |
| D-20 | 0.184 | 2,227 | 38.634254 | -121.536772 |
| D-21 | 0.443 | 5,486 | 38.634551 | -121.549372 |
| D-22 | 0.595 | 7,424 | 38.634681 | -121.547181 |
| D-23 | 0.123 | 1,753 | 38.637019 | -121.536391 |
| D-24 | 1.884 | 1,655 | 38.637272 | -121.560399 |
| D-25 | 19.265 | 12,040 | 38.627417 | -121.533487 |
| D-26 | 0.089 | 260 | 38.627612 | -121.519400 |
| D-27 | 0.789 | 859 | 38.627492 | -121.515495 |
| **Subtotal** | **31.892** | **74,742** | | |

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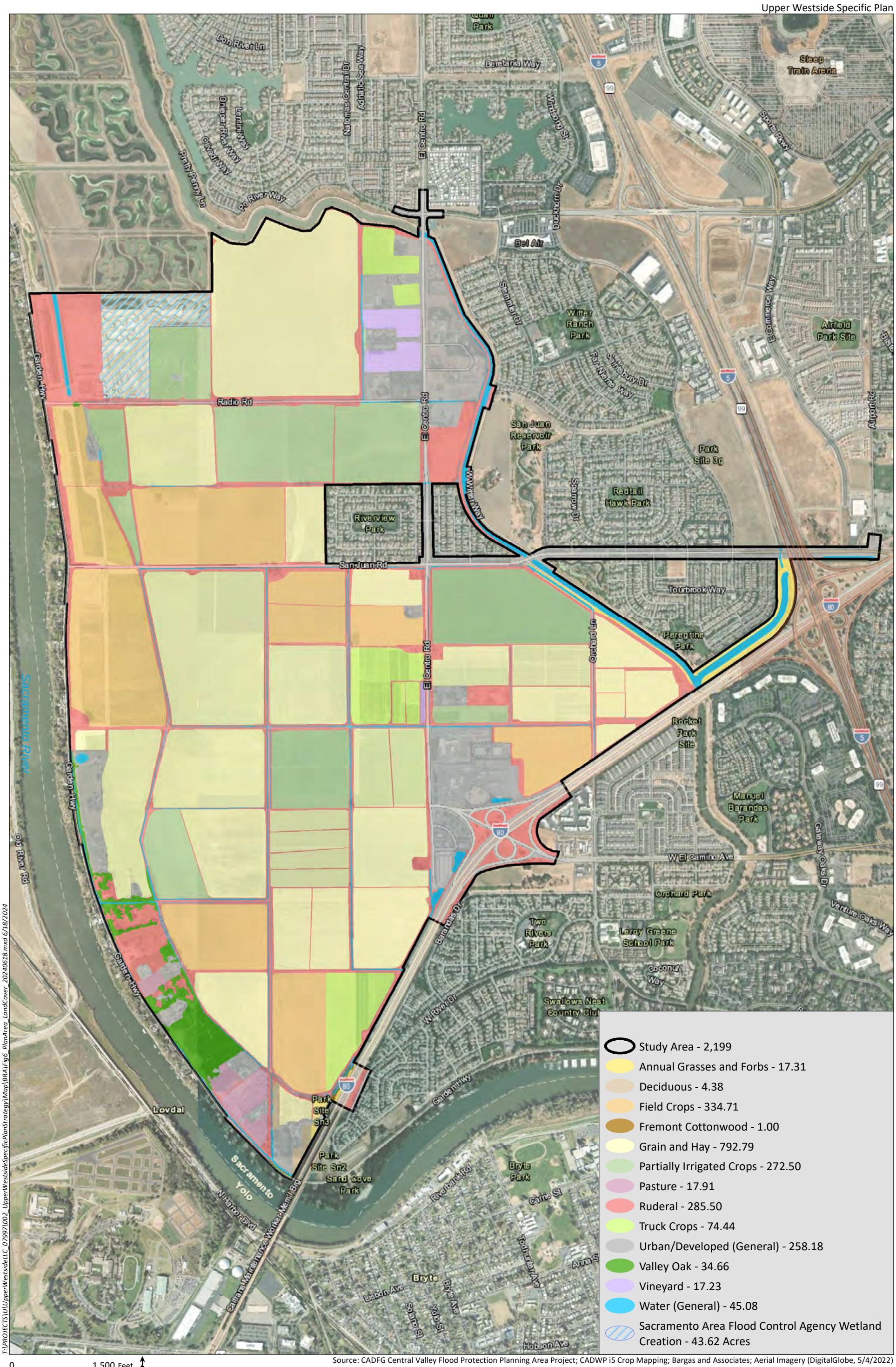
0 1,500 Feet

Source: Bargas 2021; Aerial Imagery (DigitalGlobe, 5/4/2022)

HELIX Environmental Planning

# Aquatic Resources Map

Figure 5




0 1,500 Feet

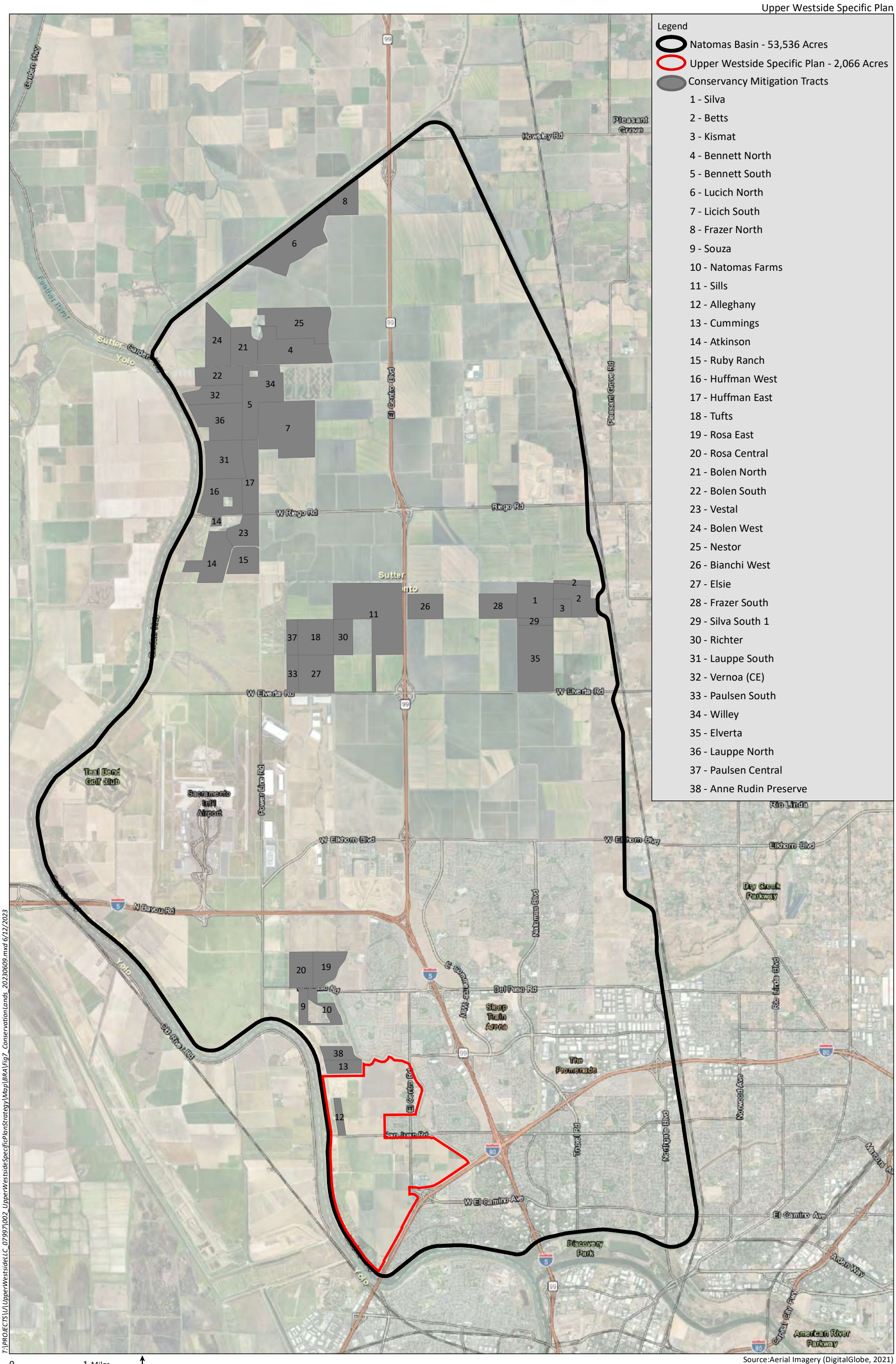
Source: CADFG Central Valley Flood Protection Planning Area Project; CADWP i5 Crop Mapping; Bargas and Associates; Aerial Imagery (DigitalGlobe, 5/4/2024)

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# Existing Upper Westside Specific Plan Land Cover

Figure 6




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0 1 Miles

Source:Aerial Imagery (DigitalGlobe, 2021)

HELIX Environmental Planning

# Natomas Basin Conservancy Mitigation Lands as of 2023

Figure 7

**Upper Westside Specific Plan Impacts to Aquatic Resources**

| Aquatic Resources | Impacts Acres* | Impact Linear Feet* | Avoided Acres* | Avoided Linear Feet* | Total Acres* |
|---|---|---|---|---|---|
| Irrigation Canals and Ditches | 18.766 | 74,195 | 24.346 | 42,266 | 43.112 |
| **TOTAL** | **18.77** | **74,195** | **24.35** | **42,266** | **43.11** |

*Acreages calculated at 6 significant figures and subsequently rounded.

Legend
- Project Footprint - 1,765 Acres
- Study Area - 2,199 Acres
- Off-site Area - 133.2 Acres

Other Features
- Pond - 0.48 Acre
- Detention Basin - 1.49 Acres

Potential Bike Trail on Top of Existing Levee (West Side of Canal)

Raido Road Connection to Garden Highway

Potential Bike Trail Bridge Crossing of Levee and Connection to Trail on East Side of Canal

Potential Bike Trail on Top of Existing Levee (West Side of Canal)

San Juan Road Connection to Garden Highway

Potential Alternative Alignment Corridor for Sewer Force Main

El Camino Road Connection to Garden Highway

Potential Improvements or Expansion of Interchange

Potential Water Connection to Existing in West River Drive

Bryte Bend Road Connection to Garden Highway

Sacramento River

T:\PROJECTS\U\UpperWestsideLLC_07997\002_UpperWestsideSpecificPlanStrategy\Map\BRA\Fig8_ImpactsWaters_20240618.mxd 6/24/2024

0 1,500 Feet

Source: Bargas 2021; Aerial Imagery (DigitalGlobe, 2020)

HELIX Environmental Planning

# Impacts to Upper Westside Specific Plan Aquatic Resources Map

Figure 8

# Appendix B

## CNDDB, CNPS, and USFWS Lists of Regionally Occurring Special-Status Species

CALIFORNIA NATIVE PLANT SOCIETY

CNPS Rare Plant Inventory

## Search Results

**19** matches found. Click on scientific name for details

Search Criteria: CRPR is one of [**1A:1B:2A:2B:3**] , Quad is one of [**3812154:3812155:3812146:3812156:3812166:3812165:3812145:3812144**], **0** meters between Plant low elevation and high elevation, **300** meters between Plant low elevation and high elevation

| ▲ SCIENTIFIC NAME | COMMON NAME | FAMILY | LIFEFORM | BLOOMING PERIOD | FED LIST | STATE LIST | GLOBAL RANK | STATE RANK | CA RARE PLANT RANK | CA ENDEMIC | DATE ADDED | PHOTO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Atriplex cordulata* var. *cordulata* | heartscale | Chenopodiaceae | annual herb | Apr-Oct | None | None | G3T2 | S2 | 1B.2 | Yes | 1988-01-01 |  © 1994 Robert E. Preston, Ph.D. |
| *Atriplex depressa* | brittlescale | Chenopodiaceae | annual herb | Apr-Oct | None | None | G2 | S2 | 1B.2 | Yes | 1994-01-01 |  © 2009 Zoya Akulova |
| *Carex comosa* | bristly sedge | Cyperaceae | perennial rhizomatous herb | May-Sep | None | None | G5 | S2 | 2B.1 | | 1994-01-01 |  Dean Wm. Taylor 1997 |
| *Centromadia parryi* ssp. *parryi* | pappose tarplant | Asteraceae | annual herb | May-Nov | None | None | G3T2 | S2 | 1B.2 | Yes | 2004-01-01 |  © 2016 John Doyen |
| *Downingia pusilla* | dwarf downingia | Campanulaceae | annual herb | Mar-May | None | None | GU | S2 | 2B.2 | | 1980-01-01 |  © 2013 Aaron Arthur |
| *Eryngium jepsonii* | Jepson's coyote-thistle | Apiaceae | perennial herb | Apr-Aug | None | None | G2 | S2 | 1B.2 | Yes | 2016-09-13 | No Photo Available |
| *Extriplex joaquinana* | San Joaquin spearscale | Chenopodiaceae | annual herb | Apr-Oct | None | None | G2 | S2 | 1B.2 | Yes | 1988-01-01 | No Photo Available |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Hibiscus lasiocarpos* var. *occidentalis* | woolly rose-mallow | Malvaceae | perennial rhizomatous herb (emergent) | Jun-Sep | None | None | G5T3 | S3 | 1B.2 | Yes | 1974-01-01 |  © 2020 Steven Perry |
| *Lasthenia chrysantha* | alkali-sink goldfields | Asteraceae | annual herb | Feb-Apr | None | None | G2 | S2 | 1B.1 | Yes | 2019-09-30 |  © 2009 California State University, Stanislaus |
| *Legenere limosa* | legenere | Campanulaceae | annual herb | Apr-Jun | None | None | G2 | S2 | 1B.1 | Yes | 1974-01-01 |  ©2000 John Game |
| *Lilaeopsis masonii* | Mason's lilaeopsis | Apiaceae | perennial rhizomatous herb | Apr-Nov | None | CR | G2 | S2 | 1B.1 | Yes | 1974-01-01 | No Photo Available |
| *Myosurus minimus* ssp. *apus* | little mousetail | Ranunculaceae | annual herb | Mar-Jun | None | None | G5T2Q | S2 | 3.1 | | 1980-01-01 | No Photo Available |
| *Navarretia leucocephala* ssp. *bakeri* | Baker's navarretia | Polemoniaceae | annual herb | Apr-Jul | None | None | G4T2 | S2 | 1B.1 | Yes | 1994-01-01 |  © 2018 Barry Rice |
| *Plagiobothrys hystriculus* | bearded popcornflower | Boraginaceae | annual herb | Apr-May | None | None | G2 | S2 | 1B.1 | Yes | 1974-01-01 | No Photo Available |
| *Puccinellia simplex* | California alkali grass | Poaceae | annual herb | Mar-May | None | None | G2 | S2 | 1B.2 | | 2015-10-15 |  © 2017 Chris Winchell |
| *Sagittaria sanfordii* | Sanford's arrowhead | Alismataceae | perennial rhizomatous herb (emergent) | May-Oct(Nov) | None | None | G3 | S3 | 1B.2 | Yes | 1984-01-01 |  ©2013 Debra L. Cook |
| *Sidalcea keckii* | Keck's checkerbloom | Malvaceae | annual herb | Apr-May(Jun) | FE | None | G2 | S2 | 1B.1 | Yes | 1974-01-01 | No Photo Available |
| *Symphyotrichum lentum* | Suisun Marsh aster | Asteraceae | perennial rhizomatous herb | (Apr)May-Nov | None | None | G2 | S2 | 1B.2 | Yes | 1974-01-01 | No Photo Available |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Trifolium hydrophilum* | saline clover | Fabaceae | annual herb | Apr-Jun | None | None | G2 | S2 | 1B.2 | Yes | 2001-01-01 |  © 2005 Dean Wm Taylor |

Showing 1 to 19 of 19 entries

**Suggested Citation:**

California Native Plant Society, Rare Plant Program. 2024. Rare Plant Inventory (online edition, v9.5). Website https://www.rareplants.cnps.org [accessed 5 March 2024].

# Selected Elements by Scientific Name

## California Department of Fish and Wildlife

## California Natural Diversity Database

**Query Criteria:** Quad IS (Sacramento West (3812155) OR Sacramento East (3812154) OR Saxon (3812146) OR Davis (3812156) OR Grays Bend (3812166) OR Rio Linda (3812164) OR Taylor Monument (3812165) OR Clarksburg (3812145) OR Florin (3812144))

| Species | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|---|---|---|---|---|---|---|
| ***Accipiter cooperii*** Cooper's hawk | ABNKC12040 | None | None | G5 | S4 | WL |
| ***Acipenser medirostris pop. 1*** green sturgeon - southern DPS | AFCAA01031 | Threatened | None | G2T1 | S1 | |
| ***Agelaius tricolor*** tricolored blackbird | ABPBXB0020 | None | Threatened | G1G2 | S2 | SSC |
| ***Ammodramus savannarum*** grasshopper sparrow | ABPBXA0020 | None | None | G5 | S3 | SSC |
| ***Antrozous pallidus*** pallid bat | AMACC10010 | None | None | G4 | S3 | SSC |
| ***Archoplites interruptus*** Sacramento perch | AFCQB07010 | None | None | G1 | S1 | SSC |
| ***Ardea alba*** great egret | ABNGA04040 | None | None | G5 | S4 | |
| ***Ardea herodias*** great blue heron | ABNGA04010 | None | None | G5 | S4 | |
| ***Astragalus tener var. ferrisiae*** Ferris' milk-vetch | PDFAB0F8R3 | None | None | G2T1 | S1 | 1B.1 |
| ***Astragalus tener var. tener*** alkali milk-vetch | PDFAB0F8R1 | None | None | G2T1 | S1 | 1B.2 |
| ***Athene cunicularia*** burrowing owl | ABNSB10010 | None | None | G4 | S2 | SSC |
| ***Atriplex cordulata var. cordulata*** heartscale | PDCHE040B0 | None | None | G3T2 | S2 | 1B.2 |
| ***Atriplex depressa*** brittlescale | PDCHE042L0 | None | None | G2 | S2 | 1B.2 |
| ***Bombus crotchii*** Crotch's bumble bee | IIHYM24480 | None | Candidate Endangered | G2 | S2 | |
| ***Bombus occidentalis*** western bumble bee | IIHYM24252 | None | Candidate Endangered | G3 | S1 | |
| ***Bombus pensylvanicus*** American bumble bee | IIHYM24260 | None | None | G3G4 | S2 | |
| ***Branchinecta conservatio*** Conservancy fairy shrimp | ICBRA03010 | Endangered | None | G2 | S2 | |
| ***Branchinecta lynchi*** vernal pool fairy shrimp | ICBRA03030 | Threatened | None | G3 | S3 | |

| Species | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|---|---|---|---|---|---|---|
| ***Branchinecta mesovallensis*** midvalley fairy shrimp | ICBRA03150 | None | None | G2 | S2S3 | |
| ***Buteo regalis*** ferruginous hawk | ABNKC19120 | None | None | G4 | S3S4 | WL |
| ***Buteo swainsoni*** Swainson's hawk | ABNKC19070 | None | Threatened | G5 | S4 | |
| ***Carex comosa*** bristly sedge | PMCYP032Y0 | None | None | G5 | S2 | 2B.1 |
| ***Centromadia parryi ssp. parryi*** pappose tarplant | PDAST4R0P2 | None | None | G3T2 | S2 | 1B.2 |
| ***Charadrius montanus*** mountain plover | ABNNB03100 | None | None | G3 | S2 | SSC |
| ***Charadrius nivosus nivosus*** western snowy plover | ABNNB03031 | Threatened | None | G3T3 | S3 | SSC |
| ***Chloropyron palmatum*** palmate-bracted bird's-beak | PDSCR0J0J0 | Endangered | Endangered | G1 | S1 | 1B.1 |
| ***Cicindela hirticollis abrupta*** Sacramento Valley tiger beetle | IICOL02106 | None | None | G5TH | SH | |
| ***Coccyzus americanus occidentalis*** western yellow-billed cuckoo | ABNRB02022 | Threatened | Endangered | G5T2T3 | S1 | |
| ***Cuscuta obtusiflora var. glandulosa*** Peruvian dodder | PDCUS01111 | None | None | G5T4? | SH | 2B.2 |
| ***Desmocerus californicus dimorphus*** valley elderberry longhorn beetle | IICOL48011 | Threatened | None | G3T3 | S3 | |
| ***Downingia pusilla*** dwarf downingia | PDCAM060C0 | None | None | GU | S2 | 2B.2 |
| ***Egretta thula*** snowy egret | ABNGA06030 | None | None | G5 | S4 | |
| ***Elanus leucurus*** white-tailed kite | ABNKC06010 | None | None | G5 | S3S4 | FP |
| ***Elderberry Savanna*** Elderberry Savanna | CTT63440CA | None | None | G2 | S2.1 | |
| ***Emys marmorata*** western pond turtle | ARAAD02030 | Proposed Threatened | None | G3G4 | S3 | SSC |
| ***Eryngium jepsonii*** Jepson's coyote-thistle | PDAPI0Z130 | None | None | G2 | S2 | 1B.2 |
| ***Extriplex joaquinana*** San Joaquin spearscale | PDCHE041F3 | None | None | G2 | S2 | 1B.2 |
| ***Falco columbarius*** merlin | ABNKD06030 | None | None | G5 | S3S4 | WL |
| ***Fritillaria agrestis*** stinkbells | PMLIL0V010 | None | None | G3 | S3 | 4.2 |

| Species | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|---|---|---|---|---|---|---|
| ***Gonidea angulata*** western ridged mussel | IMBIV19010 | None | None | G3 | S2 | |
| ***Gratiola heterosepala*** Boggs Lake hedge-hyssop | PDSCR0R060 | None | Endangered | G2 | S2 | 1B.2 |
| ***Great Valley Cottonwood Riparian Forest*** Great Valley Cottonwood Riparian Forest | CTT61410CA | None | None | G2 | S2.1 | |
| ***Hibiscus lasiocarpos var. occidentalis*** woolly rose-mallow | PDMAL0H0R3 | None | None | G5T3 | S3 | 1B.2 |
| ***Hypomesus transpacificus*** Delta smelt | AFCHB01040 | Threatened | Endangered | G1 | S1 | |
| ***Lasionycteris noctivagans*** silver-haired bat | AMACC02010 | None | None | G3G4 | S3S4 | |
| ***Lasiurus cinereus*** hoary bat | AMACC05032 | None | None | G3G4 | S4 | |
| ***Lasthenia chrysantha*** alkali-sink goldfields | PDAST5L030 | None | None | G2 | S2 | 1B.1 |
| ***Laterallus jamaicensis coturniculus*** California black rail | ABNME03041 | None | Threatened | G3T1 | S2 | FP |
| ***Legenere limosa*** legenere | PDCAM0C010 | None | None | G2 | S2 | 1B.1 |
| ***Lepidium latipes var. heckardii*** Heckard's pepper-grass | PDBRA1M0K1 | None | None | G4T1 | S1 | 1B.2 |
| ***Lepidurus packardi*** vernal pool tadpole shrimp | ICBRA10010 | Endangered | None | G3 | S3 | |
| ***Lilaeopsis masonii*** Mason's lilaeopsis | PDAPI19030 | None | Rare | G2 | S2 | 1B.1 |
| ***Linderiella occidentalis*** California linderiella | ICBRA06010 | None | None | G2G3 | S2S3 | |
| ***Melospiza melodia pop. 1*** song sparrow ("Modesto" population) | ABPBXA3013 | None | None | G5T3?Q | S3? | SSC |
| ***Myrmosula pacifica*** Antioch multilid wasp | IIHYM15010 | None | None | GH | SH | |
| ***Nannopterum auritum*** double-crested cormorant | ABNFD01020 | None | None | G5 | S4 | WL |
| ***Navarretia leucocephala ssp. bakeri*** Baker's navarretia | PDPLM0C0E1 | None | None | G4T2 | S2 | 1B.1 |
| ***Neostapfia colusana*** Colusa grass | PMPOA4C010 | Threatened | Endangered | G1 | S1 | 1B.1 |
| ***Northern Claypan Vernal Pool*** Northern Claypan Vernal Pool | CTT44120CA | None | None | G1 | S1.1 | |
| ***Northern Hardpan Vernal Pool*** Northern Hardpan Vernal Pool | CTT44110CA | None | None | G3 | S3.1 | |

| Species | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|---|---|---|---|---|---|---|
| ***Nycticorax nycticorax*** black-crowned night heron | ABNGA11010 | None | None | G5 | S4 | |
| ***Oncorhynchus mykiss irideus pop. 11*** steelhead - Central Valley DPS | AFCHA0209K | Threatened | None | G5T2Q | S2 | |
| ***Oncorhynchus tshawytscha pop. 11*** chinook salmon - Central Valley spring-run ESU | AFCHA0205L | Threatened | Threatened | G5T2Q | S2 | |
| ***Oncorhynchus tshawytscha pop. 7*** chinook salmon - Sacramento River winter-run ESU | AFCHA0205B | Endangered | Endangered | G5T1Q | S2 | |
| ***Plagiobothrys hystriculus*** bearded popcornflower | PDBOR0V0H0 | None | None | G2 | S2 | 1B.1 |
| ***Plegadis chihi*** white-faced ibis | ABNGE02020 | None | None | G5 | S3S4 | WL |
| ***Pogonichthys macrolepidotus*** Sacramento splittail | AFCJB34020 | None | None | G3 | S3 | SSC |
| ***Progne subis*** purple martin | ABPAU01010 | None | None | G5 | S3 | SSC |
| ***Puccinellia simplex*** California alkali grass | PMPOA53110 | None | None | G2 | S2 | 1B.2 |
| ***Riparia riparia*** bank swallow | ABPAU08010 | None | Threatened | G5 | S3 | |
| ***Sagittaria sanfordii*** Sanford's arrowhead | PMALI040Q0 | None | None | G3 | S3 | 1B.2 |
| ***Sidalcea keckii*** Keck's checkerbloom | PDMAL110D0 | Endangered | None | G2 | S2 | 1B.1 |
| ***Spirinchus thaleichthys*** longfin smelt | AFCHB03010 | Proposed Endangered | Threatened | G5 | S1 | |
| ***Symphyotrichum lentum*** Suisun Marsh aster | PDASTE8470 | None | None | G2 | S2 | 1B.2 |
| ***Taxidea taxus*** American badger | AMAJF04010 | None | None | G5 | S3 | SSC |
| ***Thamnophis gigas*** giant gartersnake | ARADB36150 | Threatened | Threatened | G2 | S2 | |
| ***Trifolium hydrophilum*** saline clover | PDFAB400R5 | None | None | G2 | S2 | 1B.2 |
| ***Tuctoria mucronata*** Crampton's tuctoria or Solano grass | PMPOA6N020 | Endangered | Endangered | G1 | S1 | 1B.1 |
| ***Vireo bellii pusillus*** least Bell's vireo | ABPBW01114 | Endangered | Endangered | G5T2 | S3 | |
| ***Xanthocephalus xanthocephalus*** yellow-headed blackbird | ABPBXB3010 | None | None | G5 | S3 | SSC |

**Record Count: 80**

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Project Code: 2024-0058045
Project Name: Upper Westside Project

March 05, 2024

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

**Migratory Birds**: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service (fws.gov).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

**Note:** IPaC has provided all available attachments because this project is in multiple field office jurisdictions.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

# OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Sacramento Fish And Wildlife Office**
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

This project's location is within the jurisdiction of multiple offices. However, only one species list document will be provided for all offices. The species and critical habitats in this document reflect the aggregation of those that fall in each of the affiliated office's jurisdiction. Other offices affiliated with the project:

**San Francisco Bay-Delta Fish And Wildlife**
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
(916) 930-5603

# PROJECT SUMMARY

Project Code: 2024-0058045
Project Name: Upper Westside Project
Project Type: Commercial Development
Project Description: Develop a specific plan for the Upper Westside Plan Area to support a master planned community to balance multiple land uses such as residential development and supporting infrastructure, agriculture, and conservation.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.62203065,-121.54193793386312,14z




Counties: Sacramento County, California

# ENDANGERED SPECIES ACT SPECIES

There is a total of 9 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## BIRDS

| NAME | STATUS |
|---|---|
| Least Bell's Vireo *Vireo bellii pusillus*<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/5945 | Endangered |

## REPTILES

| NAME | STATUS |
|---|---|
| Giant Garter Snake *Thamnophis gigas*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/4482 | Threatened |
| Northwestern Pond Turtle *Actinemys marmorata*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/1111 | Proposed Threatened |

## AMPHIBIANS

| NAME | STATUS |
|---|---|
| California Tiger Salamander *Ambystoma californiense*<br>Population: U.S.A. (Central CA DPS)<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/2076 | Threatened |
| Western Spadefoot *Spea hammondii*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/5425 | Proposed Threatened |

## INSECTS

| NAME | STATUS |
|---|---|
| Monarch Butterfly *Danaus plexippus*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/9743 | Candidate |
| Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus*<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/7850 | Threatened |

## CRUSTACEANS

| NAME | STATUS |
|---|---|
| Vernal Pool Fairy Shrimp *Branchinecta lynchi*<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/498 | Threatened |
| Vernal Pool Tadpole Shrimp *Lepidurus packardi*<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/2246 | Endangered |

## CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

# USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

# BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

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1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

| NAME | BREEDING SEASON |
|---|---|
| Bald Eagle *Haliaeetus leucocephalus*<br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.<br>https://ecos.fws.gov/ecp/species/1626 | Breeds Jan 1 to Aug 31 |
| Golden Eagle *Aquila chrysaetos*<br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.<br>https://ecos.fws.gov/ecp/species/1680 | Breeds Jan 1 to Aug 31 |

## PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

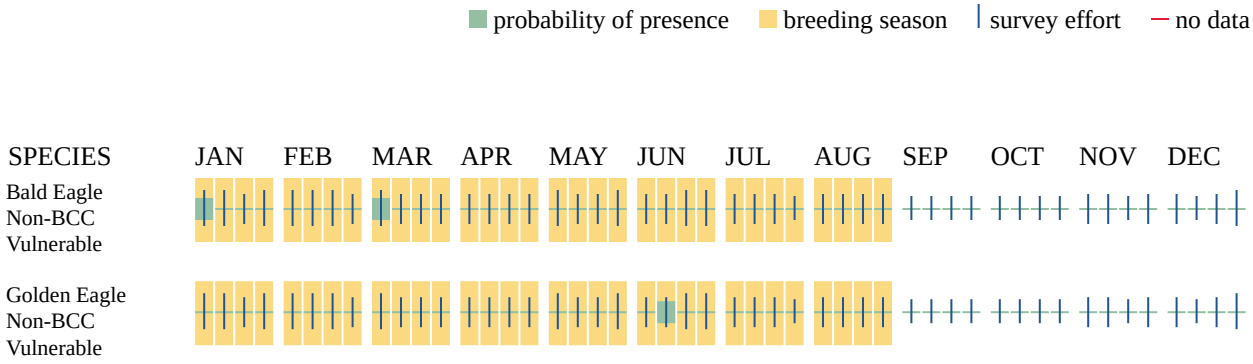
**Probability of Presence (■)**

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

**Breeding Season** (▪)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

**Survey Effort** (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

**No Data** (–)
A week is marked as having no data if there were no survey events for that week.




Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

# MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

| NAME | BREEDING SEASON |
|---|---|
| Bald Eagle *Haliaeetus leucocephalus*<br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.<br>https://ecos.fws.gov/ecp/species/1626 | Breeds Jan 1 to Aug 31 |
| Belding's Savannah Sparrow *Passerculus sandwichensis beldingi*<br>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA<br>https://ecos.fws.gov/ecp/species/8 | Breeds Apr 1 to Aug 15 |
| Bullock's Oriole *Icterus bullockii*<br>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA<br>https://ecos.fws.gov/ecp/species/9458 | Breeds Mar 21 to Jul 25 |
| California Gull *Larus californicus*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/10955 | Breeds Mar 1 to Jul 31 |
| Clark's Grebe *Aechmophorus clarkii*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/10575 | Breeds Jun 1 to Aug 31 |
| Common Yellowthroat *Geothlypis trichas sinuosa*<br>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA<br>https://ecos.fws.gov/ecp/species/2084 | Breeds May 20 to Jul 31 |
| Golden Eagle *Aquila chrysaetos*<br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.<br>https://ecos.fws.gov/ecp/species/1680 | Breeds Jan 1 to Aug 31 |

| NAME | BREEDING SEASON |
|---|---|
| Long-eared Owl *asio otus*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/3631 | Breeds Mar 1 to Jul 15 |
| Marbled Godwit *Limosa fedoa*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/9481 | Breeds elsewhere |
| Oak Titmouse *Baeolophus inornatus*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/9656 | Breeds Mar 15 to Jul 15 |
| Olive-sided Flycatcher *Contopus cooperi*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/3914 | Breeds May 20 to Aug 31 |
| Short-billed Dowitcher *Limnodromus griseus*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/9480 | Breeds elsewhere |
| Tricolored Blackbird *Agelaius tricolor*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/3910 | Breeds Mar 15 to Aug 10 |
| Western Grebe *aechmophorus occidentalis*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/6743 | Breeds Jun 1 to Aug 31 |
| Willet *Tringa semipalmata*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/10669 | Breeds elsewhere |
| Wrentit *Chamaea fasciata*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/10668 | Breeds Mar 15 to Aug 10 |
| Yellow-billed Magpie *Pica nuttalli*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/9726 | Breeds Apr 1 to Jul 31 |

# PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

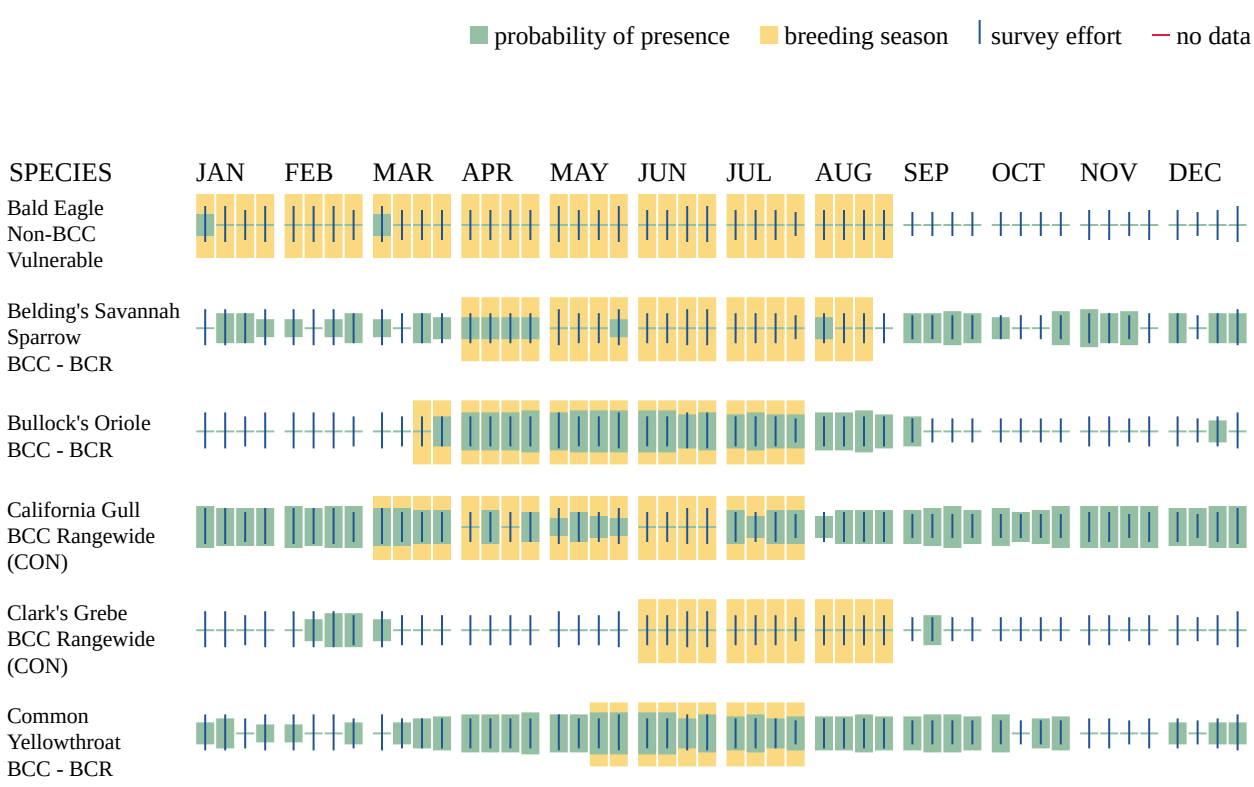
**Probability of Presence** (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

**Breeding Season** (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

**Survey Effort** (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

**No Data** (–)
A week is marked as having no data if there were no survey events for that week.






Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

# WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER EMERGENT WETLAND

- PEM1C

FRESHWATER FORESTED/SHRUB WETLAND

- PSSC

RIVERINE

- R2UBHx
- R5UBFx
- R4SBC
- R5UBF

FRESHWATER POND

- PABFx

# IPAC USER CONTACT INFORMATION


| | |
|---|---|
| Agency: | HELIX Environmental Planning Inc. |
| Name: | Christine Heckler |
| Address: | 1677 Eureka Road Suite 100 |
| Address Line 2: | Suite 100 |
| City: | Roseville |
| State: | CA |
| Zip: | 95661 |
| Email | christineh@helixepi.com |
| Phone: | 9164351202 |

# Appendix C

## Potential for Special-Status Species and Critical Habitats in the Region to Occur in the Project Site

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
|---|---|---|---|
| **Plants** | | | |
| *Astragalus tener* var. *ferrisiae* Ferris' milk-vetch | --/--/1B.1 | An annual herb found in vernally mesic meadows and seeps, and subalkaline flats in valley and foothill grassland, from 2 to 75 meters elevation. Previously thought extinct and rediscovered in 1989; currently known from 13 locations in the Sacramento Valley. Blooms April to May (CNPS 2024). | **Will not occur.** There is no suitable wetland habitat, subalkaline flat or grassland habitat for this species on the Study Area. There is one record of this species within a 5-mile radius of the Study Area located 2.3 miles southwest of the Study Area (CDFW 2024). The record documents a non-specific area from 1954 (CDFW 2024). |
| *Astragalus tener* var. *tener* alkali milkvetch | --/--/1B.2 | An annual herb found in alkaline mesic habitats in playas, valley and foothill grassland (adobe clay soils), and vernal pools in the Central Valley from 1 to 60 meters elevation. Blooms March to June (CNPS 2024). | **Will not occur.** There is no suitable adobe soils or vernal pool habitat for this species on the Study Area. Soils in the Study Area are predominately neutral, but some soils range to slightly alkaline to acidic (NRCS 2024). There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Atriplex cordulata* var. *cordulata* heartscale | --/--/1B.2 | An annual herb found on saline or alkaline soils in chenopod scrub, meadows, seeps, sandy valley, and foothill grasslands from 0 to 560 meters elevation. Blooms April to October (CDFW 2024; CNPS 2024). | **Will not occur.** There is no suitable saline or alkaline soils or chenopod scrub habitat for this species on the Study Area. Soils in the Study Area are predominately neutral, but some soils range to slightly alkaline to acidic (NRCS 2024). There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
|---|---|---|---|
| *Atriplex depressa* brittlescale | --/--/1B.2 | An annual herb found on alkaline, clay soils in chenopod scrub, meadows, seeps, playas, vernal pools, and valley and foothill grasslands from 1 to 320 meters elevation. Blooms April to October (CNPS 2024). | **Will not occur.** There is no suitable saline or alkaline soils or chenopod scrub habitat for this species on the Study Area. Soils in the Study Area are predominately neutral, but some soils range to slightly alkaline to acidic (NRCS 2024). There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Carex comosa* bristly sedge | --/--/2B.1 | A perennial rhizomatous herb found in coastal prairie, lake margins, and valley and foothill grassland in wet places from 0 to 625 meters elevation. Blooms May to September (CDFW 2024; CNPS 2024). | **Will not occur.** There is no suitable coastal prairie, lake margin or suitable mesic grassland habitat for this species on the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Centromadia parryi* ssp. *parryi* pappose tarplant | --/--/1B.1 | An annual herb found in alkaline habitats in valley and foothill grassland from 0 to 230 meters elevation. Blooms May to October (November) (CNPS 2024). | **Will not occur.** There is no suitable alkaline grassland habitat for this species on the Study Area. Soils in the Study Area are predominately neutral, but some soils range to slightly alkaline to acidic (NRCS 2024). here are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
|---|---|---|---|
| *Chloropyron palmatum* palmate-bracted bird's-beak | FE/SE/1B.1 | An annual hemiparasitic herb found in alkaline wetlands in chenopod scrub, and valley and foothill grassland from 5 to 155 meters elevation in the Central Valley. Blooms May to October (CNPS 2024). | **Will not occur.** There is no suitable alkaline soil on chenopod scrub or suitable grassland habitat for this species on the Study Area. Soils in the Study Area are predominately neutral, but some soils range to slightly alkaline to acidic (NRCS 2024). There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Cuscuta obtusiflora* var. *glandulosa* Peruvian dodder | --/--/2B.2 | An annual parasitic vine found in freshwater marshes and swamps from 15 to 280 meters elevation. Known from 5 locations; last seen in 1948 in Merced County. Blooms July to October (CNPS 2024). | **Will not occur.** There is no suitable freshwater marsh or swamp habitat for this species on the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Downingia pusilla* dwarf downingia | --/--/2B.2 | An annual herb found in vernal pools and mesic microsites in valley and foothill grassland from 1 to 445 meters elevation. Blooms March to May (CNPS 2024). | **Will not occur.** There is no suitable vernal pool or mesic microsite habitat for this species on the Study Area. There is one record of this species within a 5-mile radius of the Study Area located 4.8 miles northeast of the Study Area. This record documents 50 plants observed in Northern Hardpan Vernal Pool habitat on private property in 1993 (CDFW 2024). |
| *Eryngium jepsonii* Jepson's coyote thistle | --/--/1B.2 | A perennial herb on clay soils in vernal pools and valley and foothill grassland from 3 to 300 meters elevation. Blooms April to August (CNPS 2024). | **Will not occur.** There is no suitable vernal pool or mesic microsite habitat over clay soil for this species on the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
|---|---|---|---|
| *Extriplex joaquinana*<br>San Joaquin spearscale | --/--/1B.2 | An annual herb found in alkaline habitats in chenopod scrub, meadows and seeps, playas, and valley and foothill grassland from 1 to 835 meters elevation. Blooms April to October (CNPS 2024). | **Will not occur.** There is no suitable alkaline soil on chenopod scrub or suitable grassland habitat for this species on the Study Area. Soils in the Study Area are predominately neutral, but some soils range to slightly alkaline to acidic (NRCS 2024). There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Gratiola heterosepala*<br>Boggs Lake hedge-hyssop | --/SE/1B.2, NBHCP | An annual herb found on clay soils in marshes and swamps at lake margins, and in vernal pools from 10 to 2,375 meters elevation. Blooms April to August (CNPS 2024). | **Will not occur.** There is no suitable lake or vernal pool over clay soil for this species on the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
|---|---|---|---|
| *Hibiscus lasiocarpos* var. *occidentalis* woolly rose-mallow | --/--/1B.2 | A perennial rhizomatous emergent herb found in freshwater marshes and swamps from 0 to 120 meters elevation, often in riprap along levees. Blooms June to September (CNPS 2024). | **Not expected.** Suitable habitat is present in agricultural ditches and canals that occur throughout the Study Area which may provide suitable wetland habitat for this species. This species was not detected during multiple rounds of botanical surveys conducted during 2019 and 2020 of accessible areas during the blooming period for this species (Bargas 2020). There are two records of this species within a 5-mile radius of the Study Area. The nearest CNDDB occurrence is located on the eastern portion of the Study Area along Interstate 80 at the W El Camino Avenue off ramp. This record documents two plants observed in a ditch lacking freshwater marsh habitat and documented with upland non-wetland vegetation. CDFW ranks the record as poor, which was documented by Caltrans in 1988 (CDFW 2024). |
| *Lasthenia chrysantha* alkali-sink goldfields | --/--/1B.1 | An annual herb found in alkaline vernal pools and wet saline flats from below 200 meters elevation. Blooms February to April (Jepson Flora Project 2024; CDFW 2024). | **Will not occur.** There is no suitable vernal pool or saline flats for this species on the Study Area. Soils in the Study Area are predominately neutral, but some soils range to slightly alkaline to acidic (NRCS 2024). There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
|---|---|---|---|
| *Lathyurus jepsonii* Delta tule pea | --/--/1B.2, NBHCP | A perennial herb found in freshwater and brackish marshes from 0 to 5 meters elevation. Blooms May to July (September) (CNPS 2024). | **Will not occur.** There is no suitable freshwater marsh brackish habitat for this species on the Study Area and the Study Area is outside of this species' known range in the Delta. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Legenere limosa* legenere | --/--/1B.1, NBHCP | An annual herb found in vernal pools from 1 to 880 meters elevation. Blooms April to June (CNPS 2024). | **Will not occur.** There is no suitable vernal pool habitat for this species on the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Lepidium latipes* var. *heckardii* Heckard's pepper-grass | --/--/1B.2 | An annual herb found on alkaline flats in vernal pools and valley and foothill grasslands from 2 to 200 meters elevation. Blooms March to May (CDFW 2024; CNPS 2024). | **Will not occur.** There is no suitable alkaline soil or vernal pool habitat for this species on the Study Area. Soils in the Study Area are predominately neutral, but some soils range to slightly alkaline to acidic (NRCS 2024). There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Lilaeopsis masonii* Mason's lilaeopsis | --/SR/1B.1 | A perennial rhizomatous herb found in tidal zones of marshes, swamps, and riparian scrub from 0 to 10 meters elevation. Range is restricted to the Delta, Suisun Bay, and San Pablo Bay. Typically occurs in muddy or silty soil formed through river deposition. Blooms April to November (CDFW 2024; CNPS 2024). | **Will not occur.** The Study Area is outside of the extant range of this species. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
|---|---|---|---|
| *Myosurus minimus* ssp. *apus* little mousetail | --/--/3.1 | An annual herb found in alkaline vernal pools in valley and foothill grassland from 20 to 640 meters elevation. Blooms March to June (CNPS 2024). | **Will not occur.** There is no suitable vernal pool or alkaline soil for this species on the Study Area. Soils in the Study Area are predominately neutral, but some soils range to slightly alkaline to acidic (NRCS 2024). There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Navarretia leucocephala* ssp. *bakeri* Baker's navarretia | --/--/1B.1 | An annual herb found in mesic meadows and vernal pools in cismontane woodland, lower montane coniferous forest, and valley and foothill grassland from 5 to 1,740 meters elevation. Blooms April to July (CNPS 2024). | **Will not occur.** There is no suitable mesic habitat in suitable woodlands or grasslands. Woodland and grassland habitats in the Study Area are disturbed and better described as ruderal that occur along roadsides, private residences or levees. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Neostapfia colusana* Colusa grass | FT/SE/1B.1, NBHCP | An annual herb found in the bottoms of large, deep vernal pools, typically on adobe substrate, from 5 to 200 meters elevation. Blooms May to August (CNPS 2024). | **Will not occur.** There is no suitable vernal pool or adobe clay soil for this species on the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Orcuttia tenuis* slender Orcutt grass | FT/SE/1B.1, NBHCP | An annual herb found in vernal pools from 35 to 1,760 meters elevation. Blooms May to October (CNPS 2024). | **Will not occur.** There is no suitable vernal pool habitat for this species on the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
|---|---|---|---|
| *Orcuttia viscida*<br>Sacramento Orcutt grass | FE/SE/1B.1, NBHCP | An annual herb found in vernal pools from 30 to 100 meters in elevation. Currently known to occur in Sacramento county. Elevation: 30 to 100 m amsl. Flowering period April to July (September) (CNPS 2024). | **Will not occur.** There is no suitable vernal pool habitat for this species on the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Plagiobothrys hystriculus*<br>bearded popcornflower | --/--/1B.1 | An annual herb found in mesic valley and foothill grassland, and along the margins of vernal pools and vernal swales from 0 to 274 meters elevation. Blooms April to May (CNPS 2024). | **Will not occur.** There is no suitable vernal pool or suitable mesic grassland habitat for this species on the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Puccinellia simplex*<br>California alkali grass | --/--/1B.2 | An annual herb found in alkaline, vernally mesic sinks, flats, and lake margins in chenopod scrub, meadows, seeps, vernal pools, and valley and foothill grasslands from 2 to 930 meters elevation. Blooms March to May (CNPS 2024). | **Will not occur.** There is no suitable alkaline soil, vernal pool or other suitable wetland or grassland habitat for this species on the Study Area. Soils in the Study Area are predominately neutral, but some soils range to slightly alkaline to acidic (NRCS 2024). There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
|---|---|---|---|
| *Sagittaria sanfordii*<br>Sanford's arrowhead | --/--/1B.2, NBHCP | A perennial rhizomatous herb found in marshes, swamps, and assorted shallow freshwater habitats that include ditches from 0 to 650 meters elevation. Blooms May to October (November) (CNPS 2024). | **Not expected.** Suitable habitat is present in agricultural ditches and canals that occur throughout the Study Area which may provide suitable wetland habitat for this species. This species was not detected during multiple rounds of botanical surveys conducted during 2019 and 2020 of accessible areas during the blooming period for this species (Bargas 2020). There are three CNDDB reported occurrences within a 5-mile radius of the Study Area. The nearest record documents this species 3.1 miles east of the Study Area. This record documents two populations documented in Arcade Creek and a shallow ditch which was observed in 2011 (CDFW 2024). |
| *Sidalcea keckii*<br>Keck's checker mallow | FE/--/1B.1 | An annual herb found in cismontane woodland and valley and foothill grassland, often in serpentinite and clay soils, from 75 to 650 meters elevation. Blooms April to May (June) (CNPS 2024). | **Will not occur.** There is no suitable clay or serpentinite soil habitat for this species on the Study Area. The Study Area is below the elevational range of this species. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
|---|---|---|---|
| *Symphyotrichum lentum*<br>Suisun Marsh aster | --/--/1B.2 | A perennial rhizomatous herb found in freshwater and brackish marsh from 0 to 3 meters elevation. Blooms May to November (CNPS 2024). | **Will not occur.** There is no suitable freshwater marsh or brackish marsh habitat for this species. Freshwater habitat is limited to agricultural ditches and canals. There is one CNDDB within a 5-mile radius of the Study Area. The record documents this species 4.1 miles southwest of the Study Area at the southwest end of Green Lake (CDFW 2024). The record documents an observation of this species in 2005 and 2013, which needs to be studied further to determine whether this is Suisun Marsh aster (CDFW 2024). |
| *Trifolium hydrophilum*<br>saline clover | --/--/1B.2 | An annual herb found in marshes, swamps, mesic alkaline valley and foothill grassland, and vernal pools from 0–- 300 meters elevation. Blooms April to June (CNPS 2024). | **Will not occur.** There is no suitable marsh or wetland or suitable mesic grassland habitat for this species on the Study Area. Soils in the Study Area are predominately neutral, but some soils range to slightly alkaline to acidic (NRCS 2024). There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Tuctoria mucronata*<br>Crampton's tuctoria or Solano grass | FE/SE/1B.1 | An annual herb found on mesic soils in vernal pools, and valley and foothill grasslands from 5 to 10 meters elevation. Blooms April to August (CNPS 2024). | **Will not occur.** There is no suitable vernal pool or other suitable wetland or grassland habitat for this species on the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
|---|---|---|---|
| **Animals** | | | |
| **Invertebrates** | | | |
| *Bombus crotchii* crotch bumble bee | --/SCE/-- | Crotch bumble bee occurs in grassland and scrub habitats (California Department of Fish and Wildlife [CDFW] 2019). New colonies are initiated by solitary queens, generally in the early spring, which typically occupy abandoned rodent burrows (CDFW 2019). This species is a generalist forager and has been reported visiting a wide variety of flowering plants. A short-tongued bumble bee; food plants include *Asclepias* spp., *Antirrhinum* spp., *Clarkia* spp., *Eschscholzia* spp., *Eriogonum* spp., *Chaenactis* spp., *Lupinus* spp., *Medicago* spp., *Phacelia* spp., and *Salvia* spp. (Koch *et al.* 2012). The flight period for queens in California is from February to October. New queens hibernate over the winter and initiate a new colony the following spring. Rare throughout its range and in decline in the Central Valley and southern California (CDFW 2019). The most current known range of this species follows a small strip from western Trinity County south to Tehama County and along the entire Central Valley and coast south of Monterey to the southernmost portions of the State. The range is generally bound on the east by the high Sierra Nevada range and areas east of Bishop, Ridgecrest, and the Salton Sea (CDFW 2023). | **Will not occur.** Suitable grassland habitat is not present in the Study Area. The Study Area has been managed for agriculture for over 100 years and has been subjected to use of herbicides and pesticides which are one of the leading causes for decline in bumble bees. Additionally, constant disturbance of soil from agricultural uses is not suitable for underground bee colonies and overwintering queens, which is further exacerbated by fragmented habitat (CDFW 2019). There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
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| *Bombus occidentalis* western bumble bee | --/SCE/-- | Bumble bees are primitively eusocial insects that live in underground colonies made up of one queen, female workers, and reproductive members of the colony. New colonies are initiated by solitary queens, generally in the early spring, which typically occupy abandoned rodent burrows (Thorp *et al.* 1983). This species occurs in meadows and grasslands with an abundance of floral resources (CDFW 2019). This species is a generalist forager and have been reported visiting a wide variety of flowering plants. A short-tongued bumble bee; select food plants include *Melilotus* spp., *Cirsium* spp., *Trifolium* spp., *Centaurea* spp., *Eriogonum* spp., and *Chrysothamnus* spp. (Koch *et al.* 2012). This species has a short tongue and typically prefers open flowers with short corollas but is known to chew through the base of flowers with long corollas. The flight period for queens in California is from early February to late November, peaking in late June and late September. New queens hibernate over the winter and initiate a new colony the following spring (Thorp *et al.* 1983). Rare throughout its range and in decline west of the Sierra Nevada crest. The most current known range of this species is limited to areas near the Klamath and northern Coast Range mountains as well as mountain areas in Shasta, Plumas, Sierra, Nevada, Placer, El Dorado, Lassen, Amador, Alpine, and Calaveras counties CDFW 2023). | **Will not occur.** Suitable habitat is not present in the Study Area and the Study Area is outside of this species current known range. The Study Area consists almost entirely of agricultural lands, developed lands and other isolated native habitats. The Study Area has been managed for agriculture for over 100 years and has been subjected to use of herbicides and pesticides which are one of the leading causes for decline in bumble bees. Additionally, constant disturbance of soil from agricultural uses is not suitable for underground bee colonies and overwintering queens, which is further exacerbated by fragmented habitat (CDFW 2019). There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Branchinecta conservatio* Conservancy fairy shrimp | FE/--/-- | Occupies large clay bottomed vernal pools to vernal lakes with turbid water in grasslands. The historical distribution of this species is unknown and it is currently distributed throughout the Central Valley and southern coastal regions of California (USFWS 2005). | **Will not occur.** Suitable aquatic habitat is not present in the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
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| *Branchinecta lynchi* vernal pool fairy shrimp | FT/--/-- | Vernal pools ranging from small, clear, sandstone rock pools to large, turbid, alkaline, grassland valley floor pools. It is most frequently found in pools measuring less than 0.05 acre; although has been collected from vernal pools exceeding 25 acres. The known range within California includes the Central Valley and southern California (USFWS 2005). | **Will not occur.** Suitable aquatic habitat is not present in the Study Area. There are four CNDDB reported occurrences for this species with the closest occurrence documented three miles east of the Study Area along railroad tracks. This record documents a 1995 observation of this species in a long and narrow wetland (CDFW 2024). |
| *Branchinecta mesovallensis* mid-valley fairy shrimp | --/--/NBHCP | Occurs in a variety of seasonally inundated habitats, especially shallower pools and swales. | **Will not occur.** Suitable aquatic habitat is not present in the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Danaus plexippus* pop. 1 monarch - California overwintering population | FCE/--/-- | The federal listing on December 17, 2020 was for overwintering populations of Monarch butterflies that roost in wind protected tree groves, especially with Eucalyptus sp., and species of pine or cypress with nectar and water sources nearby. Winter roost sites extend along the coast from Mendocino County to Baja California. As caterpillars, monarchs feed exclusively on the leaves of milkweed (Asclepias sp.; Nial *et al.* 2019 and USFWS 2020). Monarch butterfly migration routes pass east over the Sierra Nevada in the fall and back to the California coast in the spring. The overwintering population is located along the Coast while summer breeding areas occur in interior California and North America with spring breeding areas located further east (USFWS 2020). | **Will not occur.** Suitable overwintering habitat or larval food plants are not present in the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
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| *Desmocerus californicus dimorphus* valley elderberry longhorn beetle | FT/--/NBHCP | Endemic to elderberry shrubs (*Sambucus* spp.) occurring in riparian habitat in the Sacramento and San Joaquin Valleys, riparian habitats in the Sacramento and San Joaquin Valleys, and less common throughout riparian forests of the Central Valley from Redding to Fresno County (USFWS 2014) typically below 152 meters elevation (USFWS 2017a). | **Not expected.** This species could occur on elderberry shrubs in the Study Area, especially along riparian forests, such as valley oak woodland along the Sacramento River, which is contiguous with known observations of this species. Observations of this species in the CNDDB are abundant in the region with the nearest CNDDB occurrence located 0.3-mile northwest of the Study Area in riparian forest along the Sacramento River. This CNDDB record dates to 1985 and documents two exit holes on an elderberry shrub (CDFW 2024). |
| *Lepidurus packardi* vernal pool tadpole shrimp | FE/--/-- | Occurs in vernal pools from 54 square feet to 89 acres, containing clear- to highly-turbid water. It's known range is within the Central Valley of California and in the San Francisco Bay area (USFWS 2005). | **Will not occur.** Suitable aquatic habitat is not present in the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| **Fishes** | | | |
| *Acipenser medirostris* pop. 1 green sturgeon southern DPS | FT/--/-- | Spawn in freshwater streams, in fast, deep water, over gravel, cobble, or boulders. Juveniles inhabit estuarine waters for 1-4 years until dispersing into coastal marine waters as adults. Adults return to spawn in fresh water every 6-10 years. Sacramento River watershed, including the Feather River, is the only known historical and present spawning areas for green sturgeon (NMFS 2018). | **Will not occur.** Suitable aquatic habitat is not present in the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Archoplites interruptus* Sacramento perch | --/--/SSC | Extinct in its native range, all known populations of this species are the result of introductions. The species is adapted for life in sloughs, slow moving rivers, and large lakes in the Central Valley, and can tolerate high temperatures and salinities as well as high pH (alkalinity). Extant populations are in reservoirs; the species has been replaced in its native range by introduced game fishes (Crain and Moyle 2011). | **Will not occur.** Suitable aquatic habitat is not present in the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
|---|---|---|---|
| *Hypomesus transpacificus* Delta smelt | FT/SE/-- | Delta smelt are tolerant of a wide salinity range. They have been collected from estuarine waters up to 14 ppt (parts per thousand) salinity. For a large part of their one-year life span, delta smelt live along the freshwater edge of the mixing zone (saltwater-freshwater interface), where the salinity is approximately 2 ppt. Shortly before spawning, adults migrate upstream from the brackish-water habitat associated with the mixing zone and disperse into river channels and tidally-influenced backwater sloughs. They spawn in shallow, fresh or slightly brackish water upstream of the mixing zone. Most spawning happens in tidally-influenced backwater sloughs and channel edge-waters. Although spawning has not been observed in the wild, the eggs are thought to attach to substrates such as cattails, bulrush, tree roots and submerged branches. Delta smelt are found only from the Suisun Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano and Yolo counties (USFWS 2017b). | **Will not occur.** Suitable aquatic habitat is not present in the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Oncorhynchus mykiss* pop. 11 Central Valley steelhead DPS | FT/--/-- | This distinct population segment includes all naturally spawned anadromous steelhead populations below natural and manmade impassable barriers in the Sacramento and San Joaquin Rivers and their tributaries, excluding steelhead from San Francisco and San Pablo Bays and their tributaries, as well as two artificial propagation programs: the Coleman NFH, and Feather River Hatchery steelhead hatchery programs. Steelhead spawn in rivers and streams with cool, clear, water and suitable silt free substrate (NMFS 2016). | **Will not occur.** Suitable aquatic habitat is not present in the Study Area. This species is known to migrate through the Sacramento River adjacent to the Study Area (CDFW 2024). |
| *Oncorhynchus tshawytscha* pop. 11 Central Valley chinook salmon spring-run ESU | FT/ST/-- | Central Valley spring-run Chinook salmon spawn in rivers and streams with cool, clear, water and suitable cobble and gravel substrate. Historically occurred in all major rivers and tributaries of the Central Valley. Spawning is currently located in tributary streams of the Sacramento River. Immigration of adults through the Delta and lower Sacramento River occurs from March through September. Spawning occurs between late-August through October (NMFS 2014). | **Will not occur.** Suitable aquatic habitat is not present in the Study Area. This species is known to migrate through the Sacramento River adjacent to the Study Area (CDFW 2024). |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
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| *Oncorhynchus tshawytscha* pop. 7 Sacramento River chinook salmon winter-run ESU | FE/SE/-- | Chinook salmon spawn in rivers and streams with cool, clear, water and suitable cobble and gravel substrate. Immigration of adults through the Delta and lower Sacramento River occurs from December through July. Spawning is currently limited to the Sacramento River downstream of Keswick Dam and upstream of the Red Bluff Diversion and the lower reaches of Battle Creek. Spawning occurs between late-April through mid-August (NMFS 2014). | **Will not occur.** Suitable aquatic habitat is not present in the Study Area. This species is known to migrate through the Sacramento River adjacent to the Study Area (CDFW 2024). |
| *Pogonichthys macrolepitodus* Sacramento splittail | --/--/SSC | Endemic to the Central Valley. They occur below the Red Bluff Diversion Dam in Tehama County to the downstream reaches of the Sacramento and American Rivers. They also occur in the lower reaches of the Feather, Merced, Tuolumne River and the San Joaquin Rivers. This species is largely confined to the Delta, Suisun Bay, Suisun Marsh, Napa River, Petaluma River, and Sacramento-San Joaquin estuary. This species occurs predominantly in freshwater estuarine systems and prefers low-salinity, shallow-water habitats. Occurs in slow-moving sections of rivers, sloughs, and marshes. Species abundance is strongly tied to outflows because spawning occurs over flooded vegetation (Moyle *et al* 2015). | **Will not occur.** Suitable aquatic habitat is not present in the Study Area. |
| *Spirinchus thaleichthys* longfin smelt | FC/ST/-- | The longfin smelt is a pelagic estuarine fish that spawns in freshwater and then moves downstream to brackish water to rear. They usually live for 2 years, spawn, and then die, although some individuals may spawn as 1- or 3-year-old fish before dying. Longfin smelt in the Bay-Delta may spawn as early as November and as late as June, although spawning typically occurs from January to April. The specific spawning substrate remains unknown (USFWS 2022). The known range of the longfin smelt extends from the San Francisco Bay-Delta in California northward to Alaska. Longfin smelt have been observed in their winter and spring spawning period as far upstream as Colusa State Park in the Sacramento River, the City of Lathrop in the San Joaquin River system, Hog Slough off the South-Fork Mokelumne River, and in the South Delta near Old River south of Indian Slough (USFWS 2022). | **Will not occur.** Suitable aquatic habitat is not present in the Study Area. This species is known to migrate through the Sacramento River adjacent to the Study Area (CDFW 2024). |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
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| **Amphibians** | | | |
| *Ambystoma californiense* California tiger salamander | FT/ST/NBHCP | California tiger salamanders are generally restricted to vernal pools and seasonal ponds, including many constructed stock ponds, in grassland and oak savannah plant communities from sea level to about 1,500 feet in central California. This species spends the majority of its life in upland areas in the vicinity of suitable breeding ponds, where it inhabits rodent burrows. In order to provide suitable habitat for this species, suitable breeding habitat must be present in combination with suitable upland habitat. In the Coastal region, populations are scattered from Sonoma County in the northern San Francisco Bay Area to Santa Barbara County, and in the Central Valley and Sierra Nevada foothills from Yolo to Kern counties (USFWS 2017c). | **Will not occur.** Suitable aquatic breeding habitat and adjacent upland habitat is not present in the Study Area for this species. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Spea hammondii* western spadefoot | --/--/SSC, NBHCP | Amphibian that breeds in vernal pools and seasonal ponds or slow portions of streams in grasslands and woodlands. Adults spend most of their time in underground burrows in grasslands surrounding breeding pools (Jennings and Hayes 1994). Breeding is typically finished by the end of March. Tadpoles mature through late-spring and disperse as pools dry (Zeiner *et al.* 1990). | **Will not occur.** Suitable aquatic breeding habitat and adjacent upland habitat is not present in the Study Area for this species. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| **Reptiles** | | | |
| *Actinemys (=Emys) marmorata* western pond turtle | FPT/--/SSC, NBHCP | Turtle that inhabits slow-moving water with dense submerged vegetation, abundant basking sites, gently sloping banks, and dry clay or silt soils in nearby uplands. Turtles will lay eggs up to 0.25-mile from water, but typically go no more than 600 feet (Jennings and Hayes 1994). This species is known to regularly overwinter on land (Ultsch 2006), which it likely does to avoid increased flows during the winter (Thomson *et al.* 2016). This species will use a variety of habitats to overwinter, but typically uses areas above the ordinary high water mark where it burrows into loose soil and/or under leaf litter. Other nonriverine habitats that experience little water level fluctuation, this species may overwinter under water (Thomson *et al.* 2016). | **May occur.** Suitable habitat is present for this species along canals and ditches in the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
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| *Thamnophis gigas* giant garter snake | FT/ST/NBHCP | Endemic to the San Joaquin and Sacramento Valley floors. Inhabits agricultural wetlands and other waterways such as irrigation and drainage canals, sloughs, ponds, small lakes, low gradient streams, and adjacent uplands. Requires adequate water during its active season (early spring through mid-fall) to provide food and cover, emergent, herbaceous wetland vegetation for foraging and cover, grassy banks and openings in waterside vegetation for basking, and higher elevation uplands for cover and refuge from flood waters during its dormant season (winter). Inhabits small mammal burrows and other soil crevices with sunny exposure along south and west facing slopes, above prevailing flood elevations when dormant. Primarily found in marshes and sloughs as well as slow-moving creeks but absent from large rivers (USFWS 2017d). | **Present.** Suitable aquatic habitat that is inundated during the active season for this species is present in agricultural ditches and canals that occur throughout the Study Area. Additionally, upland habitat is present in areas adjacent to ditches and there are known occurrences of this species in and around the Study Area. This species is documented within the Study Area in West Drainage Canal and is also well documented in areas surrounding the Study Area. The CNDDB occurrence within the Study Area documents the presence of this species in Fisherman's Lake and West Drainage Canal in 2016 (CDFW 2024). Protocol surveys that included trapping did not detect this species in the Study Area; however, eDNA sampling did test positive in ditches surrounding the Study Area which implies this species is present (Bargas 2020, Hansen 2019). |
| **Birds** | | | |
| *Accipiter cooperii* Cooper's hawk | --/--/WL | Nests in woodlands and urban trees. Preys on medium-sized birds and small mammals. Forages in open woodland and habitat edges (Zeiner *et al.* 1990). | **Present.** Suitable habitat is present for this species in the Study Area. This species could nest in trees throughout the Study Area and forage in forested areas along the Sacramento River, agricultural crops, fallowed fields or ruderal areas in the Study Area or in other adjacent habitats. This species was observed on March 7, 2023, during the site visit. There are two CNDDB reported occurrences for this |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
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| | | | species within a 5-mile radius of the Study Area. The nearest CNNDB reported occurrence is located approximately 3.9 miles south of the Study Area. This record documents a nest from 2008 in the City of Sacramento (CDFW 2024). |
| *Agelaius tricolor* tricolored blackbird | --/ST/SSC, NBHCP | Common locally throughout central California. Nests and seeks cover in emergent wetland vegetation and thorny vegetation such as Himalayan blackberry (*Rubus armeniacus*) as well as cattails and tules. Nesting area must be large enough to support a minimum colony of 50 pairs as they are a highly colonial species. Forages on ground in croplands, grassy fields, flooded land, and edges of ponds for insects (Shuford and Gardali 2008). | **May occur.** Nesting habitat for this species is present in the Study Area along ditches that supports trees, blackberry brambles and other emergent vegetation in ditches and canals. This species could also forage in the Study Area as they are known to forage in agricultural fields up to four miles from nesting sites. There are several CNDDB reported occurrences within a 5-mile radius of the Study Area. The nearest CNDDB reported occurrence is located approximately 1.8 miles northeast of the Study Area and documents an extirpated nesting colony from 1992 (CDFW 2024). |
| *Ammodramus savannarum* grasshopper sparrow | --/--/SSC | A summer resident of foothills and lowlands west of the Cascade-Sierra Nevada crest. Occurs in grasslands with scattered shrubs or other tall structures which it utilizes as singing perches. Nests on the ground in dense grass with overhanging taller grasses and forbs (Zeiner *et al.* 1990). | **Will not occur.** Suitable grassland habitat for this species is absent from the Study Area. Herbaceous habitats in the Study Area consist of agricultural crops and ruderal fields subject to constant and regular disturbance. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
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| *Athene cunicularia*<br>burrowing owl | --/--/SSC, NBHCP | Forages in grasslands, agricultural fields, and disturbed places where burrowing mammals are abundant with low and sparse vegetation. Nests in burrows, especially those of California ground squirrel, but will use other refuge sites (*Otospermophilus beecheyi*; Shuford and Gardali 2008). In the Central Valley of California, most foraging occurs within a 600-m radius of the nest (Gervais *et al.* 2003). | **May occur.** Suitable habitat is present for burrowing owl in the Study Area in ruderal or fallowed fields and along the banks of ditches, canals, and levees especially where small mammal burrows are present. But burrowing owl may also use other refuge sites such as abandoned irrigation pipes or other similar structures. CNDDB records for burrowing owl in the region are abundant with the nearest record located approximately 0.2 mile east of the Study Area. This record documents a wintering owl along a drainage ditch in 1991; however, this site is likely extirpated since the area has been developed (CDFW 2024). |
| *Branta hutchinsii leucopareia*<br>Aleutian cackling goose | --/--/NBHCP | This species may winter in the Study Area; however, the Study Area is outside of its breeding range. Cackling geese breed across a broad range of subarctic and arctic habitats in Canada and Alaska. Individual and/or semi-colonial nests are located in remote areas that provide a clear view in all directions but in the proximity of permanent water (e.g., lakes, ponds, larger streams, marshes, muskegs, and wet hummocky areas). Breeding habitat consists of tundra on grass-covered islands that are inaccessible to mammalian predators. Aleutian cackling geese nest on the Aleutian Islands, often on steep grassy slopes. Primary foraging wintering habitats are harvested cornfields, winter wheat, alfalfa, and irrigated pasture grasses (Dahl 1995). Roosting habitats are shallowly flooded agricultural lands or seasonal wetlands. | **Will not occur.** Suitable foraging habitat is present in the Study Area for this species; however, this species does not nest in California. This species has not been detected in the Natomas Basin since 2004 (ICF 2020) or by Bargas (Bargas 2019, 2020). There are no CNDDB reported occurrences for this species within a 5-mile radius of the Study Area (CDFW 2024). |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
|---|---|---|---|
| *Buteo regalis* ferruginous hawk | --/--/WL (wintering) | Found in arid and semi-arid open grasslands, sagebrush flats, desert scrub, low foothills and areas of pinyon and juniper habitat. Ferruginous hawks' nest in trees, large shrubs, utility poles and occasionally on the ground near river cut banks, but this species does not nest in California near the Study Area. Preys upon ground squirrels, rabbits, mice, and gophers. (Dechant *et al.* 1999). | **Not expected.** This species is a winter migrant and will not nest in the Study Area. However, this species could disperse through the Study Area moving between suitable foraging habitat. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Buteo swainsoni* Swainson's hawk | --/ST/NBHCP | Swainson's hawk breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah in the Central Valley and forages in adjacent grasslands or suitable grain or alfalfa fields, or livestock pastures. Breeds in California and winters in Mexico and South America. Swainson's hawks usually arrive in the Central Valley between March 1 and April 1 and migrate south between September and October. Swainson's hawks usually nest in trees adjacent to suitable foraging habitat (CDFW 2016), but may travel as far as 9.3 miles when foraging on adjacent lands is limited (Babcock 1995). Swainson's hawk nests are usually located in trees near the edges of riparian stands, in lone trees or groves of trees in agricultural fields, and in mature roadside trees. Mature oak and riparian trees are the most used nest trees, typically associated with high quality foraging habitat (CDFW 2016). Suitable foraging areas for Swainson's hawk include native grasslands or lightly grazed pastures, alfalfa and other hay crops, idle land, certain grain and row croplands, and ruderal lands. Swainson's hawks primarily feed on voles; but will take a variety of prey including small mammals, birds, and insects (CDFW 1994). | **High.** Suitable habitat is present for this species in the Study Area. This species could nest in trees throughout the Study Area and forage in agricultural crops, fallowed fields or ruderal areas in the Study Area or in adjacent habitats. There are several CNDDB reported occurrences for this species within a 5-mile radius of the Study Area and this species is well documented as nesting and foraging in the Study Area and in the region. There are five documented CNDDB reported occurrences of this species nesting on the Study Area. Three records document nesting activity in cottonwoods and oak trees in 1992 and 1993; one historic record and one recent record document this species in valley oak woodland along the Sacramento River on the Western side of the Study Area; and the last record in the Study Area is an extirpated nest along San Juan Road from 2003 (CDFW 2024). |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
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| *Circus hudsonius*<br>northern harrier | --/--/SSC | Inhabits a variety of treeless habitats including freshwater marsh, brackish- and saltwater marsh, wet meadows, lake margins, grasslands, croplands, desert sinks, and sagebrush flats. Builds nests on large mounds of vegetation between March and August. Forages in most open habitats (Shuford and Gardali 2008). | **Present.** Suitable habitat is present for this species to nest along canals and ditches. This species did not show up during the species query search, indicating there are no documented occurrences of this species within a 5-mile radius of the Study Area. However, this species has been observed foraging in the Study Area (Bargas 2019; 2021). |
| *Charadrius montanus*<br>mountain plover | --/--/SSC | A winter resident of the Central Valley, southern deserts, and southern coast, as well as Texas, Arizona, and northern Mexico; does not breed in California. Found in places with sparse, low-growing vegetation such as fallow or burned agricultural fields, heavily grazed pastures, and playas (Shuford and Gardali 2008). | **Not expected.** This species is a winter migrant and will not nest in the Study Area. However, this species could disperse through the Study Area moving between suitable foraging habitat. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Charadrius nivosus nivosus*<br>western snowy plover | FT/--/SSC | Federal listing applies only to coastal populations that nest on sand beaches above the high tide line. Interior populations nest on barren to sparsely vegetated flats along the shores of lakes, braided river systems, salt ponds, and agricultural sumps. Adults feed on insects and brine shrimp (Shuford and Garaldi 2008). | **Will not occur.** Suitable nesting habitat is not present in the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Coccyzus americanus occidentalis*<br>western yellow-billed cuckoo | FT/SE/-- | Occurs at isolated sites in Sacramento Valley in northern California, and along Kern and Colorado River systems in southern California. Frequents valley foothill and desert riparian habitats dominated by willows. Inhabits riparian habitats with dense understory foliage along river bottoms or other mesic habitats with high humidity. Prefers dense willows for roosting but will use adjacent orchard in the Sacramento Valley. Typically requires expansive riparian habitat for nesting (Zeiner *et al.* 1990). | **Will not occur**. Suitable expansive riparian forest required for nesting is not present in the Study Area. Small areas of valley oak woodland adjacent to the Sacramento River are developed in their understory and are unlikely to provide habitat for this species. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
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| *Elanus leucurus*<br>white-tailed kite | --/--/FP | Raptor that inhabits rolling foothills and valley margins with scattered oaks, as well as river bottomlands or marshes next to deciduous woodland. Nests in isolated, dense-topped trees in open areas. Forages in a variety of habitats including grassland, marshes, and agricultural fields (Zeiner *et al.* 1990). | **High.** Suitable habitat is present for this species in the Study Area. This species could nest in trees throughout the Study Area and forage in agricultural crops, fallowed fields or ruderal areas in the Study Area or in adjacent habitats. There are several CNDDB reported occurrences for this species within a 5-mile radius of the Study Area. The nearest CNNDB reported occurrence is located approximately 2.6 miles south of the Study Area, which documents a nest from 2017 in a large oak tree in a residential neighborhood (CDFW 2024). |
| *Falco columbarius*<br>merlin | --/--/WL<br>(wintering) | An uncommon winter migrant in California; breeds in Alaska and Canada. Uses a variety of habitats but requires trees close to water for cover and is usually found near coastlines, lakeshores, and wetlands (Zeiner *et al.* 1990). | **Not expected.** This species is a winter migrant and will not nest in the Study Area. However, this species could disperse through the Study Area moving between suitable patches of foraging habitat. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
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| *Lanius ludovicianus* loggerhead shrike | --/--/SSC, NBHCP | Loggerhead shrike prefers open habitats with scattered shrubs, trees, posts, or other perches. It can be found in shrublands or open woodlands with bare ground, or sparse herbaceous cover. The loggerhead shrike is often found in open cropland, but nests in dense shrubs and small trees (Zeiner *et al.* 1990). | **High**. Suitable foraging and nesting habitat are present for this species in the Study Area. Loggerhead shrike is a year-round resident of the Natomas Basin and found throughout the NBHCP area (City of Sacramento *et al*. 2003). There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024) and this species was not documented by Bargas in the Study Area (Bargas 2019, 2020). |
| *Laterallus jamaicensis coturniculus* California black rail | --/ST/FP | Inhabits brackish marsh, primarily in the upper marsh zone dominated by alkali heath (*Frankenia salina*), cattail, and rush (*Juncus* spp.); prefers lower salinity environments. In the Sierra Nevada foothills, black rail is a year-round resident along wetland edges where water is 1.2 inches or less. Black rail is typically associated with perennial wetlands associated with flowing water such as irrigation canals, perennial streams and springs with dense vegetation in the Sierra Nevada foothills. Forages on the ground, under cover of dense vegetation (Richmond *et al.* 2010). | **Will not occur.** Suitable marsh habitat is not present, and the Study Area is not located within this species' known breeding range. There is one CNDDB reported occurrence for this species within a 5-mile radius of the Study Area located 4.3 miles south of the Study Area at a constructed pond.. The CNDDB record references an eBird database record where several observers heard a California black rail calling in July of 2017 (CDFW 2024). |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
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| *Melospiza melodia*<br>song sparrow (Modesto Population) | --/--/SSC | Breeds in riparian thickets in shrubs or vines near fresh or saline emergent wetland. Nests are typically situated low to the ground or on the ground under dense riparian vegetation (Shuford and Gardali 2008). | **High.** Suitable nesting habitat is present for this species within vegetation along ditches and canals. There is one CNDDB reported occurrence for this species within a 5-mile radius of the Study Area, which is not specific with regards to its location (CDFW 2024). The record documents breeding in a canal along the edge of a wheat field in 1877, which the eggs and nest were preserved at the Museum of Vertebrate Zoology in Berkeley (CDFW 2024). |
| *Nannopterum auritum*<br>double-crested cormorant | --/--/WL | A yearlong resident along the entire coast of California and on inland lakes, in fresh, salt and estuarine waters. Rests in daytime and roosts overnight beside water on offshore rocks, islands, steep cliffs, dead branches of tall trees, wharfs, jetties, or even transmission lines (Zeiner *et al.* 1990). | **Will not occur.** Suitable habitat is not present for this species in the Study Area. This species is more likely to occur along the Sacramento River and other nearby marshes with suitable nesting habitat. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Pandion haliaetus*<br>osprey | --/--/WL | Osprey breed in Northern California from the Cascade Ranges southward to Lake Tahoe, and along the coast south to Marin County. They prey primarily on fish but also predate small mammals, birds, reptiles, and invertebrates. Foraging areas include open, clear waters of rivers, lakes, reservoirs, bays, estuaries, and surf zones. Habitat and nesting requirements include large trees, snags, and dead-topped trees in open forest habitats for cover and nesting (Zeiner *et al*. 1990). | **Present.** Suitable habitat is present for this species for foraging along the Sacramento River and nesting in trees or structures in the Study Area. This species was observed in flight over the Study Area on March 7, 2023. A large nest structure was observed along the Sacramento River outside of the Study Area. |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
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| *Plegadis chihi* white faced ibis | --/--/WL/NBHCP | This species nests sporadically in the Sacramento-San Joaquin Valley but occurs as a transient throughout California. This species requires extensive marshes for nesting and forages in marshes, pastures, and croplands. It no longer nests regularly in the Central Valley (Zeiner *et al.* 1990). | **Not expected.** Suitable marsh habitat is not present in the Study Area; however, this species could forage in croplands and pastures. Nesting habitat is not present in the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Progne subis* purple martin | --/--/SSC | Nests in cavities in open areas with low canopy cover at the height of the nest, near large bodies of water that support high densities of large insects. Martins use a variety of cavities including in bridges, large tree snags, and collapsed lava tubes. The species is very sensitive to competition from European starlings and is extirpated from most low-elevation areas by starlings (Shuford and Gardali 2008). | **May occur.** Suitable habitat is present for this species in the Study Area in tree cavities where large trees are present or other within artificial structures such as utility poles. There are several CNDDB reported occurrences for this species within a 5-mile radius of the Study Area (CDFW 2024). The nearest CNDDB record for this species is located 2.5 miles southeast of the Study Area and documents this species nesting in weep holes under the I-5 bridge in 2007 (CDFW 2024). |
| *Riparia riparia* bank swallow | --/ST/NBHCP | Found primarily in riparian and lowland habitat in California. Nests in colonies along cliffs or steep riverbanks in holes. In California, a majority of the population is situated along the Sacramento River and the Feather River. Other smaller populations persist near Monterey and north of Shasta counties (Zeiner *et al*. 1990). | **Will not occur.** Suitable steep riverbank habitat for colonial nesting is not present in the Study Area. There is one CNDDB reported occurrence for this species within a 5-mile radius of the Study Area. The record documents a nesting colony along the American River 2.9 miles southeast of the Study Area in 1986 (CDFW 2024). |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
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| *Vireo bellii pusillus*<br>least Bell's vireo | FE/SE/-- | Is an obligate riparian species during the breeding season that prefers early successional habitat (USFWS 1998). Typically found in structurally diverse habitat such as cottonwood-willow forests, oak woodlands, and mule fat scrub (USFWS 1998) that generally contains both canopy and shrub layers and includes some associated upland habitat. This species will winter in arroyos that contain mesquite scrub habitat and are not limited to willow dominated habitats. Previously considered to be limited to southern California, recent account of this species with successful breeding in Salinas Valley and in Yolo County show that this species is expanding back into its former range (NatureServe 2024; CDFW 2024). | **Will not occur.** Suitable habitat is not present in the Study Area, which consists almost entirely of agricultural lands, developed lands and isolated natural communities surrounded by developed communities. Oak woodlands that occur in the Study Area are adjacent to the Sacramento River but these areas are developed under the tree canopy so suitable riparian understory does not exist. There is one CNDDB reported occurrence for this species within a 5-mile radius of the Study Area. The record documents a collection of this species in 1877 and was likely collected from riparian vegetation along the Sacramento River (CDFW 2024). |
| *Xanthocephalus xanthocephalus*<br>yellow-headed blackbird | --/--/SSC | Occurs in California mainly as a summer migrant, but small numbers over-winter in the southern San Joaquin Valley and deserts. Breeds in marshes with tall emergent vegetation, generally along edges over deep water. Usually forages on seeds and aquatic insects within individual territories but may use nearby agricultural fields if resources are scarce (Shuford and Gardali 2008). | **May occur.** Nesting habitat for this species is present in the Study Area along ditches and canals with emergent vegetation. This species is commonly found nesting with other species of blackbirds. This species could also forage in the Study Area as they are known to forage in agricultural fields. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |

| Scientific Name/ Common Name[1] | Status[2] | Habitat, Ecology and Life History | Potential to Occur[3] |
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| **Mammals** | | | |
| *Antrozous pallidus*<br>pallid bat | --/--/SSC | Occurs throughout California except for the high Sierra Nevada and the northern Coast Ranges. Habitats include grasslands, shrublands, woodlands, and forests from sea level to 6,000 feet. Most common in open, dry habitats with rocky areas for roosting; roosts also include cliffs, abandoned buildings, bird boxes, tree hallows, and under bridges (Bolster, ed. 1998). | **May occur**. Suitable habitat is present for this species in buildings, bridges and tree hollows. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |
| *Taxidea taxus*<br>American badger | --/--/SSC | Inhabits drier open stages of most shrub, forest, and herbaceous habitats with loose, friable soils. Preys on a wide variety of mammals, reptiles, birds, and carrion, and hunts mostly by digging out fossorial prey. Occasionally takes prey on the surface. Not tolerant of cultivation. No longer occurs in the Central Valley except in the extreme western edge (Williams 1986). | **Will not occur.** Suitable habitat is not present in the Study Area, which consists almost entirely of agricultural lands, developed lands and isolated natural communities surrounded by developed communities and the Sacramento River. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2024). |

1 Sensitive species reported in CNDDB or CNPS on the "*Sacramento West*" and eight surrounding USGS quads, or in USFWS lists for the project site.

2 Status is as follows: Federal (ESA) listing/State (CESA) listing/other CDFW status or CRPR. F = Federal; S = State of California; E = Endangered; T = Threatened; P= Proposed; C = Candidate; FP=Fully Protected; SSC=Species of Special Concern; WL=Watch List.

3 Status in the Project site is assessed as follows. **Will Not Occur**: Species is either sessile (i.e., plants) or so limited to a particular habitat that it cannot disperse on its own and/or habitat suitable for its establishment and survival does not occur on the project site; **Not Expected**: Species moves freely and might disperse through or across the project site, but suitable habitat for residence or breeding does not occur on the project site, potential for an individual of the species to disperse through or forage in the site cannot be excluded with 100% certainty; **Presumed Absent:** Habitat suitable for residence and breeding occurs on the project site; however, focused surveys conducted for the current project were negative; **May Occur**: Species was not observed on the site and breeding habitat is not present but the species has the potential to utilize the site for dispersal, **High**: Habitat suitable for residence and breeding occurs on the project site and the species has been recorded recently on or near the project site, but was not observed during surveys for the current project; **Present**: The species was observed during biological surveys for the current project and is assumed to occupy the project site or utilize the project site during some portion of its life cycle.

CRPR = California Rare Plant Rank: 1B to rare, threatened, or endangered in California and elsewhere; 2B to rare, threatened, or endangered in California but more common elsewhere. Extension codes: .1 to seriously endangered; .2 to moderately endangered.

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# Appendix D

## Plant and Wildlife Species Observed in the Project Site

| Family | Species Name | Common Name | Status |
|---|---|---|---|
| **Native** | | | -- |
| Asteraceae | *Erigeron canadensis* | Canada horseweed | -- |
| Cyperaceae | *Carex barbarae* | valley sedge | -- |
| | *Carex praegracilis* | field sedge | -- |
| | *Cyperus eragrostis* | tall flatsedge | -- |
| | *Schoenoplectus acutus* | hardstem bulrush | -- |
| Euphorbiaceae | *Croton setiger* | turkey-mullein | -- |
| Fagaceae | *Quercus lobata* | valley oak | -- |
| | *Quercus wislizeni* | Interior live oak | -- |
| Juncaceae | *Juncus balticus* | Baltic rush | -- |
| Onagraceae | *Epilobium brachycarpum* | annual fireweed | -- |
| Poaceae | *Phalaris arundinacea* | reed canarygrass | -- |
| Salicaceae | *Populus fremontii* | Fremont cottonwood | -- |
| | *Salix gooddingii* | Goodding's black willow | -- |
| | *Salix lasiandra* | Pacific willow | -- |
| | *Salix lasiolepis* | arroyo willow | -- |
| Solanaceae | *Datura wrightii* | sacred thorn apple | -- |
| Typhaceae | *Typha latifolia* | common cattail | -- |
| **Non-native** | | | |
| Asteraceae | *Carduus pycnocephalus* | Italian thistle | Moderate |
| | *Centaurea solstitialis* | yellow-star thistle | High |
| | *Cichorium intybus* | chicory | -- |
| | *Daucus carota* | wild carrot | -- |
| | *Dittrichia graveolens* | stinkwort | Moderate |
| | *Helminthotheca echioides* | bristly ox-tongue | Limited |
| | *Lactuca serriola* | prickly lettuce | -- |
| | *Silybum marianum* | milk thistle | Limited |
| | *Taraxacum officinale* | common dandelion | -- |
| Brassicaceae | *Brassica nigra* | black mustard | Moderate |
| | *Hirschfeldia incana* | summer mustard | Moderate |
| | *Raphanus sativus* | wild radish | Limited |
| Convolvulaceae | *Convolvulus arvensis* | field bindweed | --/C |
| Cyperaceae | *Cyperus rotundus* | nutgrass | -- |
| Fabaceae | *Medicago polymorpha* | bur clover | Limited |
| | *Medicago sativa* | alfalfa | -- |
| | *Trifolium hirtum* | rose clover | Limited |
| Geraniaceae | *Erodium botrys* | broadleaf filaree | -- |
| Lamiaceae | *Marrubium vulgare* | white horehound | Limited |
| Malvaceae | *Malva parviflora* | cheeseweed | -- |
| Myrtaceae | *Eucalyptus* spp. | eucalyptus | Limited |
| Plantaginaceae | *Plantago lanceolata* | English plantain | Limited |
| Poaceae | *Arundo donax* | giant reed | High |
| | *Avena fatua* | wild oats | Moderate |
| | *Bromus diandrus* | common ripgut grass | Moderate |
| | *Bromus hordeaceus* | soft brome | Limited |
| | *Cynodon dactylon* | Bermuda grass | Moderate |
| | *Elymus caput-medusae* | medusahead | High |
| | *Festuca myuros* | foxtail grass | Moderate |
| | *Festuca perennis* | Italian ryegrass | -- |

| Family | Species Name | Common Name | Status |
|---|---|---|---|
| Poaceae (cont.) | *Hordeum marinum* ssp. *gussoneanum* | Mediterranean barley | -- |
| | *Paspalum dilatatum* | dallisgrass | -- |
| | *Phalaris aquatica* | Harding grass | Moderate |
| | *Polypogon monspeliensis* | annual beard grass | Limited |
| | *Sorghum halepense* | Johnsongrass | -- |
| | *Triticum aestivum* | wheat | -- |
| Polygonaceae | *Rumex crispus* | curly dock | Limited |
| | *Rumex pulcher* | fiddledock | -- |
| Rosaceae | *Prunus* spp. | fruit trees | -- |
| | *Rubus armeniacus* | Himalayan blackberry | High |

Cal-IPC categorizes plants as “high, moderate, or limited,” reflecting the level of each species’ negative ecological impact in California.

| Family | Scientific Name | Common Name |
|---|---|---|
| **Birds** | | |
| Accipitridae | *Accipiter cooperii* | Cooper's hawk |
| | *Buteo jamaicensis* | red-tailed hawk |
| | *Buteo lineatus* | red-shouldered hawk |
| Anatidae | *Anas platyrhynchos* | mallard |
| | *Branta canadensis* | Canada goose |
| Ardeidae | *Ardea alba* | great egret |
| | *Ardea Herodias* | great blue heron |
| | *Egretta thula* | snowy egret |
| Cathartidae | *Cathartes aura* | turkey vulture |
| Columbidae | *Columba livia* | rock pigeon |
| | *Zenaida macroura* | mourning dove |
| Corvidae | *Aphelocoma californica* | California scrub jay |
| | *Corvus brachyrhynchos* | American crow |
| | *Corvus corax* | common raven |
| | *Pica nuttalli* | yellow-billed magpie |
| Fringillidae | *Haemorhous mexicanus* | house finch |
| | *Spinus psaltria* | lesser goldfinch |
| Hirundinidae | *Tachycineta bicolor* | tree swallow |
| | *Tachycineta thalassina* | violet-green swallow |
| Icteridae | *Agelaius phoeniceus* | red-winged blackbird |
| | *Euphagus cyanocephalus* | Brewer's blackbird |
| | *Sturnella neglecta* | western meadowlark |
| Mimidae | *Mimus polyglottos* | northern mockingbird |
| Pandionidae | *Pandion haliaetus* | osprey |
| Paridae | *Baeolophus inornatus* | oak titmouse |
| Parulidae | *Setophaga coronata* | yellow-rumped warbler |
| Passerellidae | *Zonotrichia leucophrys* | white-crowned sparrow |
| Pelecanidae | *Pelecanus erythrorhynchos* | American white pelican |
| Phalacrocoracidae | *Nannopterum auritum* | double-crested cormorant |
| Picidae | *Colaptes auratus* | northern flicker |
| | *Dryobates nuttallii* | Nuttall's woodpecker |
| | *Melanerpes formicivorus* | acorn woodpecker |
| Ptiliogonatidae | *Phainopepla nitens* | phainopepla |
| Sittidae | *Sitta carolinensis* | white-breasted nuthatch |
| Sturnidae | *Sturnus vulgaris* | European starling |
| Troglodytidae | *Thryomanes bewickii* | Bewick's wren |
| Turdidae | *Sialia mexicana* | western bluebird |
| | *Turdus migratorius* | American robin |
| Tyrannidae | *Sayornis nigricans* | black phoebe |
| | *Sayornis saya* | Say's phoebe |
| **Mammals** | | |
| Leporidae | *Lepus californicus* | black-tailed jackrabbit |
| **Reptiles** | | |
| Trionychidae | *Trachemys scripta elegans* | red-eared slider |

# Appendix E

## Representative Site Photos



Photo 1. Representative view of a ditch (D-5) that occurs along the eastern perimeter of the Study Area and south of San Juan Road. Photo date March 7, 2023.



Photo 2. Representative view of an agricultural canal previously delineated (SPK-2020-00237). Photo date March 7, 2023.

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Photo 3. Representative view of detention basin (B-1). Photo date March 7, 2023.



Photo 4. Representative view of a ditch (D-4) that occurs perpendicular and south of San Juan Road. Photo date March 7, 2023.

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Photo 5. Representative view of a ditch (D-7) that occurs parallel and east to Garden Highway. Photo date March 7, 2023.



Photo 6. Representative view of ditch along agricultural fields and valley oak woodland (D-16). Photo date March 7, 2023.

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# APPENDIX BIO-2

## BIOLOGICAL RESOURCES ASSESSMENT

# Biological Resources Assessment

## Upper Westside Specific Plan
## Sacramento County, California



**Prepared For:** Upper Westside, LLC

**Report Date:** April 2022


Sacramento • Orange • Pasadena • San Bernardino • Temecula • San Diego
**Bargas.com**

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B. Floral Compendium

C. Special Status Resource Summary

D. NRCS Soils Report

# 1 Introduction

Bargas Environmental Consulting, LLC (Bargas) has prepared this Biological Resources Assessment (hereafter, **Assessment**) on behalf of Upper Westside, LLC (**Applicant**). The Upper Westside Specific Plan proposes developing 2,065 acres for mixed and residential use within the Natomas Basin. This Assessment analyzes the potential biological effects of that proposal consistent with the California Environmental Quality Act (CEQA).

## 1.1 Project Summary

The Upper Westside Specific Plan Project (hereafter **Project**) encompasses approximately 2,065 acres in the unincorporated Natomas community of Sacramento County, approximately 3.5 miles northwest of downtown Sacramento (**Exhibit 1. Project Site and Vicinity**). It is bounded by Interstate 80 to the south, the West Drainage Canal to the east, Fisherman's Lake Slough to the north, and Garden Highway to the west. Three sides are bordered by the City of Sacramento communities of North and South Natomas.

Lands within the Upper Westside Plan Area limits are mostly agricultural, with existing agricultural residential homes inside the northeastern and southwestern boundaries, and commercial uses located near the intersection of El Centro Road and West El Camino Avenue. Existing Sacramento County General Plan Land Use designations include Agricultural Cropland (1,858.3± acres); Agricultural Residential (97.0± acres); Commercial and Office (52.2± acres); and Recreation (58.8± acres). Multiple individuals own property within the limits of the Plan Area.

## 1.2 Habitat Conservation Plans

The Natomas Basin contains two habitat conservation plans, developed to satisfy the requirements of the Federal Endangered Species Act and California Endangered Species Act to allow for the incidental take of threatened and endangered species.

- The **Natomas Basin Habitat Conservation Plan (NBHCP)** is intended to minimize and mitigate the loss of habitat and the incidental take of 22 Covered Species that could result from urban development and management of reserves in the Natomas Basin. The NBHCP authorizes approximately 17,500 acres of development and preserves 8,750 acres in a reserve system surrounded by agricultural lands. At full build-out, the planned reserve system will consist of 4,375 acres of rice, 2,187 acres of created marsh, and 2,187 acres of upland habitat. In this reserve system, land will be managed to enhance its habitat values.
- The **Metro Air Park Habitat Conservation Plan (MAPHCP)** is intended to minimize and mitigate the loss of habitat and the incidental take of 14 Covered Species, many of which are shared with the NBHCP. The 2,011 acres of urban development associated with the MAPHCP are part of the total 17,500 acres of future Planned Development considered by the NBHCP in the Natomas Basin.

Both of these habitat conservation plans are discussed in greater detail in **Section 3.3** (Habitat Conservation Plans).

## 1.3 Definitions

This Assessment will use the following definitions for areas referred to herein:

- The **Upper Westside Specific Plan Area**, also referred to as **Plan Area**, is the 2,065 acres of the Upper Westside Specific Plan, exclusive of any off-site considerations related to the Project. At the time this Assessment was prepared, the extent and location of any off-site effects has not been determined.

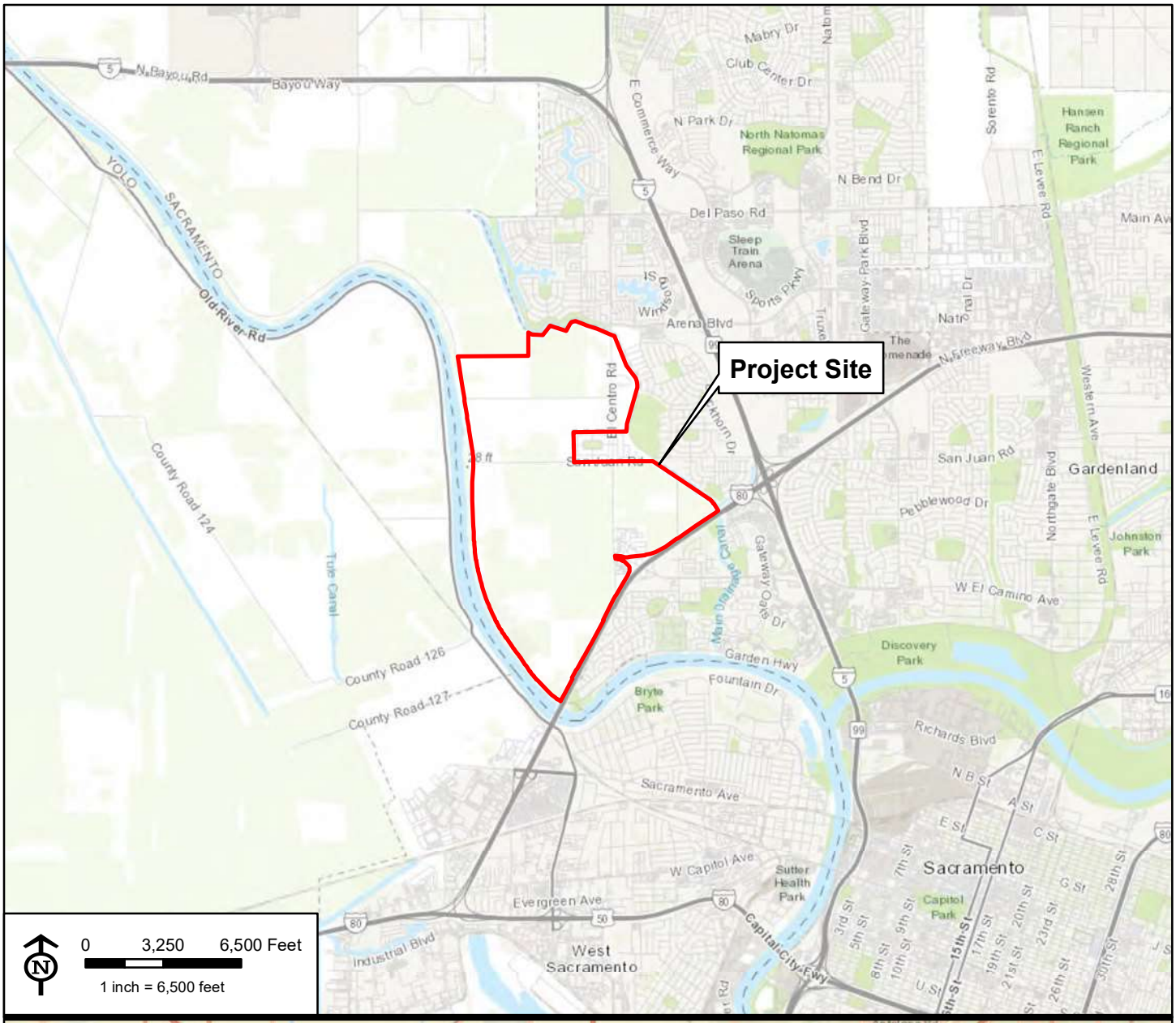
- The **Surveyed Area** includes all lands directly accessible by biologists and other surveyors during the surveys conducted for the Project. The Surveyed Area measures approximately 568.7 acres.
- The **Biological Study Area** (BSA) is defined as the Plan Area with a surrounding half mile buffer. This area was used as the survey limits for Swainson's Hawk and Giant Gartersnake, however, Giant Gartersnake surveys were restricted to publicly accessible areas of the BSA outside of the Surveyed Area defined above. Swainson's Hawk could be surveyed from a distance using optics.
- The **Off-Site Reserves** are those areas proposed for conservation of habitats for special status species to offset the effects of the Project. Their location and size will be further defined during consultation with local, state, and federal regulatory agencies.
- The **Regional Study Area** (RSA) is defined as the limits of the Natomas Basin plus a surrounding additional buffer of five miles, used to assess the status of species and habitats within the basin and additional areas of biological relevance.

A map depicting these areas is provided as **Exhibit 2. Area Reference.**

## 1.4 Summary of CEQA Findings

In **Section 6** (CEQA Analysis: Effects and Minimization Measures) of this Assessment, the following conclusions are drawn regarding the potential effects of the Project under CEQA when considering all impacts and on- and off-site preservation:

- The Project will not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations by the California Department of Fish and Wildlife or US Fish and Wildlife Service.
- The Project will not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service.
- The Project will not have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- The Project will not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- The Project will not conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance.
- The Project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.




Source: ESRI ArcGIS Online Basemap - World Topographic Map, World Street Map, Wood Rogers

Public Land Survey System (PLSS):
Mount Diablo Meridian,Township 9N, Range 4E,
Section 15,16,17,21,22,28

USGS Quad(s): Sacramento West (1980), Taylor Monument (1980)

Watershed: Upper Coon-Upper Auburn (18020161)

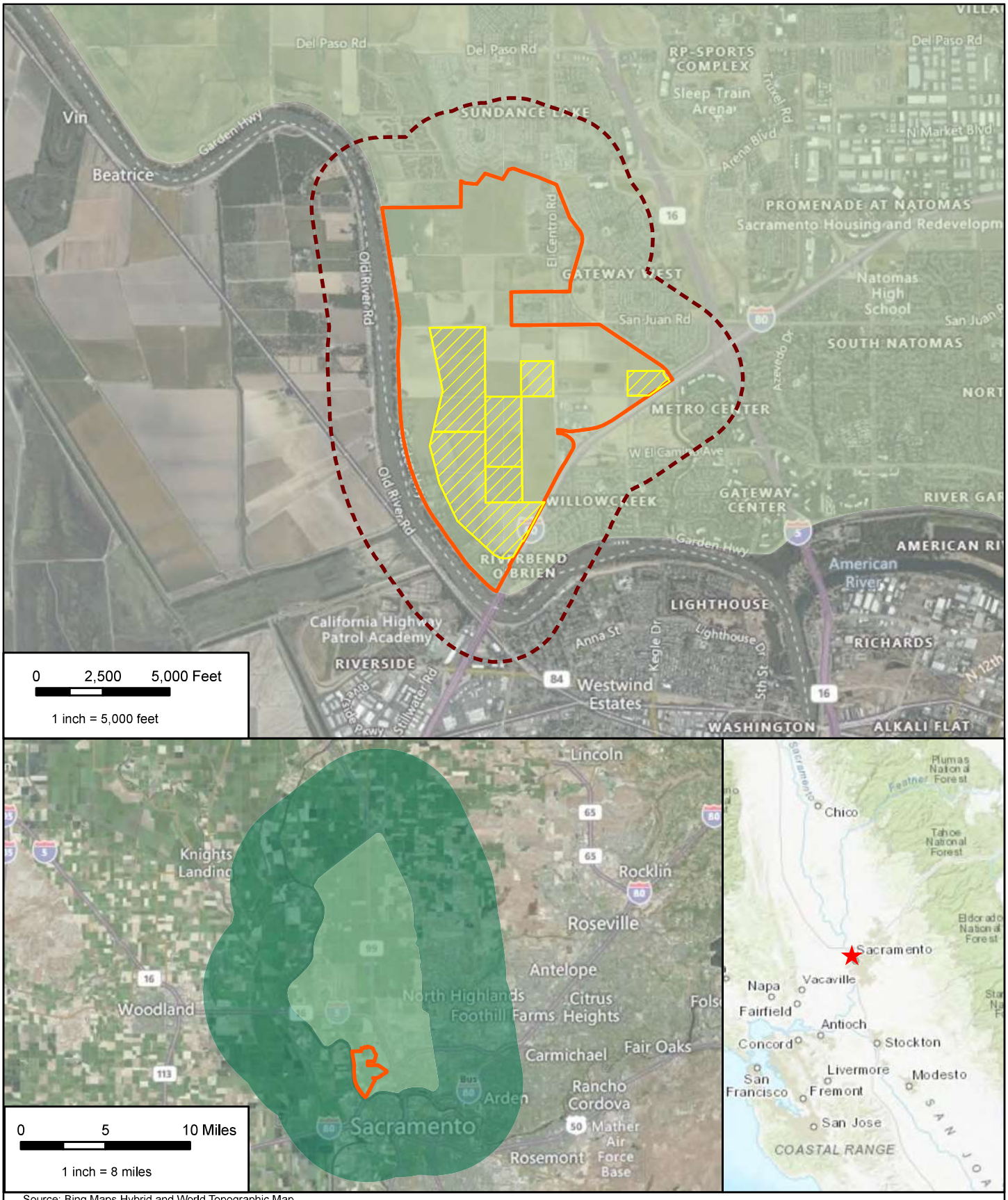
Project Site Coordinates: -121.544° W, 38.618° N

**Exhibit 1**
**Project Site and Vicinity**

*Upper Westside*

BARGAS Environmental Consulting

Map Created:7/11/2019, Map Revised: N/A, Bargas Project Number: 2018-1024




Source: Bing Maps Hybrid and World Topographic Map

Upper Westside Specific Plan Area
Surveyed Area
Biological Study Area
Natomas Basin
Regional Study Area

BARGAS Environmental Consulting

**Exhibit 2**
**Area Reference**

*Upper Westside Effects Analysis*

Map Created: 8/25/2021, Map Revised: 1/14/2022, Bargas Project Number: 1024-18

# 2 Project Description

## 2.1 Overview

### 2.1.1 Specific Plan

The Plan Area encompasses approximately 2,065 acres adjacent to and directly west of the communities of North and South Natomas in an area formerly referred to as "The Boot Precinct." The Plan Area is bounded by Interstate 80 to the south and east, Witter Canal and Fisherman's Lake/Slough to the northeast, and Garden Highway and the Sacramento River to the west. The center of the Plan Area is located approximately 3.5 miles northwest from downtown Sacramento. The Project is outside of the Urban Policy Area (UPA) and Urban Services Boundary (USB) in the Natomas New Growth Area. The conceptual Upper Westside development plan is shown in **Exhibit 3. Upper Westside Specific Plan**.

### 2.1.2 Off-Site Reserves

The Project envisions the creation of one or more Off-Site Reserves. The extent and location of these reserves has not yet been identified, but their inclusion in this Assessment is integral to the discussion of the Project's biological effects. The acreage, location and composition of the Off-Site Reserves will be determined during consultation with local, state, and federal regulatory agencies. The Off-Site Reserves will permanently preserve habitat for special status plant and wildlife species on lands of sufficient quality and quantity to offset proposed direct Project effects on biological resources in the Plan Area.

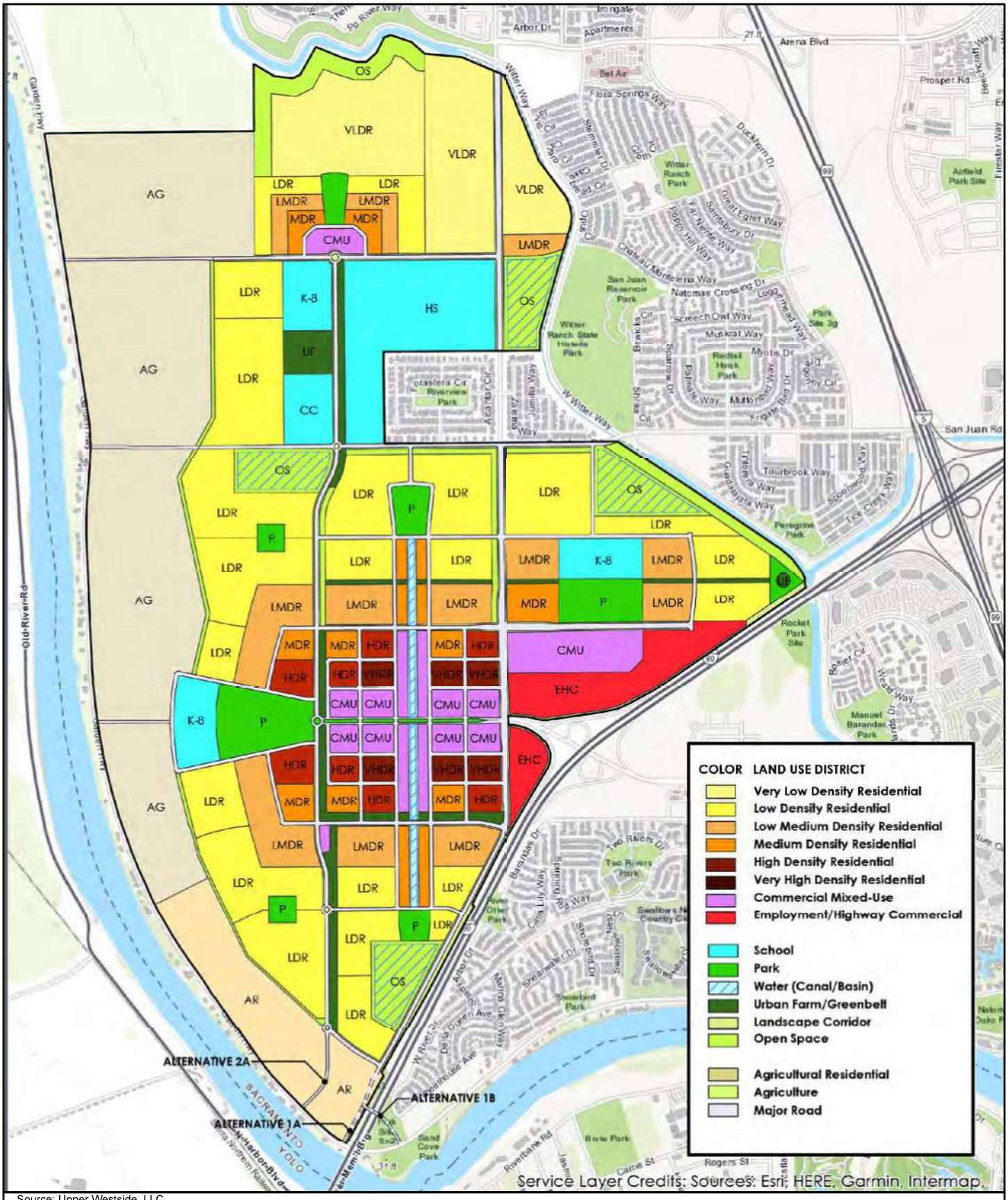
## 2.2 Objectives

The primary objectives for the Project as submitted by the applicant are as follows[1]:

- Formulate a specific plan and related land use planning documents and regulatory approvals for the Plan Area as a means of expanding the USB and UPA in an orderly manner and accommodating the County's share of future regional population growth.
- Create a land use plan that satisfies County policies, regulations, and expectations, as defined in the General Plan, including Policies LU-114, LU-119, and LU-120.
- Provide a comprehensively planned, high quality, large-scale, residential-based community in northwestern Sacramento County, directly northwest of the City of Sacramento, with a balanced mix of uses, employment opportunities, a wide variety of housing types, park and open space, and supporting public and quasi-public uses.
- Develop a master-planned community that can be efficiently served by existing infrastructure or proposed infrastructure that would encourage logical, orderly development and would discourage leapfrog or piecemeal development and sprawl.
- Provide residential housing within five miles of the existing job centers of downtown Sacramento and West Sacramento, as well as in close proximity to newly developing or proposed job centers.

[1] Notice of preparation of a Draft Environmental Impact Report for Upper Westside Specific Plan (PLNP2018-00284), October 2020.

- Create a development that has an overall positive economic impact on Sacramento County and achieves a neutral to positive fiscal impact on the County's finances and existing ratepayers.
- Create a community that can be logically and efficiently phased to allow the orderly build-out of the community.
- Provide a safe and efficient circulation system that interconnects land uses and promotes pedestrian and bicycle circulation and transit options that will encourage non-vehicular trips, thereby reducing vehicle miles traveled (VMT).
- Incorporate parks and open space, including an urban farm-greenbelt and canal, into the project design in a manner that provides community connectivity and encourages walking and bicycle use.
- Make efficient use of development opportunity as the project site is bordered on three sides by existing or planned urban development.
- Plan for enough units to provide housing choices in varying densities to respond to a range of market segments, including opportunities for rental units and affordable housing, and significant commercial uses, consistent with the General Plan and Housing Element.
- Design a land use plan where the development footprint avoids impacts to wetland resources to the extent feasible.
- Develop a specific plan that respects existing agricultural land uses and operations to the west of the proposed Development Area.
- Provide development that meets the seven identified Sacramento Area Council of Governments (SACOG) Blueprint principles, including provision of transportation choice, compact development, mixed use development, housing choice and diversity, use of existing assets, natural resource conservation, and quality design.
- Develop the Project and any associated on- and/or off-site mitigation to complement the NBHCP and the MAPHCP.
- Designate open space preserves along the south side of Fisherman's Lake Slough or along the West Drainage Canal that provide natural buffer to these features, and along the westerly edge of the proposed Development Area to provide a transition between residential and agricultural designations to the west, which will provide a regional benefit for habitat, resources, and open space amenities.
- Balance development with resource protection in an inter-connected, permanent open space.
- Create multi-functional habitat within open space corridors that provide on-site habitat and contribute to water quality.




Source: Upper Westside, LLC

Not to Scale

BARGAS Environmental Consulting

**Exhibit 3**
**Upper Westside Specific Plan**

*Upper Westside Effects Analysis*

Map Created: 8/25/2021, Map Revised: N/A, Bargas Project Number: 1024-18

# 3 Regulatory Setting

## 3.1 Federal

### 3.1.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) is the federal government's regulations protecting rare and declining plant and wildlife species. FESA is jointly implemented by the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS, marine resources only). FESA protects species using the following status designations:

- A federally **endangered** species is a species of invertebrate, plant, or wildlife formally listed by the USFWS under FESA as facing extinction throughout all or a significant portion of its geographic range.
- A federally **threatened** species is one formally listed by the USFWS as likely to become endangered within the foreseeable future throughout all or a significant portion of its range.
- A **proposed** threatened or endangered species is one officially proposed by the USFWS for addition to the federal threatened or endangered species lists.
- **Candidate** species are "plants and animals for which the USFWS has sufficient information on their biological status and threats to propose them as endangered or threatened under FESA, but for which development of a proposed listing regulation is precluded by other higher priority listing activities"(USFWS 2017).

"Take" of a federally endangered or threatened species or its habitat is prohibited by federal law without a special permit. The term "take," under FESA, means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. "Harm" is defined by the USFWS to encompass "an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 CFR § 17.3).

Section 10(a)(1)(B) of the FESA allows for take of a threatened or endangered species incidental to development activities once a Habitat Conservation Plan (HCP) has been prepared to the satisfaction of the USFWS and a Section 10(a) incidental take permit has been issued to an applicant. For federal projects (including those involving federal funding), Section 7 of the FESA allows for consultation between the affected agency and the USFWS to determine what measures may be necessary to compensate for the incidental take of a listed species. A federal project is any project that is proposed by a federal agency or is at least partially funded or authorized by a federal agency. Additionally, if the listed species or its habitat occurs in a portion of the project subject to federal jurisdiction (such as Waters of the United States by the United States Army Corps of Engineers under Section 404 of the Clean Water Act), then consultation under Section 7 of the FESA is usually permissible and may be required.

FESA also requires the USFWS to consider whether there are areas of habitat essential to conservation for each listed species. **Critical habitat** designations protect these areas, including habitat that is currently unoccupied but may be essential to the recovery of a species. An area is designated as critical habitat after the USFWS publishes a proposed Federal regulation in the Federal Register and then receives and considers public comments on the proposal. The final boundaries of critical habitat are officially designated when published in the Federal Register.

### 3.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (MBTA) is a federal law governing the taking, killing, possession, transportation, and importation of various birds, their eggs, parts, and nests. The take of any number of a bird species

listed as protected on any one of four treaty lists is governed by the MBTA's regulation of taking migratory birds for educational, scientific, and recreational purposes and requiring harvest to be limited to levels that prevent over utilization. The MBTA also prohibits taking, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase or barter, certain bird species, their eggs, parts, and nests, except as authorized under a valid permit (50 CFR 21.11).

### 3.1.3 Clean Water Act and Waters of the United States

The U.S. Army Corps of Engineers (USACE) has primary federal responsibility for administering regulations that concern waters of the United States (U.S.) (including wetlands) under Section 404 of the Clean Water Act (CWA). Section 404 of the CWA regulates the discharge of dredged or fill material into waters of the U.S. The USACE requires that a permit be obtained if a project proposes the placement of structures within, over, or under navigable waters and/or discharging dredged or fill material into waters below the ordinary high-water mark (OHWM). The USACE has established a series of regulatory permitting processes that authorize certain activities in waters of the U.S.

In addition, a CWA Section 401 Water Quality Certification Permit is required to comply with CWA Sections 301, 302, 303, 306, and 307 which establishes discharge standards for effluents based upon technology-based guidelines and is regulated by the California State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCB). The CWA and state wetland regulations are discussed in greater detail in **Sections 3.27** and **3.28**. Furthermore, anyone that proposes to conduct a project that may result in a discharge to U.S. surface waters and/or "waters of the state," including wetlands (all types), year-round and seasonal streams, lakes, and all other surface waters, would require a permit. At a minimum, any beneficial uses that are lost must be replaced by mitigation of at least equal function, value, and area. Waste Discharge Requirements Permits are required pursuant to California Water Code Section 13260 for any persons discharging or proposing to discharge waste, including dredge/fill, that could affect the quality of the waters of the State.

Wetlands are defined under 33 C.F.R. 328.3(c)(16) as:

> *Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.*

The limits of USACE jurisdiction in non-tidal waters extends to the OHWM, which is defined under 33 CFR 328.3(c)(7) as:

> *…That line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impresses on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.*

Non-wetland features include:

> *…Upland and lowland areas that are neither deep water aquatic habitats, wetlands, nor other special aquatic sites. They are seldom or never inundated, or if frequently inundated, they have saturated soils for only a brief period of time during the growing season. If these features are vegetated, they normally support species that are predominantly adapted to aerobic soil conditions* (USACE - Environmental Laboratory 1987).

The Environmental Protection Agency (EPA) published a proposed revised definition of "waters of the United States" on December 7, 2021, in response to the U.S. District Court of the District of Arizona ruling resulting in "vacating and

remanding" the Navigable Waters Protection Rule (Federal Register 2021). This revised definition is consistent with the pre-2015 regulations based upon the Supreme Court cases of *Rapanos vs. United States* and *Carabell vs. United States* (EPA 2008), meaning the USACE will assert jurisdiction over traditional navigable waters (TNW) and the following types of features determined to have "significant nexus" to a TNW:

- wetlands adjacent to TNWs
- non-navigable tributaries of TNWs that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally
- wetlands that directly abut non-navigable tributaries of TNWs

The current interpretation of “waters of the United States” is consistent with the pre-2015 definition and practice, incorporating guidance from the *Rapanos v. United States*, *Carabell v. United States Supreme Court*, and the *SWANCC* Supreme Court decisions.

## 3.2 State of California

### 3.2.1 California Environmental Quality Act

CEQA is a public disclosure process codified by California Public Resources Code 21000, requiring decision-makers to analyze the environmental impacts of a project, disclose those impacts to the public, and mitigate environmental impacts to the extent feasible. The state or local lead agency provides an evaluation of project effects on biological resources; determining the significance of those effects is guided by Appendix G of the CEQA guidelines. These evaluations must consider direct effects on a biological resource within the project site itself, indirect effects on adjacent resources, and cumulative effects within a larger area or region. Effects can be locally important but not significant according to CEQA if they would not substantially affect the regional population of the biological resource. Significant adverse impacts on biological resources would include the following:

- Substantial adverse effects on any species identified as candidate, sensitive, or special status in local or regional plans, policies, or regulations or by the CDFW or the USFWS (these effects could be either direct or via habitat modification);
- Substantial adverse impacts to species designated by the CDFW as Species of Special Concern (SSC);
- Substantial adverse effects on riparian habitat or other sensitive habitat identified in local or regional plans, policies, or regulations or by CDFW and USFWS;
- Substantial adverse effects on federally protected wetlands defined under Section 404 of the CWA (these effects include direct removal, filling, or hydrologic interruption of marshes, vernal pools, coastal wetlands, or other wetland types);
- Substantial interference with movements of native resident or migratory fish or wildlife species population, or with use of native wildlife nursery sites;
- Conflicts with local policies or ordinances protecting biological resources (e.g., tree preservation policies); and;
- Conflict with provisions of an adopted HCP, NCCP, or another approved local, regional, or state habitat conservation plan.

### 3.2.2 California Endangered Species Act

The California Endangered Species Act (CESA) prohibits the take of state-listed threatened and endangered species. Under CESA, state agencies are required to consult with CDFW when preparing CEQA documents. Under CESA, CDFW is responsible for maintaining a list of rare, threatened, and endangered species designated under state law (California Fish and Game Code § 2070-2079). CDFW also maintains lists of candidate species, SSC, and fully-protected species. Candidate species are those taxa that have been formally recognized by the CDFW and are under review for addition to the state threatened and endangered list. Species of special concern are those taxa that are considered sensitive, and this list serves as a "watch list." The CDFW can authorize "take" if an incidental take permit is issued by the Secretary of the Interior or Commerce in compliance with FESA, or if the director of the CDFW issues a permit under Section 2080 in those cases where it is demonstrated that the impacts are minimized and mitigated.

### 3.2.3 California Fish and Game Code

*Section 1600 et seq. – Lake and Streambed Alteration Agreement*. Section 1600 provides provisions for protecting riparian systems, including the bed, banks, and riparian habitat of lakes, seasonal and perennial streams, and rivers. This section requires an applicant to notify CDFW and obtain a Lake and Streambed Alteration Agreement (LSAA) if their project would divert or obstruct the natural flow of any river, stream, or lake; change the bed, channel, or bank of any river, stream, or lake; use material from any river, stream, or lake; or deposit or dispose of material into any river, stream, or lake.

*Section 2050 et seq. – California Endangered Species Act.* CESA establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. CESA is administered by CDFW and prohibits the take of any species that the California Fish and Game Commission (CFGC) determines to be a threatened or endangered species. CESA also mandates that "state agencies should not approve projects as proposed which would jeopardize the continued existence of any endangered species or threatened species" if reasonable and prudent alternatives are available that would avoid jeopardy. CDFW administers CESA and authorizes take through California Fish and Game Code Section 2081 Incidental Take Permits or through Section 2080.1 (for species also listed under FESA, consistency determination with a USFWS Biological Opinion).

*Section 3511 – Fully Protected Species*. The legislature of the State of California designated certain species as "fully protected" prior to the creation of CESA. Section 3511 states that "fully protected" birds or parts thereof may not be taken or possessed at any time. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction and included fish, mammals, amphibians and reptiles, and birds. Most fully protected species have since been listed as threatened or endangered under CESA and/or FESA.

*Sections 3503, 3503.5, 3505, 3513 — Birds*. These California Fish and Game Code sections protect all birds, birds of prey, and all nongame birds, as well as their eggs and nests, for species that are not already listed as fully protected and that occur naturally within the state. Sections 3503 and 3503.5 of the CFGC stipulate the following regarding eggs and nests: Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by CFGC or any regulation made pursuant thereto; and Section 3503.5 states that is it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by CFGC or any regulation adopted pursuant thereto. Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

### 3.2.4 California Native Plant Protection Act

The California Native Plant Protection Act of 1977 (California Fish and Game Code § 1900-1913) affords the CDFW Commission the authority to designate native plants as endangered or rare and protect them from "take." The California Native Plant Society (CNPS) maintains a list of sensitive plant species native to California and assigns each a rank in the California Rare Plant Rank (CRPR) system defined below:

- List 1A: Plants presumed extirpated in California and either rare or extinct elsewhere;
- List 1B: Plants are rare, threatened, or endangered in California and elsewhere;
- List 2A: Plants presumed extirpated in California, but more common elsewhere;
- List 2B: Plant are rare, threatened, or endangered in California, but more common elsewhere;
- List 3: Plants about which more information is needed (on a review list);
- List 4: Plants of limited distribution (on a watch list).

This list is further defined as described below:

- 0.1: Seriously threatened in California, meaning there is a high degree (over 80% of occurrences) and immediacy of threat;
- 0.2: Moderately threatened in California, meaning there is a moderate degree (20-80% of occurrences) and immediacy of threat;
- 0.3: Not very threatened in California, meaning there is a low degree (less than 20% of occurrences) and immediacy of threat.

All plants on Lists 1 and 2 meet the standards for state listing under the CEQA Guidelines (14 CCR § 15380). CNPS recommends that plants on Lists 3 and 4 be evaluated for consideration under CEQA.

### 3.2.5 CDFW Special Status Species

The CDFW maintains lists of special status species that are protected under CEQA. These lists include the Special Vascular Plants, Bryophytes, and Lichens List and the Special Animals List.

#### *3.2.5.1 CDFW Special Vascular Plants, Bryophytes, and Lichens List*

Special plants include:

- Taxa listed under FESA or CESA as Endangered, Threatened, or Rare;
- A candidate for state or federal listing as Endangered, Threatened, or Rare;
- Taxa listed in the CNPS's Inventory of Rare and Endangered Plants (IREP) of California;
- Taxa which meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the CEQA Guidelines; these taxa may indicate "None" under listing status, but note that all California Rare Plant Rank 1 and 2 and some Rank 3 and 4 plants may fall under Section 15380 of CEQA;
- Taxa that are biologically rare, very restricted in distribution, or declining throughout their range but not currently threatened with extirpation;
- Taxa listed as a Bureau of Land Management, USFWS, or U.S. Forest Service Sensitive Species;

- Population(s) in California that may be peripheral to the major portion of a taxon's range but are threatened with extirpation in California; and
- Taxa closely associated with a habitat that is declining in California at a significant rate (e.g., wetlands, riparian, vernal pools, old-growth forests, desert aquatic systems, native grasslands, valley shrubland habitats).

#### *3.2.5.2 CDFW Special Animals List*

"Special Animals" is a broad term used to refer to all the animal taxa tracked by CDFW's California Natural Diversity Database (CNDDB), regardless of their legal or protection status. This list is also referred to as the list of "species at risk" or "special status species." CDFW considers the taxa on this list to be those of greatest conservation need.

Special animals include:

- Taxa listed or proposed for listing under FESA and/or CESA;
- Taxa considered by CDFW to be a SSC;
- Taxa which meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the CEQA Guidelines;
- Taxa that are biologically rare, very restricted in distribution, or declining throughout their range but not currently threatened with extirpation;
- Population(s) in California that may be peripheral to the major portion of a taxon's range but are threatened with extirpation in California;
- Taxa closely associated with a habitat that is declining in California at a significant rate (e.g., wetlands, riparian, vernal pools, old-growth forests, desert aquatic systems, native grasslands, valley shrubland habitats, etc.);
- Taxa designated as a special status, sensitive, or declining species by other state or federal agencies or a non-governmental organization (NGO) and determined by the CNDDB to be rare, restricted, declining, or threatened across their range in California.

### 3.2.6 CEQA Sensitive Habitats

Several natural vegetation communities and habitats have been classified as sensitive under CEQA and other applicable laws and regulations. They are defined as meeting one or more of the following criteria:

- Areas of special aquatic biological significance as identified by the SWRCB;
- Areas that provide habitat for locally unique biotic species/communities;
- Areas which provide habitat for species of special concern as listed by CDFW in the Special Animals List and CNDDB;
- Areas which provide essential habitat, or are adjacent to essential habitat, for rare or endangered species which meet the definition of Section 15380 of the CEQA guidelines or designated by the CFGC, USFWS, or CNPS;

- Nearshore reefs, rocky intertidal areas, sea caves, islets, offshore rocks, kelp beds, marine mammal hauling grounds, sandy beaches, shorebird roosting, resting and nesting areas, cliff-nesting areas and marine, wildlife or educational/research reserves;
- Dune plant habitats;
- All lakes, wetlands, estuaries, lagoons, streams, and rivers; and
- Riparian corridors

Non-sensitive vegetation communities are those communities that are not afforded special protection under CEQA or other state, federal and local laws, regulations, and ordinances. However, they may still provide suitable habitats for special status animals and plant species.

### 3.2.7 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1969 established the SWRCB and the nine RWQCBs and authorized them to provide oversight for water rights and water quality. It uses the National Pollutant Discharge Elimination System (NPDES) to monitor point source discharges into the waters of the State to prevent water quality degradation. It also protects wetlands, surface waters, and groundwater from both point and nonpoint sources of pollution.

### 3.2.8 State Wetland Definition and Procedures

The SWRCB adopted the State Wetland Definition and Procedures for Discharges or Fill Material to Waters of the State in 2019 and completed revisions to this set of procedures in 2021 (SWRCB 2021). Four major elements are included in these procedures as described below, in addition to procedures for the submittal, review and approval of CWA Section 401 permits not described in this report.

1. Wetland definition:

   *An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration such saturation is sufficient to cause anaerobic conditions in the upper substrate; and 3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.*

2. Framework for determining waters of the state:

   Waters of the state are broadly defined by the Porter-Cologne Water Quality Control Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The 2021 procedures expand upon this definition to clearly include natural wetlands, wetlands created by modification of a surface water of the state, and artificial wetlands meeting specific criteria.

   The criteria for an artificial wetland include wetlands created for agency-approved compensatory mitigation; those identified in a water quality control plan; and those greater than or equal to one acre in size unless they are constructed and maintained for wastewater treatment or disposal, sediment settling, stormwater permitting program pollutant or runoff management, surface water treatment, agricultural crop irrigation or stock watering, fire suppression, industrial processing and cooling, active surface mining, log storage, recycled water management, maximizing groundwater recharge, and rice paddies.

3. Wetland delineation procedures:

USACE-defined procedures for aquatic resources delineation (USACE 1987; USACE 2008, USACE 2010) used to assess the presence or absence of hydrophytic vegetation, hydric soils, and wetland hydrology are required by the SWRCB to delineate waters of the state, with one modification being that "the lack of vegetation does not preclude the determination of such an area that meets the definition of wetland."

## 3.3 Habitat Conservation Plans

An HCP is a planning document required as part of an application for an incidental take permit under Section 10(a)(1)(B) of FESA. Such permits are issued by the USFWS when take is not the intention of, and is incidental to, otherwise legal activities. An application for an incidental take permit under Section 10 of FESA must be accompanied by an HCP. HCPs describe the impacts of the proposed action that may result in take of federally listed species; how those impacts will be minimized or mitigated; and how the HCP is to be funded. HCPs can apply to both listed and non-listed species, including those that are candidates or have been proposed for listing. Conserving species before they are in danger of extinction or are likely to become so can also provide early benefits and prevent the need for listing.

Two HCPs have been approved for development within the vicinity of the Plan Area — the NBHCP and the MAPHCP. The Plan Area is within the Natomas Basin and the boundaries of the NBHCP but is not within the areas with take coverage. Further, the Plan Area is in Sacramento County, which is not a signatory to the NBHCP or the MAPHCP. As such, the Applicant is not eligible for the take coverage granted by USFWS and CDFW under the NBHCP or MAPHCP. The Plan Area is also outside of the Planned Development area of the NBHCP and potential impacts resulting from the development of the Project were not considered in the NBHCP.

### 3.3.1 Natomas Basin Habitat Conservation Plan

The NBHCP (City of Sacramento et al. 2003) provides for the conservation of 22 wildlife and plant species within the Natomas Basin. The NBHCP establishes a multispecies conservation program to minimize and mitigate the expected loss of habitat values and incidental take of Covered Species that could result from urban development, operation and maintenance of irrigation and drainage systems, and certain activities associated with The Natomas Basin Conservancy (TNBC) management of its system of reserves established under the NBHCP. The NBHCP applies to the 53,537-acre area interior to the toe of levees surrounding the Natomas Basin, located in the northern portion of Sacramento County and the southern portion of Sutter County. The Basin contains incorporated and unincorporated areas within Sacramento County and Sutter County.

Management of the NBHCP is heavily focused on the two most widely distributed covered species in the Natomas Basin: Swainson's Hawk (*Buteo swainsoni*) and Giant Gartersnake (*Thamnophis gigas*):

- Swainson's Hawk is an upland foraging species. It nests along the Sacramento River and in isolated trees and groves throughout the Natomas Basin. The NBHCP seeks to avoid development in the Swainson's Hawk Zone[2] and to acquire upland habitat as Mitigation Lands inside the Swainson's Hawk Zone.
- Giant Gartersnake is found primarily in agricultural wetlands (such as rice fields) and other waterways such as drainage canals as well as adjacent uplands in many portions of the Natomas Basin[3].

[2] The NBCHP Swainson's Hawk Zone is defined as the lands which are not currently developed [excluding the 250 acres of land designated "Urban" on the City of Sacramento General Plan and the North Natomas Community Plan located within the City of Sacramento] and which are located within the Natomas Basin and within one mile east of the toe of the inside levee of the Sacramento River and extending from the Natomas Cross Canal on the north and Interstate 80 on the south.
[3] https://www.fws.gov/sacramento/es_species/Accounts/Amphibians-Reptiles/giant_garter_snake/

It is anticipated that management of habitat for Swainson's Hawk and Giant Gartersnake will benefit the other covered species: Aleutian Cackling Goose (*Branta hutchinsii leucopareia*), Bank Swallow (*Riparia riparia*), Burrowing Owl (*Athene cunicularia*), Loggerhead Shrike (*Lanius ludovicianus*), Tricolored Blackbird (*Agelaius tricolor*), White-faced Ibis (*Plegadis chihi*), Northwestern Pond Turtle (*Actinemys marmorata*), California Tiger Salamander (*Ambystoma californiense*), Western Spadefoot Toad (*Spea hammondii*), Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*), Midvalley Fairy Shrimp (*Branchinecta mesovallensis*), Vernal Pool Fairy Shrimp (*Branchinecta lynchi*), Vernal Pool Tadpole Shrimp (*Lepidurus packardi*), Boggs Lake Hedge-Hyssop (*Gratiola heterosepala*), Colusa Grass (*Neostapfia colusana*), Delta Tule Pea (*Lathyrus jepsonii* var. *jepsonii*), Legenere (*Legenere limosa*), Sacramento Orcutt Grass (*Orcuttia viscida*), Slender Orcutt Grass (*Orcuttia tenuis*), and Sanford's Arrowhead (*Sagittaria sanfordii*).

Adaptive management is a key provision of the NBHCP, allowing examination of "alternative strategies for meeting measurable goals and objectives, and then, if necessary, adjusting future conservation and management actions according to what is learned" (NBCHP Page I-41).

### 3.3.2 Metro Air Park Habitat Conservation Plan

The Metro Air Park (MAP) Property Owners Association applied for, and received, a 50-year permit, pursuant to section 10(a)(1)(B) of the Endangered Species Act of 1973 from USFWS for the incidental take of Giant Gartersnake, Valley Elderberry Longhorn Beetle, and 12 additional species in July 2001. The resulting MAPHCP area is contained entirely within the boundaries of the NBHCP and covers many (but not all) of the same species: Aleutian Cackling Goose, Bank Swallow, Burrowing Owl, Greater Sandhill Crane (*Antigone canadensis tabida*), Loggerhead Shrike, American Peregrine Falcon (*Falco peregrinus anatum*), Swainson's Hawk, Tricolored Blackbird, White-faced Ibis, Giant Gartersnake, Northwestern Pond Turtle, Valley Elderberry Longhorn Beetle, Delta Tule Pea, and Sanford's Arrowhead.

The 2,011 acres of urban development associated with the MAPHCP are part of the total 17,500 acres of future Planned Development considered by the NBHCP in the Natomas Basin. However, a portion of the MAP project, approximately 28 acres, is located within the City of Sacramento's NBHCP Permit Area. These 28 acres are included in the 8,050 acres of disturbance attributed to the City of Sacramento. As a result, MAP will disturb 1,983 acres of the 17,500 acres of disturbance addressed by the NBHCP. The MAPHCP provides for automatic revision of the MAPHCP to incorporate applicable provisions of the revised NBHCP upon approval of the latter by regulatory agencies.

## 3.4 Local Policies and Ordinances

The Plan Area is located in unincorporated Sacramento County and is subject to the following local and regional regulations.

### 3.4.1 Sacramento County General Plan

The Sacramento County General Plan is a set of goals, objectives, policies, implementation measures, and maps that form a blueprint for physical development in the unincorporated County. The General Plan contains numerous goals, policies, and strategies to protect and/or preserve biological resources (Sacramento County 2021).

The Conservation Element of the General Plan includes as an overarching goal the management and protection of natural resources for the use and enjoyment of present and future generations while maintaining the long-term ecological health and balance of the environment.

The Open Space Element also incorporates habitat preservation principles to aid in the preservation/recovery of endangered and threatened species through protection of vernal pools, wetlands, creeks, oak woodlands, and other native plant communities throughout Sacramento County.

In addition to Open Space, the Agricultural Element of the General Plan places specific emphasis on agricultural lands and their importance not only in agricultural and economic productivity, but the natural resource and cultural benefits they provide.

### 3.4.2 Sacramento County Code Chapter 19.12 Tree Preservation and Protection

Sacramento County has adopted a tree preservation and protection ordinance to prevent the loss of native oak trees. For the purposes of this ordinance, tree is defined as:

> *Any living native oak tree having at least one trunk of six inches or more in diameter measured four and one-half feet above the ground, or a multi-trunked native oak tree having an aggregate diameter of ten inches or more, measured four and one-half feet above the ground.*

The majority of the oak woodland in Sacramento County has been cleared for agricultural and development uses and constitutes a fraction of what existed prior to the arrival of Europeans to the region. The County Tree Preservation and Protection Ordinance states that "it shall be the policy of the County to preserve all trees possible through its development review process" (SCC 480 § 1, 1981) (Sacramento County 1981). The intent of the policy is to enhance the natural beauty of the area, sustain potential property values associated with oak woodlands, and preserve the natural ecology of the region. Oak woodlands are important ecosystems in the Sacramento Valley which provide unique ecological services including topsoil retention and the mitigation of extreme temperatures and poor air quality.

### 3.4.3 Sacramento County Swainson's Hawk Ordinance

Sacramento County provides for a Swainson's Hawk Mitigation Program. As amended by the Board of Supervisors in 2009, the program provides for the following voluntary means for mitigating impacts to Swainson's Hawk foraging habitat:

- For impacts of less than 40 acres, project proponents have the option to pay an impact fee or provide title or easement to suitable Swainson's Hawk mitigation lands on a per-acre basis.
- For impacts of 40 acres or greater, project proponents must provide title or easement to approved Swainson's Hawk mitigation lands with one acre preserved for each one acre impacted.

The determination of impacts and mitigation land suitability is evaluated by the County's Office of Planning and Environmental Review.

# 4 Methods

This Biological Resources Assessment is informed by data from a desktop analysis of the literature and numerous resource databases, as well as more than three years of site-specific field surveys. The methods used to complete these surveys and desktop analyses are described below.

## 4.1 Desktop Review

Prior to conducting field surveys, Bargas biologists conducted an initial review of pertinent literature and data sources to characterize the biological conditions on and within the vicinity of the Plan Area and to compile records of sensitive biological resources, including occurrences of special status species. These data have been subsequently reviewed repeatedly throughout the implementation of field surveys and the creation of this Assessment. The methods used for this analysis are described below.

### 4.1.1 Biological Setting

The biological setting includes terrain, hydrology, soils, land uses, and other features that support or inhibit biological resources in an area. In order to better understand the biological setting of the project, the following resources were reviewed in detail:

- US Fish and Wildlife Service's National Wetlands Inventory (NWI) (USFWS 2021) to determine if surface waters and wetlands have been mapped on or adjacent to the Plan Area;
- US Geological Survey's National Hydrography Dataset (NHD) (USGS 2021) to determine if hydrological features have been mapped on or adjacent to the Plan Area;
- US Department of Agriculture National Resource Conservation Service (soil survey maps and unit descriptions (NRCS 2020) to map and describe soil(s) within the Plan Area;
- Google Earth Pro aerial map images of the Plan Area, including historical aerial images (Google 2021).

### 4.1.2 Special Status Species and Habitats

When analyzing potential Project effects on special status biological resources effectively, it is important to create a well-defined list of habitats and species that could reasonably be expected to occur in the area of interest.

#### *4.1.2.1 Data Sources*

Species and habitat occurrences were queried from the following resources, with search areas that varied depending on the capabilities of the database:

- US Fish and Wildlife Service's *Information for Planning and Consultation* portal (IPaC; USFWS 2021) for a list of federally listed species and designated critical habitat recommended for impact analysis consideration, based on an upload of the Plan Area limits;
- California Department of Fish and Wildlife's *California Natural Diversity Database* (e.g., CNDDB, CDFW 2021) for special status species and habitat records within the *Sacramento West, Clarksburg, Davis, Florin, Grays Bend, Rio Linda, Sacramento East, Saxon,* and *Taylor Monument* USGS 7.5-minute quadrangles;
- California Native Plant Society's Inventory of Rare and Endangered Plants (CNPS 2021) for a list of special status plant species occurrences within the *Sacramento West, Clarksburg, Davis, Florin, Grays Bend, Rio Linda, Sacramento East, Saxon,* and *Taylor Monument* USGS 7.5-minute quadrangles;

#### *4.1.2.2 Special Status Designations Considered*

A variety of agencies and respected non-profit organizations assess the conservation status of plant and wildlife species. A number of species are tracked by the CNDDB, but otherwise have no special status designation applicable to this Assessment. The following designations were considered when determining special status species to be discussed in this assessment:

- **Federal:** Species listed as **Endangered (FE)**, **Threatened (FT)**, or as a **Candidate (FC)** for listing as Endangered or Threatened under the FESA
- **California:** Species listed as **Endangered (SE)**, **Threatened (ST)**, or as a **Candidate (SC)** for listing as Endangered or Threatened under the CESA as well as species listed as **Fully Protected (FP)** or as a **California Species of Special Concern (SSC)**
- **Plants Only:** Species listed in the CNPS *Inventory of Rare and Endangered Plants* (CNPS 2021)
- Any vegetation community, plant, or wildlife taxon with records in the area analyzed for the CNDDB
- Any species covered by the NBHCP or MAPHCP not otherwise included in the designations above, whether present in the database or not.

Bargas also included in this Assessment any special status species observed during field surveys that was not listed in the database review.

## 4.2 Field Surveys

Bargas biologists conducted more than 40 survey visits for biological resources from March 2019 to July 2021. The majority of these surveys had an emphasis on a particular resource of concern to Project permitting, but most gathered general biological information of significance to the completion of this Assessment:

- **Giant Gartersnake surveys:** Eric Hansen, a recognized expert in Giant Gartersnake biology and survey methods, completed trapping and eDNA surveys for the species consistent with the guidelines set forth in the USFWS two-year protocol and consistent with Hansen's 10(a)(1)(A) permit from June-September 2019 and June-September 2020 (Hansen 2019, 2020).
- **Swainson's Hawk surveys:** Swainson's Hawk protocol surveys with final reports were completed during three years:
    - March-July 2019, led by Bargas Principal Biologist Marcus England (Bargas 2019).
    - March-July 2020, led by Bargas Biologist Allison Ferkovitch (Bargas 2020d).
    - March-July 2021, led by Bargas Biologist Bekah Christianson (Bargas 2021).

  Surveys during all three years followed *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000).
- **Botanical surveys:** Botanical surveys were conducted by Bargas Biologist Daniel Neal, Senior Biologists Bonnie Peterson and Krystal Pulsipher from March-July 2019, April 2020, and June 2020 (Bargas 2020c).
- **Arborist surveys:** Tree surveys were conducted in April and May 2021 by a team of biologists led by Krystal Pulsipher, a certified arborist (Bargas 2022).

- **Aquatic resources delineation:** Site surveys were conducted in June 2019, April 2020, June 2020 by a team of biologists led by Krystal Pulsipher (Bargas 2020a) and Bonnie Peterson in March 2021.

For detailed information on individual survey methods, please review the referenced reports.

Direct access during all field surveys in the Plan Area was restricted to the Surveyed Area defined previously in **Section 1.3-**Definitions. For some surveys, such as those for Swainson's Hawk, this was of minimal consequence because of the ability to survey the subject resource remotely using optics. For other resources, potential for occurrence had to be extrapolated based on remote observations in the field combined with detailed analysis of habitats as described below.

## 4.3 Habitat Analysis

Detailed GIS-based analyses were completed to create a vegetation layer, analyze habitat suitability, and assess the occurrence of wetlands and other potential jurisdictional features in the Plan Area where access could not be obtained by biologists. The methods used for these analyses are described below.

### 4.3.1 Vegetation

Vegetation in all portions of the RSA, including the Plan Area, have been mapped in significant detail. The underlying vegetation data used in this Assessment is derived from **Vegetation – Great Valley Ecoregion** (CDFW BIOS dataset ds2632). This dataset was produced to facilitate regional planning, conservation, and enhancement of biological resources by state agencies, project partners and regional stakeholders. Published in 2018, this geodatabase contains a map of vegetation within the Great Valley Ecoregion produced by the Geographical Information Center (GIC) at California State University – Chico. The minimum mapping unit for natural vegetation is 1.0 acre, with a minimum average width of 10 meters. The minimum mapping unit for agricultural and urban polygons is 10 acres. Vegetation is attributed to the Group and Alliance level of the state and national vegetation hierarchy.

This dataset was clipped to the limits of the RSA, and then further refined where needed, incorporating land use data from the California's Department of Water Resources (DWR) for Sacramento, Yolo, and Sutter Counties. Data were then manually assessed and reclassified where needed based on recent aerial photography.

### 4.3.2 Habitat Suitability

Various authors and agencies have developed frameworks for mapping habitats and using that data to assess habitat suitability for species. In California, the Department of Fish and Wildlife developed and maintains the *California Wildlife Habitat Relationships System* (CWHR). Among the tools provided by CWHR are the following:

- A habitat classification system, which can be cross-walked to other standard vegetation classifications (e.g., Holland 1986, Sawyer et al. 2009).
- A system for classifying size, cover, and habitat elements within a habitat classification.
- Habitat class and element preferences for all wildlife species in California.
- A software program for mapping habitat suitability for species based on a properly-structured input vegetation layer.

The system provides a structured and repeatable framework for analyzing habitat suitability for any wildlife species.

In order to analyze habitat suitability for key species, Bargas performed the following steps:

1. Prepared a table of structured vegetation attributes based upon the vegetation dataset described above in **Section 4.3.1**.
2. Ran the table prepared in Step 1 through the CWHR software for each species analyzed.
3. The output of Step 2 provides a habitat suitability matrix for each species and each provided vegetation type.
4. This table is then linked to the vegetation data for mapping of habitat quality and quantification of habitat availability and impacts.

### 4.3.3 Aquatic Resources

The USACE-verified (SPK-2020-00237) Aquatic Resources Delineation conducted in 2019 and 2020 covered the aquatic features mapped and overlapping the boundaries of the Surveyed Area. The USACE issued a Preliminary Jurisdictional Determination (PJD) for the project on 19 June 2020. The presence of potentially USACE jurisdictional aquatic features within the remaining portions of the Plan Area was assessed for this Assessment utilizing desktop methods. The following resources were reviewed to conduct this desktop analysis:

- USFWS NWI (USFWS 2021)
- USGS NHD (USGS 2021)
- NRCS Web Soil Survey (NRCS 2021)
- Aerial, including Bing "Bird's-Eye", imagery and street level imagery of the Plan Area (Google Earth Pro, 2021, Bing Maps 2021)

Current aerial and street level imagery were utilized to determine if aquatic features mapped within the databases listed above could still be extant. Current and available aerial and street level imagery were analyzed for possible aquatic features that were not mapped in the databases listed above. All potentially jurisdictional aquatic features identified using these methods were mapped in Google Earth Pro. Linear features were mapped by drawing the approximate centerline. Approximate OHWM was estimated using available imagery. Where visible in the imagery utilized, culverts were marked as point features. Non-linear or point features were drawn as polygons. A Google Earth KMZ file was then generated and converted into ESRI shapefile format. GIS was utilized to calculate the linear feet and surface area of each line and polygon feature, utilizing half of the OHWM widths to buffer the center-lines for linear features. The desktop-assessed aquatic features were then added to the exhibit from the USACE-verified aquatic resources delineation.

## 4.4 Occurrence Potential

Following the desktop review, field surveys, and habitat analyses, Bargas assessed the potential for the occurrence of special status species in the Plan Area. Biological conditions (vegetation communities, wildlife habitats, disturbances, etc.) and the habitat and life cycle requirements of special status species identified for analysis in the desktop review were considered. "Recent" occurrences are defined as observed within the past 30 years. Based on these considerations, species were assigned to the following categories:

- **Present:** Species is known to occur in Plan Area based on recent surveys, CNDDB (within 30 years), or other records.
- **High**: Species with known recent recorded occurrences/populations near the Plan Area and highly suitable habitat occurs within the Plan Area. Highly suitable habitat includes all necessary elements to support the species (e.g., elevation, hydrology, soils, cover, habitat type, food resources).

- **Moderate.** Species with known recent recorded occurrences/populations near the Plan Area; however, habitat within the Plan Area has been moderately disturbed, fragmented, or is small in extent. Moderately suitable habitat includes several elements to support the species (e.g., elevation, hydrology, soils, cover, habitat type, food resources). Furthermore, moderately suitable habitat may also be located at the edge of the species' range, or there are no reported occurrences nearby.
- **Low**. Species with few known recent recorded occurrences/populations near the Plan Area and habitat within the Plan Area is highly disturbed or extremely limited. A low potential is assigned to annual or perennial plant species that may have been detectable during a focused survey in the appropriate blooming period but was not found; however, small populations or scattered individuals are still considered to have a low potential to occur. Additionally, species for which poor-quality habitat may support the species within the Plan Area, but the reported extant range is far outside the Plan Area and/or any species observations would anticipate being migratory (i.e., not likely to reproduce within the Plan Area).
- **Presumed Absent/No Potential.** Focused surveys were conducted, and the species was not detected, or the species was found in the desktop review, but suitable habitat (soil, vegetation, elevational range) was not found in the Plan Area, or the Plan Area is not within the known geographic range of the species.

The potential for bird species were further distinguished into those that may: 1) nest within or near the Plan Area; 2) forage within or near the Plan Area; and/or 3) occur on or near the Plan Area only as transients during migratory flights or other dispersal events.

## 4.5 Taxonomy and Nomenclature

Every effort was made to use naming standards that are recognized by the scientific community, with the understanding that – for many wildlife groups – scientists may not always agree on a standard source. Because of this, some common names used in this report may not be the same as those used by the underlying data sources for species records. Bargas maintains a yearly-updated reference species list which uses the following taxonomic sources:

- **Birds** – American Ornithological Society Check-list and Supplements (AOS 2021)
- **Mammals** – The reference list in the CDFW's *California Wildlife Habitats Relationships Database* (CDFW 2014), with updates based on the American Society of Mammologists *Mammal Diversity Database* (2020)
- **Reptiles and Amphibians** – The technical website *californiaherps.com*, which is regularly updated based on the latest taxonomic literature.
- **Fish** – *Common and Scientific Names of Fishes from the United States, Canada, and Mexico*, 7th edition (AFS 2013)
- **Invertebrates** – no naming standard was identified that was current and applicable to freshwater and terrestrial invertebrates. Names used by the underlying data sources when a species was first identified were retained.
- **Plants** – the Jepson eFlora (Jepson eFlora 2021)

Birds have the most well-established naming standards of all taxonomic groups. These standards include instructions for the proper use of capitalization for common names to make clear that, for example, someone mentioning a Blue-winged Teal refers to the species "Blue-winged Teal" and not any species of teal with blue wings. The capitalization standards used for birds have been used with other taxa as well throughout this report.

# 5 Results

## 5.1 Biological Setting

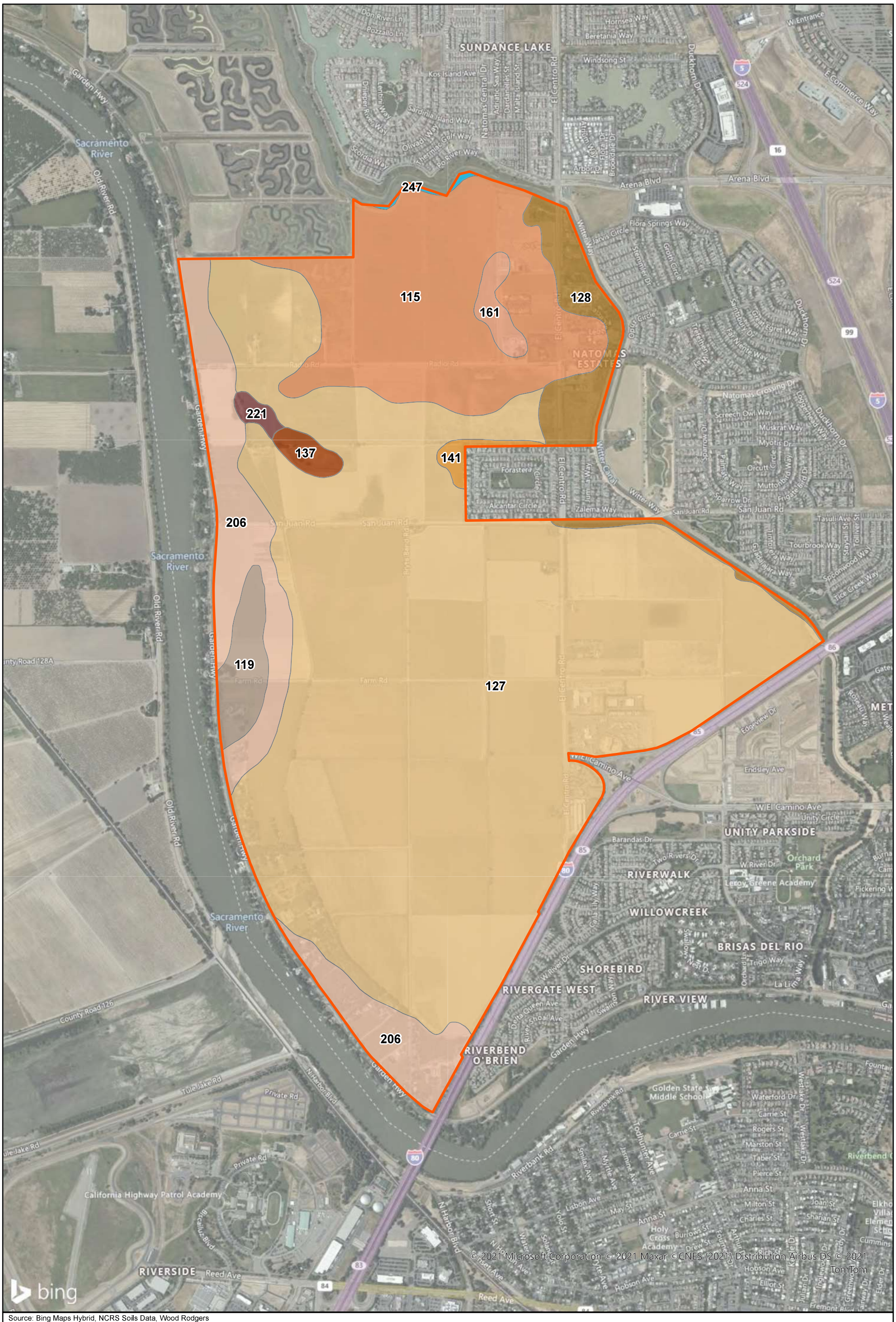
When viewing the RSA limits in its entirety on aerial photography, the defining land use of the region is agriculture. Urban land uses are also significant and comprise the majority land use of the southeastern third of the RSA. Natural habitats are present, however, including interspersed and sometimes substantial annual grasslands, shrublands, and riparian woodlands along the margins of the Sacramento River in the west and American River in the southeast. Special status habitats such as vernal pools are also present in the region, particularly on sites with lesser disturbance. There are no significant terrain features in the RSA: elevations range from approximately 15 to 100 feet above mean sea level. The RSA is within the Lower Sacramento watershed, Hydrologic Unit Code (HUC)-8-18020109.

## 5.2 Soils

Nine soil types exist within the Plan Area, as summarized in **Table 1** below with the types, acreages, percentages, and hydric rating of each soil type. A map showing soils is provided as **Exhibit 4. Soils**. The NRCS soil report for the Plan Area is included in **Appendix D.**

*Table 1. Soil Types within the Plan Area*

| Soil Series | Map Unit Number | Map Symbol | Acreage within the Plan Area | Percent of the Plan Area | Hydric Rating |
|---|---|---|---|---|---|
| Clear Lake clay, hardpan substratum, drained, 0 to 1 percent slopes | 115 | hhlp | 310.3 | 15.0% | Hydric |
| Columbia sandy loam, clayey substratum, partially drained, 0 to 2 percent slopes | 119 | hhlt | 38.9 | 1.9% | Hydric |
| Cosumnes silt loam, partially drained, 0 to 2 percent slopes | 127 | 2x415 | 1,401.2 | 67.8% | Hydric |
| Cosumnes silt loam, drained, 0 to 2 percent slopes | 128 | hhm3 | 75.4 | 3.7% | Hydric |
| Durixeralfs, 0 to 1 percent slopes | 137 | hhmd | 13.3 | 0.6% | Not Hydric |
| Egbert clay, partially drained, 0 to 2 percent slopes | 141 | hhmj | 9.4 | 0.5% | Hydric |
| Jacktone clay, drained, 0 to 2 percent slopes | 161 | Hhn5 | 17.2 | 0.8% | Hydric |
| Sailboat silt loam, partially drained, 0 to 2 percent slopes, MLRA 16 | 206 | 2xlch | 189.6 | 9.2% | Hydric |
| San Joaquin-Xerarents complex, leveled, 0 to 1 percent slopes | 221 | Hhq3 | 7.3 | 0.4% | Hydric |
| Water | 247 | N/A | 2.4 | 0.1% | N/A |




Source: Bing Maps Hybrid, NCRS Soils Data, Wood Rodgers

0 750 1,500 Feet

1 inch = 1,500 feet

BARGAS Environmental Consulting

Upper Westside Specific Plan Area

**SSURGO Soils**

- 115 - Clear Lake clay, hardpan substratum, drained, 0 to 1 percent slopes
- 119 - Columbia sandy loam, clayey substratum, partially drained, 0 to 2 percent slopes
- 127 - Cosumnes silt loam, partially drained, 0 to 2 percent slopes
- 128 - Cosumnes silt loam, drained, 0 to 2 percent slopes
- 137 - Durixeralfs, 0 to 1 percent slopes
- 141 - Egbert clay, partially drained, 0 to 2 percent slopes
- 161 - Jacktone clay, drained, 0 to 2 percent slopes
- 206 - Sailboat silt loam, partially drained, 0 to 2 percent slopes, MLRA 16
- 221 - San Joaquin-Xerarents complex, leveled, 0 to 1 percent slopes
- 247 - Water

**Exhibit 4**
**Soils**

*Upper Westside*

Map Created: 1/13/2022, Map Revised: N/A, Bargas Project Number: 1024-18

## 5.3 Aquatic Resources

The aquatic resource site analysis was a combination of site surveys consistent with USACE wetland survey protocols, and desktop analysis for properties that were not currently accessible. A total of 20.03 acres and 103,879 linear feet of potential jurisdictional other waters of the U.S. have been identified within the Plan Area. The USACE issued a Preliminary Jurisdictional Determination (PJD) on 19 June 2020 for a 568.7-acre subset of the larger 2,065 Plan Area. **Table 2** below provides a summary of these features, including their classification, acreage, and length. **Exhibit 5. Aquatic Resources** displays each feature identified within the Plan Area in addition to an approximately 82-acre polygon in the northwest corner of the Plan Area within which construction of habitat mitigation wetlands and associated water conveyance features appears to be ongoing. The aquatic resource restoration construction is not linked to the anticipated unavoidable resource impacts associated with the Upper Westside Plan. The proposed Specific Plan designates the aquatic resource restoration area as AG – Agriculture Residential. A total of 11.22 acres and 41,881 linear feet, including all or portions of features R5UBFx-1 through -18, within the Surveyed Area have been verified by the USACE via the preliminary jurisdictional delineation (PJD) process (USACE 2020). Feature R5UBFx-19 was removed from the aquatic resources delineation for verification as the feature was confirmed to no longer exist through normal farming practices during the June 2020 supplemental site visit.

For the residual acreage that could not be accessed a desktop assessment of aquatic features was completed in 2022 and identified 8.81 acres, and 61,998 linear feet of potential jurisdictional other waters of the U.S. within the portions of the Plan Area beyond the boundaries of the Surveyed Area. Two of the features (R5UBFx-11, R5UBFx-15) identified during desktop analysis were contiguous with features mapped during the field ARD, therefore, the same feature name was assigned. Nine additional features (R5UBFx-20 through -29) were identified during a reconnaissance-level site visit completed to gather supplemental data requested by USACE during the PJD verification process. The desktop assessment identified nine more features (R5UBFx-30 through -38) within the Plan Area. A total of 38 other waters of the U.S. features have been identified within the Plan Area.

*Table 2. Potential Jurisdictional Features Mapped within the Plan Area*

| Feature Name | Classification | Area (acres)* | Length (linear feet) |
|---|---|---|---|
| R5UBFx-1 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.20 | 1,106 |
| R5UBFx-2 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.43 | 2,337 |
| R5UBFx-3 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.54 | 2,985 |
| R5UBFx-4 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.88 | 2,724 |
| R5UBFx-5 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.27 | 1,184 |
| R5UBFx-6 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.32 | 1,773 |
| R5UBFx-7 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.53 | 1,786 |
| R5UBFx-8 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.68 | 1,475 |
| R5UBFx-9 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.42 | 1,392 |

| Feature Name | Classification | Area (acres)* | Length (linear feet) |
|---|---|---|---|
| R5UBFx-10 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.22 | 1,894 |
| R5UBFx-11 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 2.77 | 7,563 |
| R5UBFx-12 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.36 | 1,323 |
| R5UBFx-13 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 2.05 | 6,857 |
| R5UBFx-14 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.72 | 2,626 |
| R5UBFx-15 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 1.69 | 7,399 |
| R5UBFx-16 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.72 | 2,414 |
| R5UBFx-17 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.15 | 1,328 |
| R5UBFx-18 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.02 | 100 |
| R5UBFx-20 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.41 | 1,483 |
| R5UBFx-21 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.30 | 1,882 |
| R5UBFx-22 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.77 | 2,559 |
| R5UBFx-23 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.56 | 2,428 |
| R5UBFx-24 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.55 | 2,370 |
| R5UBFx-25 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.93 | 2,880 |
| R5UBFx-26 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.70 | 8,141 |
| R5UBFx-27 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.31 | 1,374 |
| R5UBFx-28 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.12 | 889 |
| R5UBFx-29 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.11 | 941 |
| R5UBFx-30 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.08 | 910 |
| R5UBFx-31 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.18 | 1,297 |
| R5UBFx-32 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.03 | 1,255 |
| R5UBFx-33 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.51 | 6,427 |
| R5UBFx-34 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.15 | 2,227 |

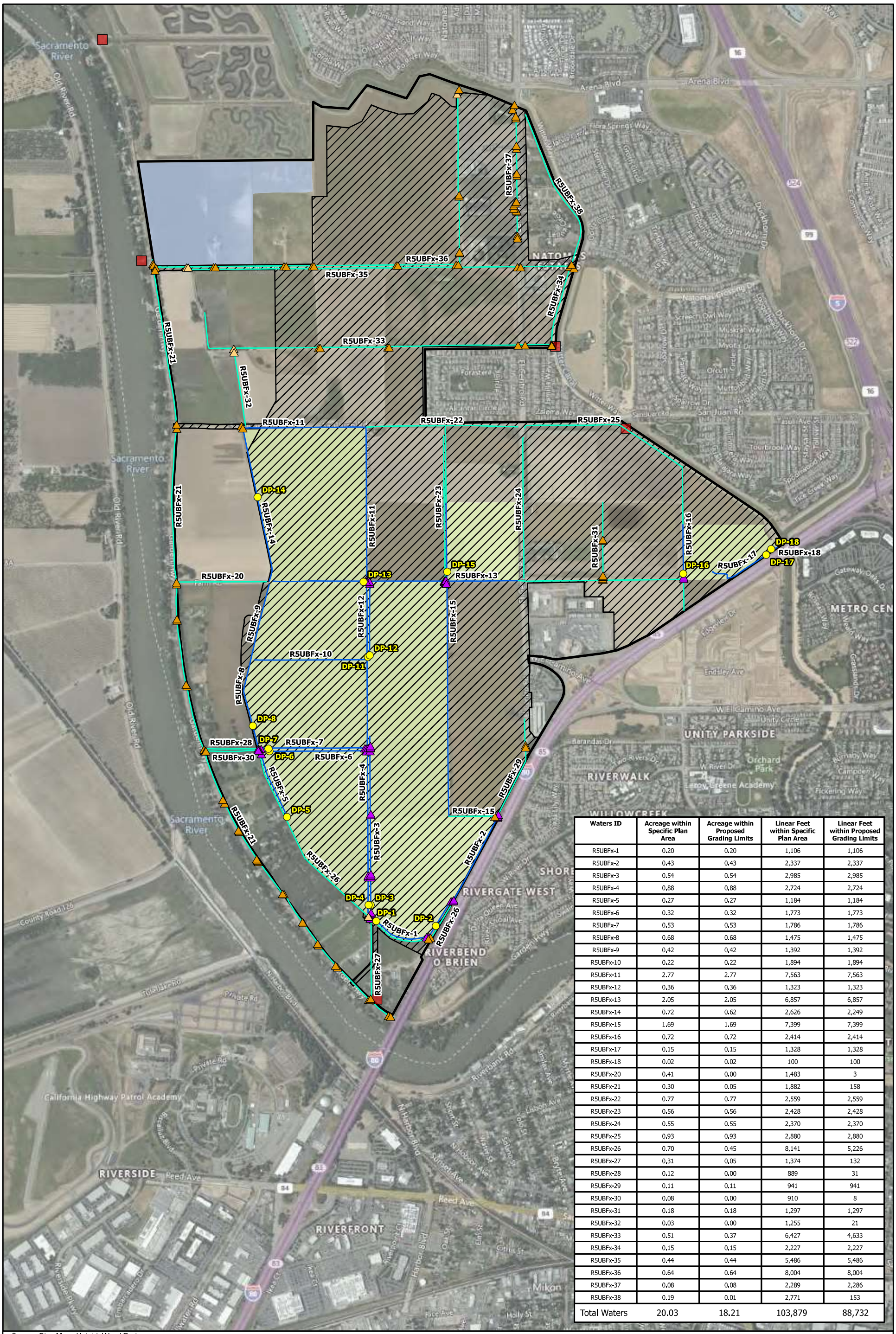
| Feature Name | Classification | Area (acres)* | Length (linear feet) |
|---|---|---|---|
| R5UBFx-35 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.44 | 5,486 |
| R5UBFx-36 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.64 | 8,004 |
| R5UBFx-37 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.08 | 2,286 |
| R5UBFx-38 | Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated | 0.19 | 2,771 |
| | **Total Other Waters of the U.S.:** | **20.03** | **103,879** |

Source: Bargas, 2020 and 2022. *Acreages for features R5UBFx-1 through -18 overlapping the Surveyed Area have been verified by the USACE as potential jurisdictional aquatic resources through PJD, SPK-2020-00237. The remaining acreage of features R5UBFx-1 through -18 are subject to modification pending formal verification by USACE. Features R5UBFx-20 through -38 are anticipated to require a formal aquatic resources delineation survey to obtain a PJD from USACE.

These features are best described as agricultural canals and ditches with very similar characteristics as some of the canals and ditches previously mapped during the field aquatic resources delineation. The features are classified as "R5UBFx," indicating that they are "Riverine, Unknown Perennial, Unconsolidated Bottom, Semi-permanently Flooded, [and] Excavated." The OHWM of the features vary in size from approximately one foot wide to 12 feet wide. The features which were field-mapped and verified exhibited evident beds and banks, as well as OHWM indicators. The desktop assessed waters were apparent in aerial imagery and, where street level imagery was available, appeared to have defined bed and bank.

Features R5UBFx-1 through -31 are located south of San Juan Road and appear to have substantial interconnectivity through culverts or other infrastructure utilized for agricultural irrigation / drainage. Features R5UBFx-32 through -38 are located north of San Juan Road and also appear to have substantial interconnectivity through various structures. The apparent hydrologic connection between these two regions (either side of San Juan Road) appears to be via culvert along RU5BFx-21 at the intersection of San Juan Road and Garden Highway. The following features have evident or likely hydrologic connection to either the Sacramento River or the West Drainage Canal through either pumping stations (Denham 2020), culverts, or other agricultural infrastructure:

- R5UBFx-21: Appears to receive water from the Sacramento River via the Riverside Pumping Plant
- R5UBFx-25: Appears to receive water from the West Drainage Canal via the San Juan Pump Station
- R5UBFx-33: Appears to receive water from the West Drainage Canal via the Riverside Pumping Station
- R5UBFx-34: Appears to have connectivity to West Drainage Canal via culvert or other structure
- R5UBFx-36: Appears to have connectivity to West Drainage Canal via culvert or other structure
- R5UBFx-37: Appears to have connectivity to West Drainage Canal via culvert or other structure


R5UBFx-37
R5UBFx-39
R5UBFx-36
R5UBFx-35
R5UBFx-34
R5UBFx-21
R5UBFx-33
R5UBFx-32
R5UBFx-11
R5UBFx-22
R5UBFx-25
DP-14
R5UBFx-14
R5UBFx-23
R5UBFx-24
R5UBFx-16
R5UBFx-31
DP-18
R5UBFx-18
DP-17
DP-16
R5UBFx-17
DP-15
R5UBFx-13
DP-13
R5UBFx-20
R5UBFx-12
R5UBFx-15
R5UBFx-9
R5UBFx-10
DP-12
DP-11
R5UBFx-8
DP-8
DP-7
R5UBFx-7
R5UBFx-28
R5UBFx-30
DP-6
R5UBFx-6
R5UBFx-4
R5UBFx-5
R5UBFx-29
DP-5
R5UBFx-15
R5UBFx-21
R5UBFx-3
R5UBFx-2
R5UBFx-26
DP-4
DP-3
DP-1
DP-2
R5UBFx-1
R5UBFx-26
R5UBFx-27
Sacramento River
Old River Rd
Arena Blvd
Natomas
Natomas Crossing Dr
Duckhorn Dr
Orchard Park
RIVERWALK
UNITY PARKSIDE
W El Camino Ave
Endicley Ave
RIVERGATE WEST
RIVERBEND
O'BRIEN
RIVERSIDE
RIVERFRONT
Reed Ave
California Highway Patrol Academy
Private Rd
Riverbank Rd
N Harbor Blvd
Sunset Ave
Mikon
Leroy Greene Academy
County Road 126
Tidewater Rd
Embarcadero Dr
Riverside Pkwy
Garden Hwy
Rice Ave
Holly St
Elm St
Cattle St
Lisbon Ave
Bryte Ave
Myrtle Ave
Sonora Ave
Short St
Hobson Ave
Harris St
Solano St
Meadowview Rd
Freeport Blvd
Del Monte Blvd
Truxel Rd
Natomas Blvd
Natomas Park Dr
Natomas Gateway
Natomas Meadows Dr
Natomas Oaks Dr
Natomas Crossing Dr
Natomas Lakes Dr
Natomas Landing Dr
Natomas Marketplace Dr
Natomas Pointe Dr
Natomas Shores Dr
Natomas Square Dr
Natomas Village Dr
Natomas Vista Dr
Natomas Woods Dr

## 5.4 Habitats and Vegetation Communities

### 5.4.1 Vegetation Communities in the Plan Area

The following sections describe the vegetation communities and other landcover types found within the Plan Area. Vegetation community descriptions, which largely match those of the *California Wildlife Habitat Relationships* system, are derived from the descriptions contained therein with revisions to make them consistent with conditions observed by Bargas biologists in the Plan Area. This information is shown on the map provided as **Exhibit 6. Vegetation Communities –Plan Area** and summarized in **Table 2**.

#### *5.4.1.1 Irrigated Row and Field Crops*

Irrigated Row and Field Crops are found on 892.1 acres, or 43.2% of the Plan Area at the time of this Assessment. Like most agricultural habitat types, cover type, canopy, plant composition and other metrics are variable and may change year to year or even season to season. This is mapped as Field Crops and Orchard – Vineyard, which are non-CWHR types, on **Exhibit 6**. Depending on the growing season and crop planted, some areas may have 100 percent canopy while others may have significant bare areas between rows. Row and field crops are established on fertile soils, which historically supported an abundance of wildlife. Many species of rodents and birds have adapted to croplands. Availability of irrigation water during dryer months benefits many wildlife species as a source of water. This land use would be mapped as the Non-Rice Crops land classification of the NBHCP.

#### *5.4.1.2 Irrigated Hayfield*

Irrigated Hayfields are found on 511.1 acres, or 24.8% of the Plan Area at the time of this Assessment. Like most agricultural habitat types, cover type, canopy, plant composition and other metrics are variable and may change year to year or even season to season. This is mapped as Cropland, which is a non-CWHR type, on **Exhibit 6.** Except for 2 to 6 months initial growing period, depending on climate, and soil, this habitat is dense, with nearly 100 percent cover. Planted fields generally are monocultures. Structure changes to a lower stature following each harvest, grows up again and reverts to bare ground following plowing or discing. Plowing may occur annually but is usually less often. Layering generally does not occur in this habitat. This habitat can provide a high-quality seasonal resource for a variety of wildlife, however, where harvesting is constant, reproduction values for ground-nesting species are reduced to zero. This land use would be mapped as the Non-Rice Crops land classification of the NBHCP.

#### *5.4.1.3 Annual Grassland*

Annual Grasslands are found on 232.8 acres, or 11.3% of the Plan Area within the agricultural matrix and occur while fields have remained fallow for an extended period. Annual Grassland habitats are open grasslands composed primarily of annual plant species. Dramatic differences in physiognomy, both between seasons and between years, are characteristic of this habitat. Fall rains cause germination of annual plant seeds. Plants grow slowly during the cool winter months, remaining low in stature until spring, when temperatures increase and stimulate more rapid growth. Large amounts of standing dead plant material can be found during summer in years of abundant rainfall. Many wildlife species use Annual Grasslands for foraging, but some require special habitat features such as cliffs, caves, ponds, or habitats with woody plants for breeding, resting, and escape cover. This vegetation community would be mapped as the Grassland land classification of the NBHCP.

#### *5.4.1.4 Pasture*

Pasture is found on 193.3 acres, or 9.4% of the Plan Area at the time of this Assessment. Like most agricultural habitat types, cover type, canopy, plant composition and other metrics are variable and may change year to year or even

season to season. Pasture vegetation is commonly a mix of perennial grasses and legumes that normally provide 100 percent canopy closure. Height of vegetation varies, according to season and livestock stocking levels, from a few inches to two or more feet on fertile soils before grazing. Pastures are used by a variety of wildlife depending upon geographic area and types of adjacent habitats. Ground-nesting birds nest in pastures if adequate residual vegetation is present at the onset of the nesting season. Flood irrigation of pastures provides feeding and roosting sites for many wetland-associated birds. This land use would be mapped as the Pasture land classification of the NBHCP.

#### *5.4.1.5 Urban*

Urban habitats are found on 143.5 acres, or 6.9% of the Plan Area. The structure of urban vegetation varies with the land use. Within the Plan Area, areas mapped as Urban include residential lots as well as commercial development. Impervious surfaces – such as pavement – are common in the latter, while former often includes mowed lawns, gardens, and ornamental trees. The abundance of wooded cover in the Urban portions of the Plan Area provides shelter and foraging habitat for a wide variety of native and non-native wildlife, especially birds. This land use would be mapped as the Urban land classification of the NBHCP.

#### *5.4.1.6 Valley Foothill Riparian*

Valley Foothill Riparian is found on 50.0 acres, or 2.4% of the Plan Area. In the Plan Area, this habitat type is dominated by Valley Oak, with a handful of other canopy tree species such as California Sycamore. In the Plan Area, this habitat type often is part of a rural residential property. Undisturbed areas contain a subcanopy tree layer and an understory shrub layer. Valley-Foothill Riparian habitats provide food, water, migration and dispersal corridors, and escape, nesting, and thermal cover for an abundance of wildlife. This vegetation community would be mapped as the Riparian land classification of the NBHCP.

#### *5.4.1.7 Riverine*

Riverine is present on 20.1 acres, or 1.0% of the Plan Area. Within the Plan Area, this habitat type is represented by over 41,719 linear feet of irrigation canals and ditches. Within the Plan Area, the Riverine habitats contained Duckweed (*Lemna minor*), green algae, and a variety of emergent vegetation. The banks of the irrigation canals and ditches were dominated by ruderal vegetation. This land use would be mapped as the Canals land classification of the NBHCP.

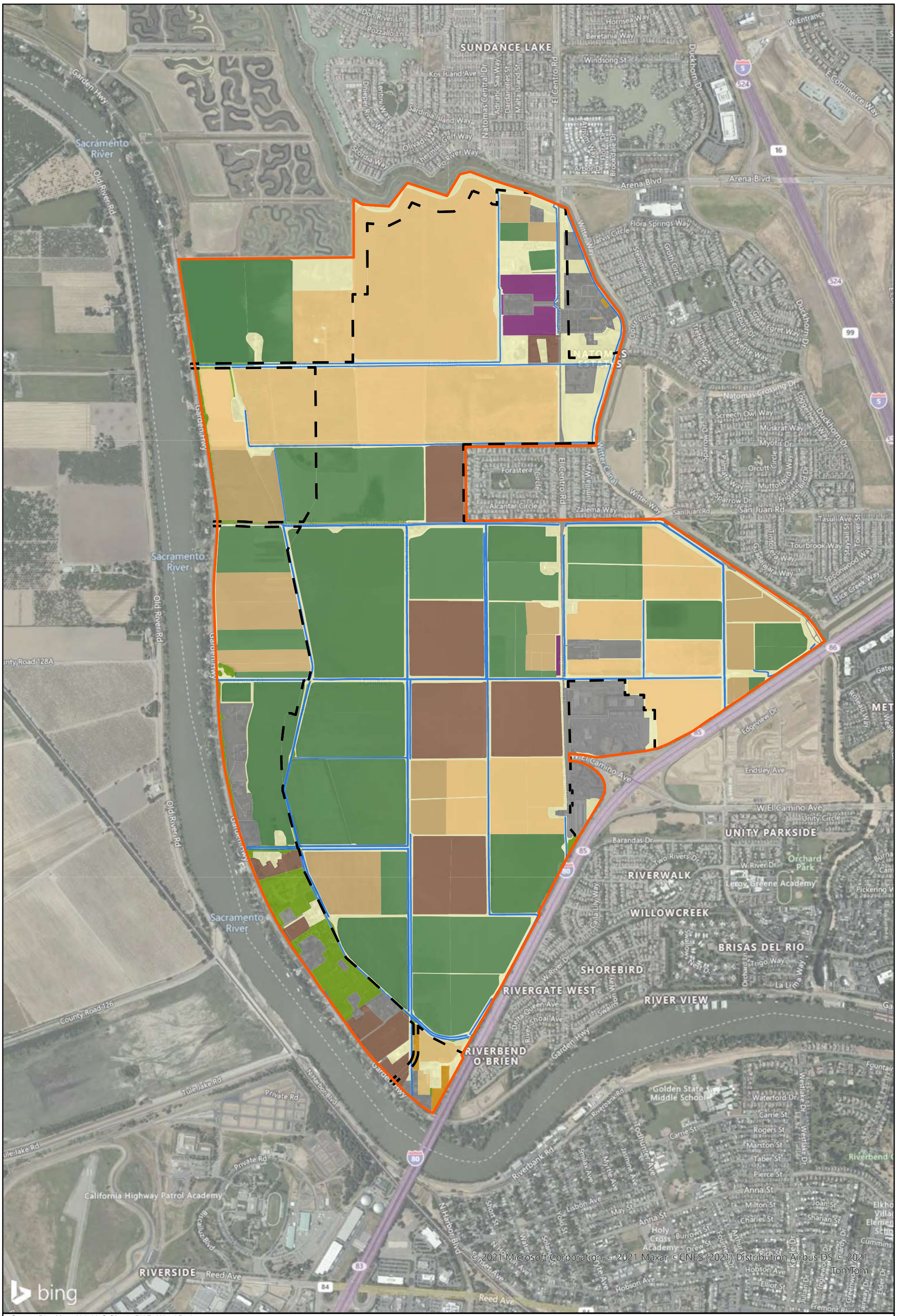
#### *5.4.1.8 Vineyard*

Vineyards are found on 17.6 acres, or 0.9% of the Plan Area. Vineyards are composed of single species planted in rows, usually supported on wood and wire trellises. Vines are normally intertwined in the rows but open between rows. Rows under the vines are usually sprayed with herbicides to prevent growth of herbaceous plants. Between rows of vines, grasses and other herbaceous plants may be planted or allowed to grow as a cover crop to control erosion. Vineyards are typically planted on deep fertile soils which once supported productive and diverse natural habitats. Some species of birds and mammals have adapted to Vineyard habitats, including raptors, which often perch on supporting structures. This land use would be mapped as the Non-Rice Crops land classification of the NBHCP.

#### *5.4.1.9 Deciduous Orchard*

Deciduous Orchards are found on 4.7 acres or 0.2% of the Plan Area. Deciduous orchards are open single species tree dominated habitats. Spacing between trees is uniform depending on desired spread of mature trees. The understory may be composed of low-growing grasses, legumes, and other herbaceous plants, or may be managed to prevent understory growth totally or partially, such as along tree rows. Orchards are planted on deep fertile soils

which once supported productive and diverse natural habitats. Some species of birds and mammals have adapted to the orchard habitats. This land use would be mapped as the Orchard land classification of the NBHCP.




Source: Bing Maps Hybrid, California DWR, Wood Rodgers

0 750 1,500 Feet

1 inch = 1,500 feet

BARGAS Environmental Consulting

- Upper Westside Specific Plan Area
- Proposed Grading Limits

**Vegetation Communities**

- Annual Grassland (232.8acres)
- Cropland (511.1-acres)
- Deciduous Orchard (4.7-acres)
- Irrigated Row and Field Crops (729.8-acres)
- Orchard - Vineyard (162.3-acres)
- Pasture (193.3-acres)
- Riverine (20.1-acres)
- Urban (143.5-acres)
- Valley Foothill Riparian (50-acres)
- Vineyard (17.6-acres)

**Exhibit 6**
**Vegetation Communities – Plan Area**

*Upper Westside*

Map Created: 1/13/2022, Map Revised: N/A, Bargas Project Number: 1024-18

*Table 3. Vegetation Community Summary – Plan Area*

| Community | Acres | Percent |
|---|---|---|
| Irrigated Row and Field Crops | 892.1 | 43.2% |
| Irrigated Hayfield | 511.1 | 24.8% |
| Annual Grassland | 232.8 | 11.3% |
| Pasture | 193.3 | 9.4% |
| Urban | 143.5 | 6.9% |
| Valley Foothill Riparian | 50.0 | 2.4% |
| Riverine | 20.1 | 1.0% |
| Vineyard | 17.6 | 0.9% |
| Deciduous Orchard | 4.7 | 0.2% |
| **TOTAL** | **2064.9** | **100.0%** |

### 5.4.2 Vegetation Communities in the Regional Study Area and Natomas Basin

In assessing a project's effects on biological resources, it is important to understand the regional context of the biological resources that are found on a project site. The following, shown on **Exhibit 7. Vegetation Communities – Regional Study Area** and summarized in **Table 4** below, summarizes the vegetation communities found in the Plan Area relative to the Natomas Basin and the RSA:

- **Annual Grassland**, described above in **Section 5.4.2.3**, is located in 18,601.7 acres of the RSA, 3,895.8 acres of Natomas Basin, and 232.8 acres of the Plan Area. As such, the Plan Area harbors 1.3% of Annual Grasslands found in the RSA and 6.0% of the Annual Grasslands found in the Natomas Basin.
- **Deciduous Orchard**, described above in **Section 5.4.2.9**, is located in 18,349.6 acres of the RSA, 339.2 acres of the Natomas Basin, and 4.7 acres of the Plan Area. As such, the Plan Area harbors less than 0.1% of Deciduous Orchards found in the RSA and the Natomas Basin.
- **Irrigated Hayfield**, described above in **Section 5.4.2.2**, is located in 2,1321.6 acres of the RSA, 7,435.7 acres of the Natomas Basin, and 511.1 acres of the Plan Area. As such, the Plan Area harbors 2.4% of the Irrigated Hayfields in the RSA and 6.9% of the Irrigated Hayfields in the Natomas Basin.
- **Irrigated Row and Field Crops**, described above in **Section 5.4.2.1**, is located in 19,678.8 acres of the RSA, 1,927.0 acres of the Natomas Basin, and 892.1 acres of the Plan Area. As such, the Plan Area harbors 4.5% of Irrigated Row and Field Crops in the RSA and 46.3% of Irrigated Row and Field Crops in the Natomas Basin.
- **Pasture**, described above in **Section 5.4.2.4**, is located in 9,791.6 acres of the RSA, 1173.9 acres of the Natomas Basin, and 193.3 acres of the Plan Area. As such, the Plan Area harbors 2.0% of Pasture in the RSA and 16.5% in the Natomas Basin.
- **Riverine**, described above in **Section 5.4.2.7**, is located in 5,775.8 acres of the RSA, 625.1 acres of the Natomas Basin, and 20.1 acres of the Plan Area. As such, the Plan Area harbors 0.3% of Riverine in the RSA and 3.2% of Riverine in the Natomas Basin.

- **Urban**, described above in **Section 5.4.2.5**, is located in 64,794.1 acres of the RSA, 13,676.4 acres of the Natomas Basin, and 143.5 acres of the Plan Area. As such, the Plan Area harbors 0.2% of Urban habitats in the RSA and 1.0% of Urban habitats in the Natomas Basin.
- **Valley Foothill Riparian**, described above in **Section 5.4.2.6**, is located in 13,390.7 acres of the RSA, 2,313.3 acres of the Natomas Basin, and 50 acres of the Plan Area. As such, the Plan Area harbors 0.4% of Valley Foothill Riparian in the RSA and 2.2% of Valley Foothill Riparian in the Natomas Basin.
- **Vineyard**, described above in **Section 5.4.2.8**, is located in 26.3 acres of the RSA, 18.0 acres of the Natomas Basin, and 17.6 acres of the Plan Area. As such, the Plan Area harbors 66.9% of Vineyard habitat in the RSA and 97.6% of Vineyard habitat in the Natomas Basin.

The vegetation communities below are additional communities found in the RSA that are not present in the Plan Area:

- **Barren** is a series of habitat types – both natural and man-made – that are devoid of vegetation. Barren habitats are located in 35.2 acres of the RSA and 5.5 acres of the Natomas Basin.
- **Blue Oak Woodland** is a forested habitat located in 49.5 acres of the RSA, and not present in the Natomas Basin.
- **Coastal Scrub** is a shrub habitat located in 4.8 acres of the RSA, and not present in the Natomas Basin.
- **Eucalyptus** is a non-native woodland habitat located in 9.1 acres of the RSA, and not present in the Natomas Basin.
- **Fresh Emergent Wetland** is an aquatic habitat located in 3,616.8 acres of the RSA and 148.1 acres of the Natomas Basin.
- **Lacustrine** is an aquatic habitat located in 4,189.5 acres of the RSA and 492.4 acres of the Natomas Basin.
- **Montane Chaparral** is a tall shrub habitat located in 1.3 acres of the RSA, and not present in the Natomas Basin.
- **Montane Hardwood** is a forested habitat located in 7.8 acres of the RSA, and not present in the Natomas Basin.
- **Rice** is an agricultural habitat important to many wildlife species located in 52,374.9 acres of the RSA, and 21,333.3 acres of the Natomas Basin.
- **Wet Meadow** is an aquatic habitat located in 3.7 acres of the RSA, and not present in the Natomas Basin.

*Table 4. Regional Study Area Vegetation Summary*

| Community | RSA Acres | Natomas Acres | Plan Area | Plan Area/RSA | Plan Area/Natomas |
|---|---|---|---|---|---|
| Annual Grassland | 18601.7 | 3895.8 | 232.8 | 1.3% | 6.0% |
| Barren | 35.2 | 5.5 | - | - | - |
| Blue Oak Woodland | 49.5 | - | - | - | - |
| Coastal Scrub | 4.8 | - | - | - | - |
| Deciduous Orchard | 18349.6 | 339.2 | 4.7 | <0.1% | <0.1% |
| Eucalyptus | 9.1 | - | - | - | - |

| Community | RSA Acres | Natomas Acres | Plan Area | Plan Area/RSA | Plan Area/Natomas |
|---|---|---|---|---|---|
| Fresh Emergent Wetland | 3616.8 | 148.1 | - | - | - |
| Irrigated Hayfield | 21321.6 | 7435.7 | 511.1 | 2.4% | 6.9% |
| Irrigated Row and Field Crops | 19678.8 | 1927.0 | 892.1 | 4.5% | 46.3% |
| Lacustrine | 4189.5 | 492.4 | - | - | - |
| Montane Chaparral | 1.3 | - | - | - | - |
| Montane Hardwood | 7.8 | - | - | - | - |
| Pasture | 9791.6 | 1173.9 | 193.3 | 2.0% | 16.5% |
| Rice | 52374.9 | 21333.3 | - | - | - |
| Riverine | 5775.8 | 625.1 | 20.1 | 0.3% | 3.2% |
| Urban | 64794.1 | 13676.4 | 143.5 | 0.2% | 1.0% |
| Valley Foothill Riparian | 13390.7 | 2313.3 | 50 | 0.4% | 2.2% |
| Vineyard | 26.3 | 18.0 | 17.6 | 66.9% | 97.6% |
| Wet Meadow | 3.7 | - | - | - | - |
| **TOTAL** | **232023.0** | **53383.7** | **2064.9** | | |

### 5.4.3 Sensitive Vegetation Communities

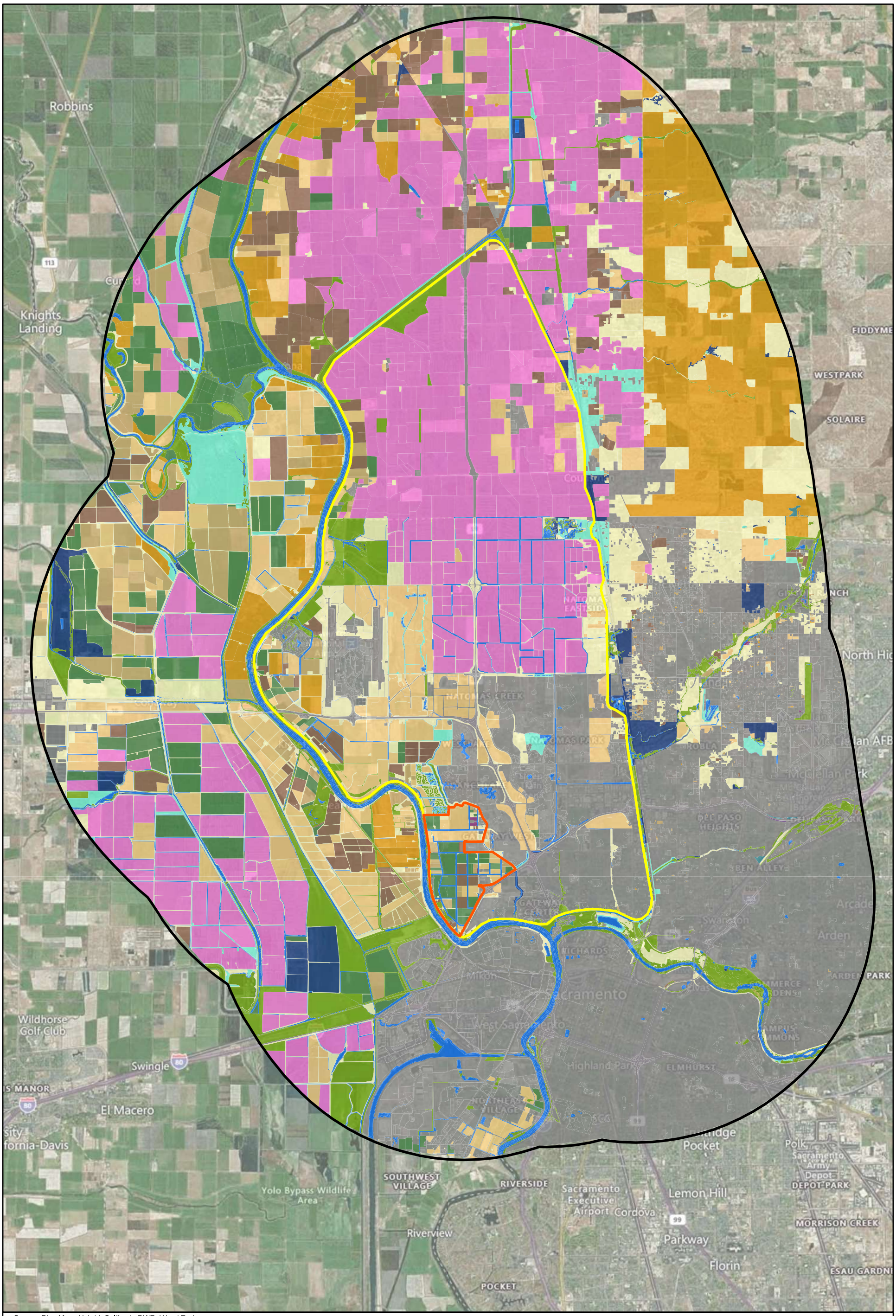
Three sensitive vegetation communities were mapped in the CNDDB for the area covered by the desktop review. None of these communities are present in the Plan Area. These are discussed below and summarized in **Appendix C.**

#### *5.4.3.1 Northern Hardpan Vernal Pool*

Holland (1986) describes Northern Hardpan Vernal Pool communities as *a low, amphibious, herbaceous community dominated by annual herbs and grasses. Germination and growth begin with winter rains, often continuing even when inundated. Rising spring temperatures evaporate the pools, leaving concentric bands of vegetation that colorfully encircle the drying pool.* There are eight location records for this community in the CNDDB desktop review, with the nearest being six miles northeast of Plan Area. Based on three years of surveys in the Surveyed Area, remote observations of the remainder of the Plan Area, a review of aerial photography at different seasons, and the absence of a restrictive clay layer across approximately 81% of the site, vernal pools communities were determined to be absent from the Plan Area.

#### *5.4.3.2 Northern Claypan Vernal Pool*

Holland (1986) describes Northern Claypan Vernal Pool communities as *similar to Northern Hardpan Vernal Pools, but with lower microrelief, and usually lower overall cover. Pools may be small (a few square meters) or quite large (covering several hectares).* There is a single location record for this community in the CNDDB desktop review four miles east of Plan Area. Based on three years of surveys in the Surveyed Area, remote observations of the remainder of the Plan Area, a review of aerial photography at different seasons, and the absence of a restrictive clay layer across approximately 81% of the site, vernal pools communities were determined to be absent from the Plan Area.




Source: Bing Maps Hybrid, California DWR, Wood Rodgers

**Exhibit 7**
**Vegetation Communities – Regional Study Area**

*Upper Westside*

Map Created: 1/13/2022, Map Revised: N/A, Bargas Project Number: 1024-18

#### *5.4.3.3 Great Valley Cottonwood Riparian Forest*

Holland (1986) describes Great Valley Cottonwood Riparian Forest communities as *a dense, broadleafed, winter deciduous riparian forest dominated by* Populus fremontii *and* Salix gooddingii variabilis*. Understories are dense, with abundant vegetative reproduction of canopy dominants.* There is a single location record in the CNDDB desktop review for this community, mapped along the far shore of the Sacramento River bend immediately southeast of the Plan Area. This location was field-verified as accurate during Swainson's Hawk surveys conducted in 2019. Otherwise, Great Valley Cottonwood Riparian Forest – which would have been visible in the Plan Area during surveys and on aerial photography – is absent from the Plan Area.

## 5.5 Plants

### 5.5.1 Floral Diversity

A list of plant species observed by Bargas biologists within the Surveyed Area is provided in **Appendix B**. A total of 58 plant species, none of which are special status species, have been observed between the botanical and arborist surveys. Approximately 55% of the observed species are non-native, 38% being recognized as invasive. Approximately 68% of the observed species occur in disturbed areas such as the ruderal roadside and agricultural land present within the Plan Area. Areas heavily disturbed by anthropogenic activities such as rural and urban development and agricultural activities can be expected to have lower floral diversity than areas containing intact natural plant communities and habitats.

### 5.5.2 Special Status Plants

The desktop review determined that a total of 26 special status plant species are known to occur in the nine-quadrangle search area surrounding the Plan Area. Legal status, natural history, and occurrence potential are described for each of these species below and summarized in **Appendix C.** Natural history information is taken directly from the CNPS *Inventory of Rare and Endangered Plants of California* (CNPS 2021). The botanical surveys were conducted during the blooming period for each of these 26 special status species, none were observed during the surveys conducted in the Survey Area, and none have greater than a low potential for occurrence in the Plan Area (including the portions that were not directly surveyed) given the extensive and long-term anthropogenic disturbance that characterizes the majority of the Plan Area.

#### *5.5.2.1 Taxa with Low Potential for Occurrence*

Of the 26 plant species analyzed for occurrence potential, 17 were determined to have a low potential for occurrence in the Plan Area. These species are described in detail below.

**Woolly Rose-Mallow (*Hibiscus lasiocarpos* var. *occidentalis*)**

| | |
|---|---|
| Special Status: | California Rare Plant Rank 1B.2 |
| NBHCP Covered: | No |
| Lifeform: | Perennial rhizomatous herb (emergent) |
| Blooming Period: | June to September |
| Elevation: | 0 to 395 feet |
| Habitat: | Freshwater marshes and swamps, wet banks, often in riprap on sides of levees |
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance.<br>Remainder of Plan Area: There are four previously recorded occurrences of this species within the database search area, the nearest recorded in 1988 within a mile of the Plan Area near the West El Camino Avenue exit for I-80. The Plan Area |

occurs within the elevational and distribution range of the species, however, primary threats to the species are agriculture and drainage channelization, which are predominant land uses in the Plan Area. Further, some of the irrigation canals and ditches within the Plan Area are periodically maintained (i.e. accumulated sediment removed, vegetation along banks mowed/trimmed), with some not always inundated with water (dependent upon the agricultural irrigation needs), reducing their suitability as potential habitat. As such, potential for the occurrence of this species is low in remainder of the Plan Area.

**Mason's Lilaeopsis (*Lilaeopsis masonii*)**

| | |
|---|---|
| Special Status: | California Rare Plant Rank 1B.1 |
| NBHCP Covered: | No |
| Lifeform: | Perennial rhizomatous herb |
| Blooming Period: | April to November |
| Elevation: | 0 to 35 feet |
| Habitat: | Brackish and freshwater marshes and swamps, intertidal marshes, riparian scrub |
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance.<br>Remainder of Plan Area: There are two previously recorded occurrences of this species within the database search area, the nearest recorded in 2009 along the banks of the Sacramento River Deep Water Ship Channel approximately 8.5 miles southwest of the Plan Area. The Plan Area occurs within the elevational and distribution range of the species, however, primary threats to the species are agriculture and drainage channelization, which are predominant land uses in the Plan Area. Further, some of the irrigation canals and ditches within the Plan Area are periodically maintained (i.e. accumulated sediment removed, vegetation along banks mowed/trimmed), with some not always inundated with water (dependent upon the agricultural irrigation needs), reducing their suitability as potential habitat. As such, potential for the occurrence of this species is low in remainder of the Plan Area. |

**Sanford's Arrowhead (*Sagittaria sanfordii*)**

| | |
|---|---|
| Special Status: | California Rare Plant Rank 1B.2 |
| NBHCP Covered: | Yes |
| Lifeform: | Perennial rhizomatous herb (emergent) |
| Blooming Period: | May to October |
| Elevation: | 0 to 2,135 feet |
| Habitat: | Shallow freshwater wetlands, ponds, ditches |
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance.<br>Remainder of Plan Area: There are four previously recorded occurrence of this species within the database search area, the nearest recorded in 1993 along an unnamed drainage within the American River Parkway approximately 5 miles southeast of the Plan Area. The Plan Area occurs within the elevational and distribution range of the species, however, primary threats to the species are agriculture and drainage channelization, which are predominant land uses in the Plan Area. Further, some of the irrigation canals and ditches within the Plan Area are periodically maintained (i.e. accumulated sediment removed, vegetation |

along banks mowed/trimmed), with some not always inundated with water (dependent upon the agricultural irrigation needs), reducing their suitability as potential habitat. As such, potential for the occurrence of this species is low in remainder of the Plan Area.

**Heartscale (*Atriplex cordulata* var. *cordulata*)**

| | |
|---|---|
| Special Status: | California Rare Plant Rank 1B.2 |
| NBHCP Covered: | No |
| Lifeform: | Annual herb |
| Blooming Period: | April to October |
| Elevation: | 0 to 1,835 feet |
| Habitat: | Saline or alkaline soils in chenopod scrub, meadows and seeps, valley and foothill grasslands (sandy soils) |
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance.<br>Remainder of Plan Area: There is one previously recorded occurrence of this species within the database search area. While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. |

**Brittlescale (*Atriplex depressa*)**

| | |
|---|---|
| Special Status: | California Rare Plant Rank 1B.2 |
| NBHCP Covered: | No |
| Lifeform: | Annual herb |
| Blooming Period: | April to October |
| Elevation: | 5 to 1,050 feet |
| Habitat: | Playas, vernal pools, meadows and seeps with alkaline or clay soils in chenopod scrub and valley and foothill grassland communities |
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance.<br>Remainder of Plan Area: There is one previously recorded occurrence of this species within the database search area. While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. |

**Bristly Sedge (*Carex comosa*)**

| | |
|---|---|
| Special Status: | California Rare Plant Rank 2B.1 |
| NBHCP Covered: | No |
| Lifeform: | Perennial rhizomatous herb |
| Blooming Period: | May to September |
| Elevation: | 0 to 2,050 feet |
| Habitat: | Lake margins, wetland edges, and mesic places in coastal prairie, marshes and swamps, and valley and foothill grassland communities |

| | |
|---|---|
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance.<br>Remainder of Plan Area: There is one previously recorded occurrence of this species within the database search area but is of low accuracy. While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. |

**Pappose Tarplant (*Centromadia parryi* ssp. *parryi*)**

| | |
|---|---|
| Special Status: | California Rare Plant Rank 1B.2 |
| NBHCP Covered: | No |
| Lifeform: | Annual herb |
| Blooming Period: | May to November |
| Elevation: | 0 to 1,380 feet |
| Habitat: | Vernally mesic wetlands, marshes, or seeps often with alkaline soils in chaparral, coastal prairie, and valley and foothill grassland communities |
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance.<br>Remainder of Plan Area: There are previously documented occurrences of this species within the database search area. While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. |

**Palmate-bracted Bird's-Beak (*Chloropyron palmatum*)**

| | |
|---|---|
| Special Status: | Federal Endangered, State Endangered, California Rare Plant Rank 1B.1 |
| NBHCP Covered: | No |
| Lifeform: | Annual herb (hemiparasitic) |
| Blooming Period: | May to October |
| Elevation: | 15 to 510 feet |
| Habitat: | Alkaline flats in chenopod scrub and valley and foothill grassland communities |
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance.<br>Remainder of Plan Area: There are previously documented occurrences of this species within the database search area. While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. |

**Dwarf Downingia (*Downingia pusilla*)**

| | |
|---|---|
| Special Status: | California Rare Plant Rank 2B.2 |
| NBHCP Covered: | No |
| Lifeform: | Annual herb |
| Blooming Period: | March to May |

| | |
|---|---|
| Elevation: | 5 to 1,460 feet |
| Habitat: | Vernal pool wetlands in valley and foothill grassland communities |
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance.<br>Remainder of Plan Area: There are previously recorded occurrences of this species within the database search area. While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. |

**Jepson's Coyote Thistle (*Eryngium jepsonii*)**

| | |
|---|---|
| Special Status: | California Rare Plant Rank 1B.2 |
| NBHCP Covered: | No |
| Lifeform: | Perennial herb |
| Blooming Period: | April to August |
| Elevation: | 10 to 985 feet |
| Habitat: | Vernal pools with clay soils and valley and foothill grassland communities |
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance.<br>Remainder of Plan Area: There are previously recorded occurrences of this species within the database search area. While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. |

**San Joaquin Spearscale (*Extriplex joaquinana*)**

| | |
|---|---|
| Special Status: | California Rare Plant Rank 1B.2 |
| NBHCP Covered: | No |
| Lifeform: | Annual herb |
| Blooming Period: | April to October |
| Elevation: | 5 to 2,740 feet |
| Habitat: | Meadows and seeps, playas, chenopod scrub, and valley and foothill grassland on alkaline soils. |
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance.<br>Remainder of Plan Area: There are previously recorded occurrences of this species within the database search area. While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. |

**Heckard's Pepper Grass (*Lepidium latipes* var. *heckardii*)**

| | |
|---|---|
| Special Status: | California Rare Plant Rank 1B.2 |
| NBHCP Covered: | No |

| | |
|---|---|
| Lifeform: | Annual herb |
| Blooming Period: | March to May |
| Elevation: | 5 to 655 feet |
| Habitat: | Valley and foothill grassland communities with alkaline soils. |
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance.<br>Remainder of Plan Area: There are previously recorded occurrences of this species within the database search area. While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. |

**Baker's Navarretia (*Navarretia leucocephala* ssp. *bakeri*)**

| | |
|---|---|
| Special Status: | California Rare Plant Rank 1B.1 |
| NBHCP Covered: | No |
| Lifeform: | Annual herb |
| Blooming Period: | April to July |
| Elevation: | 15 to 5,710 feet |
| Habitat: | Vernal pools and seeps in cismontane woodland, lower montane coniferous forest, and valley and foothill grassland communities |
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance.<br>Remainder of Plan Area: There are previously recorded occurrences of this species within the database search area. While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. |

**Bearded Popcorn Flower (*Plagiobothrys hystriculus*)**

| | |
|---|---|
| Special Status: | California Rare Plant Rank 1B.1 |
| NBHCP Covered: | No |
| Lifeform: | Annual herb |
| Blooming Period: | April to May |
| Elevation: | 0 to 900 feet |
| Habitat: | Vernal pool margins and mesic grasslands in valley and foothill grassland communities |
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance.<br>Remainder of Plan Area: There is one previously recorded occurrence of this species within the database search area. While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. |

**California Alkaligrass (*Puccinellia simplex*)**

| | |
|---|---|
| Special Status: | California Rare Plant Rank 1B.2 |
| NBHCP Covered: | No |
| Lifeform: | Annual herb |
| Blooming Period: | March to May |
| Elevation: | 5 to 3,050 feet |
| Habitat: | Alkaline flats and sinks, mineral springs, and vernally mesic lake margins in chenopod scrub and valley and foothill grassland communities |
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance.<br>Remainder of Plan Area: There are previously recorded occurrences of this species within the database search area. While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. |

**Saline Clover (*Trifolium hydrophilum*)**

| | |
|---|---|
| Special Status: | California Rare Plant Rank 1B.2 |
| NBHCP Covered: | No |
| Lifeform: | Annual herb |
| Blooming Period: | April to June |
| Elevation: | 0 to 985 feet |
| Habitat: | Salt marshes, vernal pools, and open mesic areas with alkaline soils in valley and foothill grassland communities |
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance.<br>Remainder of Plan Area: There are previously recorded occurrences of this species within the database search area. While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. |

**Crampton's Tuctoria (*Tuctoria mucronata*)**

| | |
|---|---|
| Special Status: | Federal Endangered, State Endangered, California Rare Plant Rank 1B.1 |
| NBHCP Covered: | No |
| Lifeform: | Annual herb |
| Blooming Period: | April to August |
| Elevation: | 15 to 35 feet |
| Habitat: | Vernal pools and valley and foothill grassland. |
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance.<br>Remainder of Plan Area: There is one previously recorded occurrence of this species within the database search area. While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. |

As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area.

#### *5.5.2.2 Taxa Presumed Absent/No Potential for Occurrence*

Of the 26 plant species analyzed for occurrence potential, nine were determined to be absent and have no potential for occurrence in the Plan Area. These species are described in detail below.

**Ferris' Milkvetch (*Astragalus tener* var. *ferrisiae*)**

| | |
|---|---|
| Special Status: | California Rare Plant Rank 1B.1 |
| NBHCP Covered: | No |
| Lifeform: | Annual herb |
| Blooming Period: | April to May |
| Elevation: | 5 to 245 feet |
| Habitat: | Vernally mesic meadows and seeps, subalkaline flats |
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance.<br>Remainder of Plan Area: There are previously recorded occurrences of this species within the database search area. This species was previously thought extinct until rediscovered in 1989 and is known from only six occurrences. The primary threat to this species is agriculture, which is the dominant land use in the Plan Area. As such, this species has been determined to have no potential for occurrence within the Plan Area. |

**Peruvian Dodder (*Cuscuta obtusiflora* var. *glandulosa*)**

| | |
|---|---|
| Special Status: | California Rare Plant Rank 2B.2 |
| NBHCP Covered: | No |
| Lifeform: | Annual vine (parasitic) |
| Blooming Period: | July to October |
| Elevation: | 50 to 920 feet |
| Habitat: | Host plants include species in the *Alternanthera*, *Dalea*, *Lyrthrum*, *Polygonum*, and *Xanthium* genera in freshwater marshes and swamps |
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance.<br>Remainder of Plan Area: There is one previously recorded occurrence of this species within the database search area but is of low accuracy. This species was last definitely documented in Merced County in 1948. Further, marsh and swamp habitat preferred by this species is not present in the Plan Area. As such, this species has been determined to have no potential for occurrence within the Plan Area. |

**Boggs Lake Hedge Hyssop (*Gratiola heterosepala*)**

| | |
|---|---|
| Special Status: | State Endangered, California Rare Plant Rank 1B.2 |
| NBHCP Covered: | Yes |
| Lifeform: | Annual herb |
| Blooming Period: | April to August |
| Elevation: | 0 to 7,790 feet |
| Habitat: | Vernal pools and lake margins with clay soils |
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance. |

Remainder of Plan Area: There are previously recorded occurrences of this species within the database search area, however, the Plan Area lacks vernal pool or lake margins with clay soils and as such this species has been determined to have no potential for occurrence within the Plan Area.

**Delta Tule Pea (*Lathyrus jepsonii* var. *jepsonii*)**

| | |
|---|---|
| Special Status: | California Rare Plant Rank 1B.2 |
| NBHCP Covered: | Yes |
| Lifeform: | Perennial herb |
| Blooming Period: | May to July |
| Elevation: | 0 to 15 feet |
| Habitat: | Brackish and freshwater marshes and swamps |
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance.<br>Remainder of Plan Area: There are not any previously recorded occurrences of this species within the database search area. This species was included as an NBHCP Covered Species. The Plan Area lacks marsh and swamp habitat and as such this species has been determined to have no potential for occurrence within the Plan Area. |

**Legenere (*Legenere limosa*)**

| | |
|---|---|
| Special Status: | California Rare Plant Rank 1B.1 |
| NBHCP Covered: | Yes |
| Lifeform: | Annual herb |
| Blooming Period: | April to June |
| Elevation: | 5 to 2,885 feet |
| Habitat: | Vernal pools. |
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance.<br>Remainder of Plan Area: There are previously recorded occurrences of this species within the database search area, however, the Plan Area lacks vernal pools and as such this species has been determined to have no potential for occurrence within the Plan Area. |

**Colusa Grass (*Neostapfia colusana*)**

| | |
|---|---|
| Special Status: | Federal Threatened, State Endangered, California Rare Plant Rank 1B.1 |
| NBHCP Covered: | Yes |
| Lifeform: | Annual herb |
| Blooming Period: | May to August |
| Elevation: | 15 to 655 feet |
| Habitat: | Vernal pools with adobe clay soils. |
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance.<br>Remainder of Plan Area: There is one previously recorded occurrence of this species within the database search area, however, the Plan Area lacks vernal pools and as such this species has been determined to have no potential for occurrence within the Plan Area. |

**Slender Orcutt Grass (*Orcuttia tenuis*)**

| | |
|---|---|
| Special Status: | Federal Threatened, State Endangered, California Rare Plant Rank 1B.1 |

| | |
|---|---|
| NBHCP Covered: | Yes |
| Lifeform: | Annual herb |
| Blooming Period: | May to September |
| Elevation: | 115 to 5,775 feet |
| Habitat: | Vernal pools often with gravelly soils. |
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance.<br>Remainder of Plan Area: There is one previously recorded occurrence of this species within the database search area, however, the Plan Area lacks vernal pools and as such this species has been determined to have no potential for occurrence within the Plan Area. |

**Sacramento Orcutt Grass (*Orcuttia viscida*)**

| | |
|---|---|
| Special Status: | Federal Endangered, State Endangered, California Rare Plant Rank 1B.1 |
| NBHCP Covered: | Yes |
| Lifeform: | Annual herb |
| Blooming Period: | April to July |
| Elevation: | 100 to 330 feet |
| Habitat: | Vernal pools. |
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance.<br>Remainder of Plan Area: There are not any previously recorded occurrences of this species within the database search area. This species was included as an NBHCP Covered Species. The Plan Area does not occur within the elevational and distributional range of the species, and lacks the specific habitat types (vernal pools) required to support this species. This species has been determined to have no potential for occurrence within the Plan Area. |

**Suisun Marsh Aster (*Symphyotrichum lentum*)**

| | |
|---|---|
| Special Status: | California Rare Plant Rank 1B.2 |
| NBHCP Covered: | No |
| Lifeform: | Perennial rhizomatous herb |
| Blooming Period: | May to November |
| Elevation: | 0 to 10 feet |
| Habitat: | Brackish and freshwater marshes and swamps |
| Determination Reason: | Surveyed Area: Not detected during botanical surveys and almost certainly not present given extensive agricultural and other site disturbance.<br>Remainder of Plan Area: There are previously recorded occurrences of this species within the database search area. The Plan Area lacks marsh and swamp habitat and as such this species has been determined to have no potential for occurrence within the Plan Area. |

## 5.6 Wildlife

### 5.6.1 Wildlife Diversity

A list of wildlife species observed by Bargas biologists during surveys conducted for the Project is included **Appendix A**. While the majority of these observations were within the Plan Area, some were incidental to survey activities in surrounding survey buffers. A total of 100 wildlife species were observed across three years of surveys, including

two reptile species, six mammal species, and 92 bird species. Eight of the species observed are non-native. Three of the observed species are California Species of Special Concern: American White Pelican (*Pelacanus erythrorhynchos*), Yellow Warbler (*Setophaga petechia*), and Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*).

### 5.6.2 Special Status Wildlife

The desktop review determined that five (5) invertebrate, three (3) fish, two (2) amphibian, two (2) reptile, and 13 bird species with special status had been documented as occurring in the nine-quadrangle search area surrounding the Plan Area. An additional three California Species of Special Concern were not in that data but were observed during surveys. Legal status, natural history, and occurrence potential are described for each of these species below and summarized in **Appendix C.** Natural history information for terrestrial vertebrate species is taken directly from the species accounts provided in the *California Wildlife Habitats Relationships System* with internal citations removed for brevity. Natural history sources for invertebrates and fish are cited where used.

#### *5.6.2.1 Taxa Confirmed Present*

Four (4) special status wildlife species were confirmed **Present** within the Plan Area.

**American White Pelican (*Pelacanus erythrorhynchos*)**

| | |
|---|---|
| Special Status: | California Species of Special Concern |
| NBHCP Covered: | No |
| Natural History: | In California, now nests only at large lakes in Klamath Basin, especially Clear Lake National Wildlife Refuge. It is common to abundant on nesting grounds April to August (sometimes March to September). Bred at Honey Lake in 1976, and formerly bred in large numbers in Central Valley and Salton Sea. From August to December common on salt ponds of San Francisco Bay and on the coastal slope from Sonoma County south. Locally uncommon to common on large lakes and estuaries in Central Valley. Fairly common at Lake Tahoe and Salton Sea in late spring and summer. Common spring and fall migrant at Salton Sea and Colorado River. In fall and winter, rare at Salton Sea, Morro Bay, and San Diego Bay; sporadic elsewhere. Migrant flocks pass overhead almost any month, but mainly in spring and fall throughout the state, especially in southern California. |
| Determination Reason: | Species was observed flying over as well as loafing/foraging on canals in the Plan Area. This species is fairly widespread and seasonally mobile, particularly in the non-breeding season. There is no breeding habitat for this species in the Plan Area. |

**Swainson's Hawk (*Buteo swainsonii*)**

| | |
|---|---|
| Special Status: | California Threatened |
| NBHCP Covered: | Yes |
| Natural History: | Uncommon breeding resident and migrant in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and Mojave Desert. Very limited breeding reported from Lanfair Valley, Owens Valley, Fish Lake Valley, and Antelope Valley. Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah in the Central Valley. Forages in adjacent grasslands or suitable grain or alfalfa fields, or livestock pastures. In southern California, now mostly limited to spring and fall transient. Formerly abundant in California with wider breeding range. Decline resulted in part from loss of nesting habitat. |

Determination Reason: Species observed actively utilizing habitat within the Plan Area, with observations indicating the Plan Area is an important stopover site for migrants of the species. Four pairs were observed within the protocol survey study area (Plan Area plus a half-mile buffer) in 2021, with one pair confirmed nesting that year. Multiple year observations suggest two of these pairs have utilized habitat within this study area multiple years. Nesting was observed in this study area in 2019, 2020, and 2021.

**White-tailed Kite (*Elanus leucurus*)**

Special Status: California Fully Protected
NBHCP Covered: No
Natural History: Common to uncommon, yearlong resident in coastal and valley lowlands; rarely found away from agricultural areas. Inhabits herbaceous and open stages of most habitats mostly in cismontane California. Nests in isolated trees or in large stands, with nest trees varying in size from less than 3 m (10 ft) to greater than 50 m (164 ft) in height (Dunk 1995). Has extended range and increased numbers in recent decades.
Determination Reason: Species observed actively utilizing habitat within the Plan Area, primarily for foraging. One potential nest site was observed within the Swainson's Hawk protocol survey study area during the 2019 surveys. White-tailed Kite was observed multiple times near the 2019 potential nest site. This species was observed to the east of the Plan Area during the 2021 surveys with no nesting activity observed.

**Northern Harrier (*Circus hudsonius*)**

Special Status: California Species of Special Concern
NBHCP Covered: No
Natural History: Occurs from annual grassland up to lodgepole pine and alpine meadow habitats, as high as 3,000 m (10,000 ft). Breeds from sea level to 1,700 m (0-5,700 ft) in the Central Valley and Sierra Nevada, and up to 800 m (3,600 ft) in northeastern California. Frequents meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands; seldom found in wooded areas. Permanent resident of the northeastern plateau and coastal areas; less common resident of the Central Valley. Widespread winter resident and migrant in suitable habitat. California population has decreased in recent decades, but can be locally abundant where suitable habitat remains free of disturbance, especially from intensive agriculture. Breeding population much reduced, especially in southern coastal district. Nests on the ground, usually in tall vegetation, making their nest locations often difficult to detect (Smith et a. 2011). Destruction of wetland habitat, native grassland, and moist meadows, and burning and plowing of nesting areas during early stages of breeding cycle, are major reasons for the decline.
Determination Reason: Species observed actively utilizing habitat within the Plan Area in 2019 and 2021, particularly in the eastern and northern portions of the Swainson's Hawk protocol survey study area.

### *5.6.2.2 Taxa with High Potential for Occurrence*

Four (4) special status wildlife species were determined to have a **High** potential to occur within the Plan Area

**Northwestern Pond Turtle (*Actinemys marmorata*)**

Special Status: California Threatened

NBHCP Covered: Yes

Natural History: *Actinemys* species are uncommon to common in suitable aquatic habitat throughout California, west of the Sierra-Cascade crest and absent from desert regions, except in the Mojave Desert along the Mojave River and its tributaries. Elevation range extends from near sea level to 1,430 meters (4,690 feet). Associated with permanent or nearly permanent water in a wide variety of habitat types. Western Pond Turtle was split into two species in 2014, with *A. marmorata* ranging from the Central Valley north. Northwestern Pond Turtles occur in a variety of fresh and brackish water habitats, including marshes, lakes, ponds, and slow-moving streams. This species is primarily aquatic; however, they typically leave aquatic habitats in the fall to reproduce and to overwinter. Deep, still water with abundant emergent woody debris, overhanging vegetation, and rock outcrops are optimal for basking and thermoregulation. Although adults are habitat generalists, hatchlings and juveniles require shallow edgewater with relatively dense submergent or short emergent vegetation in which to forage. Northwestern Pond Turtles are typically active between March and November, with mating occurring during late April and early May, and egg deposition between late April and early August. Eggs are deposited within excavated nests in upland areas, with substrates that typically have high clay or silt fractions. The majority of nesting sites are located within 650 feet of the aquatic sites; however, nests have been documented as far as 1,310 feet from the aquatic habitat.

Determination Reason: There are previously recorded occurrences of this species within the database search area. This species was frequently observed along the Natomas Main Drainage Canal, which is adjacent to the northeastern Plan Area border, during NBHCP habitat mapping surveys (City of Sacramento et al. 2003). The agricultural canals present within the Plan Area are significantly smaller than the Natomas Main Drainage Canal; however, the larger, deeper canals provide suitable aquatic habitat for this species. The Plan Area is heavily developed and disturbed by agricultural activities and commercial/residential development, therefore, breeding habitat for this species is severely limited within the Plan Area and restricted to relatively undisturbed areas immediately adjacent to the aquatic habitat. This species has been determined to have a high potential for occurrence.

**Loggerhead Shrike (*Lanius ludovicianus*)**

Special Status: California Species of Special Concern

NBHCP Covered: Yes

Natural History: A common resident and winter visitor in lowlands and foothills throughout California. Highest density occurs in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua Tree habitats. In the Great Basin, from Inyo County north, population declines markedly from November through March. Rare on

coastal slope north of Mendocino County, occurring only in winter. Occurs only rarely in heavily urbanized areas, but often found in open cropland. Sometimes uses edges of denser habitats. Often found in pastures and agricultural fields, this species is uncommon but widespread throughout the Sacramento Valley and Natomas Basin. This predatory songbird is often found along fence lines, utility poles, and other perches suitable for territorial defense, foraging, and courtship displays. These perches are especially valuable due to the species' unique foraging method. Loggerhead Shrikes lack the strong talons of larger birds of prey such as the American Kestrel or Cooper's Hawk. To compensate, Loggerhead Shrike use barbed wire fences, twigs, thorns, and other sharp protrusions to impale their prey after they have been captured. These impaling sites are used not only to kill prey items but also serve as a substrate for prey manipulation and storage (Morrison 1980). Common prey items include large arthropods, small reptiles and amphibians, and occasionally small mammals and birds. Loggerhead Shrike nest in shrubs, trees, and vines in open country and riparian habitats typically 1-2 m (3-6.5 ft) from the ground but nests may be found up to 15 m (49 ft; Bent 1950, Yosef 1996). Breeding season is typically from early March to late August with egg laying March to May. Incubation is 14 to 15 days and young leave the nest before 20 days (Yosef 1996).

Determination Reason: There are no previously recorded occurrences of this species in the database search area. Loggerhead Shrikes are a year-round resident of the Natomas Basin and found throughout the NBHCP area (City of Sacramento et al. 2003). Monitoring conducted by the Natomas Basin Conservancy has documented a decline in detections since 2012 with a record low number of observations recorded in 2019 (ICF 2020). Limited nesting habitat is present within the Plan Area in the form of shrubs and trees along some of the agricultural canals and on some of the commercial and residential parcels. The majority of the Plan Area provides suitable foraging habitat for this species. This species has been determined to have a high potential for occurrence.

**Yellow Warbler (*Setophaga petechia*)**

Special Status: California Species of Special Concern

NBHCP Covered: No

Natural History: Breeding distribution includes from the coast range in Del Norte County, east to Modoc plateau, south along coast range to Santa Barbara and Ventura counties and along western slope of Sierra Nevada south to Kern county. Also breeds along eastern side of California from the Lake Tahoe area south through Inyo co. Also breeds in several southern California mountain ranges and throughout most of San Diego County. Winters in Imperial and Colorado river valleys. Breeds in riparian woodlands from coastal and desert lowlands up to 2500 m (8000 ft) in Sierra Nevada. Also breeds in montane chaparral, and in open ponderosa pine and mixed conifer habitats with substantial amounts of brush. Numbers of breeding pairs have declined dramatically in recent decades in many lowland areas (southern coast, Colorado River, San Joaquin and Sacramento valleys). Now rare to uncommon in many lowland areas where formerly common. A common migrant on Channel and Farallon Islands in spring and fall.

Determination Reason: Common during breeding season in the riparian woodlands along the Sacramento River. Has potential to occur in landscaped urban areas within the

Plan Area, but unlikely to breed due to a lack of preferred riparian woodland elements.

**Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*)**

Special Status: California Species of Special Concern
NBHCP Covered: No
Natural History: Breeds commonly, but locally, east of Cascade Range and Sierra Nevada, in Imperial and Colorado River valleys, in the Central Valley, and at selected locations in the coast ranges west of the Central Valley. Nests in fresh emergent wetland with dense vegetation and deep water, often along borders of lakes or ponds. Forages in emergent wetland and moist, open areas, especially cropland and muddy shores of lacustrine habitat. Restricted distribution in Central Valley in winter, occurring mainly in the western portion. Fairly common in winter in Imperial Valley. Occurs as a migrant and local breeder in deserts and along Orange County coast. Has bred, at least irregularly, as high as 2000 m (6600 ft) in San Bernardino Mountains.
Determination Reason: Recorded in a wetland east of the Plan Area during Swainson's Hawk surveys. While there is no appropriate breeding habitat in the Plan Area, this species is widespread during migration and winter and often forages on the ground in agricultural areas, such as those found in the Plan Area.

### *5.6.2.3 Taxa with Moderate Potential for Occurrence*

Five (5) special status wildlife species were determined to have a **Moderate** potential to occur in the Plan Area.

**Aleutian Cackling Goose (*Branta hutchinsii leucopareia*)**

Special Status: Federal Delisted
NBHCP Covered: Yes
Natural History: The only subspecies of *B. hudsonii* in California (*B.h. leucoparia*) was once considered a subspecies of *B. canadensis*, the Canada Goose (*B.c. leucoparia*). Preferred habitats include lacustrine, fresh emergent wetlands, and moist grasslands, croplands, pastures, and meadows. This species occurs mainly in these habitats during winter in Del Norte County, the San Francisco bay-delta, and southern Central Valley. Resident year-round in northeastern California, except most of the population departs in mid-winter if water freezes. Wintering populations elsewhere in California migrate north and east to breeding grounds in northeastern California, several western states, Canada, and Alaska, and are absent May to September. Nests mainly March to June in northeastern California, and February to June on the coastal slope.
Determination Reason: There are no previously recorded occurrences of this species in the database search area. Although there are no known occurrences within the Natomas Basin, the species may stop over in the Natomas Basin's marshes and agricultural fields on its way to nearby wintering areas in the southern San Joaquin Valley. A small population does winter to the north of the Natomas Basin along the border of Colusa and Sutter Counties (City of Sacramento et al. 2003). This species has not been detected within the NBHCP area since 2004 (ICF 2020). The Plan Area contains agricultural fields provide suitable foraging habitat during migration. This species has been determined to have a moderate potential for occurrence.

**White-faced Ibis (*Plegadis chihi*)**

Special Status: None

NBHCP Covered: Yes

Natural History: The White-faced Ibis is an uncommon summer resident in sections of southern California, a rare visitor in the Central Valley, and is more widespread in migration. It prefers to feed in fresh emergent wetland, shallow lacustrine waters, muddy ground of wet meadows, and irrigated or flooded pastures and croplands. Nests in dense, fresh emergent wetland. Formerly more common, especially in the San Joaquin Valley, this species no longer breeds regularly anywhere in California. A few pairs bred in 1977 and 1978 at the Salton Sea, and in 1979 at Buena Vista Lagoon, San Diego County. Has nested at Honey Lake, in the Klamath Basin, and at a few isolated areas in Central Valley. At Salton Sea area, fairly common April to September, and uncommon through winter; uncommon transient elsewhere in southern California, and very local winter visitant along coast. Rare in San Joaquin Valley, occurring mainly near Los Banos, August to April; and rare on northeastern plateau April to September.

Determination Reason: There are no previously recorded occurrences of this species in the database search area. This species is observed as a rare visitor to the Natomas Basin during migration (City of Sacramento et al. 2003). White-faced Ibis nesting colonies have been periodically observed on several NBHCP protected lands north of the Plan Area including the Central Basin Reserve in 2010 and Willey Wetlands Preserve in 2012 and 2013, but nesting has not been observed within the Natomas Basin since 2013 (ICF 2020). The Plan Area does not provide suitable nesting habitat for this species, but the agricultural fields may provide suitable foraging habitat depending upon the crop type being cultivated. This species has been determined to have a moderate potential for occurrence.

**Burrowing Owl (*Athene cunicularia*)**

Special Status: California Species of Special Concern

NBHCP Covered: Yes

Natural History: A yearlong resident of open, dry grassland and desert habitats, and in grass, forb and open shrub stages of Pinyon-Juniper and Ponderosa Pine habitats. Formerly common in appropriate habitats throughout the state, excluding the humid northwest coastal forests and high mountains. Numbers markedly reduced in recent decades. Present on the larger offshore islands. Found as high as 1600 meters (5300 feet) in Lassen County.

Determination Reason: This species is found in several locations in the Natomas Basin, including the higher terrace along the basin's eastern border, in tree planter boxes in the Power Balance Pavilion (formerly known as Arco Arena) parking lot, and along the higher berms of the larger irrigation and drainage canals in the central basin. Burrowing Owl has not been documented to occur in the Plan Area, however, it is most likely to occur during migration or winter. Within the Plan Area, Burrowing Owl would potentially be found in Annual Grassland and Urban habitats.

**Bank Swallow (*Riparia riparia*)**

Special Status: California Threatened

NBHCP Covered: Yes

Natural History: A neotropical migrant found primarily in riparian and other lowland habitats in California west of the deserts during the spring-fall period. A spring and fall migrant in the interior, less common on coast; an uncommon and very local summer resident. Casual in southern California in winter; a few winter records along central coast to San Mateo County. In summer, restricted to riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with fine-textured or sandy soils, into which it digs nesting holes. In migration, flocks with other swallows over many open habitats. Range in California estimated to be reduced 50% since 1900. Formerly more common as breeder in California. Now, only approximately 110-120 colonies remain within the state. Perhaps 75% of the current breeding population in California occurs along banks of the Sacramento and Feather rivers in the northern Central Valley. About 50-60 colonies remain along the middle Sacramento River and 15-25 colonies occur along lower Feather River where the rivers meanders still in a mostly natural state. Other colonies persist along the central coast from Monterey to San Mateo counties, and northeastern California in Shasta, Siskiyou, Lassen, Plumas, and Modoc counties. Arrives in California from South America in early March and numbers peak by early May. Numbers fall off in July and August as colonies are abandoned and migration begins. Colonies are vacant by late July or early August, and migrants are observed usually through early or mid-September. There are few winter records for California.

Determination Reason: There are previously recorded occurrences of this species within the database search area. While breeding habitat is not present in the Plan Area, it is present locally along the adjacent Sacramento River, and the species may forage into the Plan Area. The species has also been reported in eBird by multiple observers at the nearby Sacramento Bypass Wildlife Area (eBird 2021). This species has been determined to have a moderate potential for occurrence.

**Tricolored Blackbird (*Agelaius tricolor*)**

Special Status: California Threatened, California Species of Special Concern

NBHCP Covered: Yes

Natural History: Mostly a resident in California. Common locally throughout Central Valley and in coastal districts from Sonoma County south. Breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, tall herbs. Feeds in grassland and cropland habitats. Breeds locally in northeastern California. In winter, becomes more widespread along central coast and San Francisco Bay area and is found in portions of the Colorado Desert. Numbers appear to be declining in California. Usual breeding season mid-April into late July.

Determination Reason: There are previously recorded occurrences of this species within the database search area. The species is regularly reported in eBird at the nearby Sacramento Bypass Wildlife Area. Tricolored Blackbirds have been observed nesting north of the Plan Area including the BKS tract in 2005 through 2010, private lands north of the Natomas Basin in 2007, Frazer tract in 2008, and Willey Wetlands Preserve in 2011 and 2013 (ICF 2020). Suitable nesting habitat was determined to be absent from the Plan Area during numerous SWHA and other focused species surveys covering the entire Plan Area, however, the agricultural fields present in

the Plan Area provide suitable foraging habitat for this species. This species has been determined to have a moderate potential for occurrence.

#### *5.6.2.4 Taxa with Low Potential for Occurrence*

Three (3) special status wildlife species were determined to have a **Low** potential to occur in the Plan Area.

**Vernal Pool Fairy Shrimp (*Branchinecta lynchi*)**

Special Status: Federal Threatened

NBHCP Covered: Yes

Natural History[4]: The Vernal Pool Fairy Shrimp is currently found in 28 counties across the Central Valley and coast ranges of California, and in Jackson County of southern Oregon. Although the vernal pool fairy shrimp is distributed more widely than most other listed fairy shrimp species, it is generally uncommon throughout its range, and rarely abundant where it does occur. This species is adapted to the environmental conditions of their ephemeral habitats. One adaptation is the ability of the vernal pool fairy shrimp eggs, or cysts, to remain dormant in the soil when their vernal pool habitats are dry. Another important adaptation is that the vernal pool fairy shrimp has a relatively short life span, allowing it to hatch, mature to adulthood, and reproduce during the short time period when vernal pools contain water. This species occupies a variety of different vernal pool habitats, from small, clear, sandstone rock pools to large, turbid, alkaline, grassland valley floor pools.

Determination Reason: There are previously recorded occurrences of this species within the database search area. The Plan Area lacks vernal pool habitats required for this species to complete its life cycle, however, this species is known to be found in water accumulations with very short persistence, such as tire ruts and roadside ditches. As such, this species has been determined to have low potential for occurrence within the Plan Area.

**Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*)**

Special Status: Federal Threatened

NBHCP Covered: Yes

Natural History[5]: When listed, the Valley Elderberry Longhorn Beetle was known from only 10 records in 3 locations (Merced County, Yolo County, and Sacramento County). Subsequent surveys throughout the Central Valley discovered more locations and the current presumed historical range is now believed to extend from Shasta County to Madera County below 500 feet in elevation (152.4 meters). Elderberry (*Sambucus* sp.) is the obligate larval host plant for the Valley elderberry longhorn beetle. After hatching, the larva creates a feeding gallery (set of tunnels) in the pith at the stem center. While only one larva is found in each feeding gallery, multiple larvae can occur in one stem if the stem is long enough to accommodate multiple galleries. Though rarely observed, adults have been described as feeding on the nectar, flowers, and leaves of the elderberry plant, or flying between trees. Previous studies of the beetle (both subspecies) estimated that the larval development period inside 2 the plant is 2 years, but laboratory

[4] https://www.fws.gov/sacramento/es/Recovery-Planning/Vernal-Pool/Documents/vp_fairy_shrimp.pdf
[5] https://ecos.fws.gov/docs/recovery_plan/Revised%20recovery%20plan%20for%20VELB.pdf

observations have indicated that the beetle may develop into an adult in a 1-year cycle. Because elderberry is the host plant for the beetle, environmental and habitat conditions that favor a robust elderberry community also benefit the beetle. Elderberry is an important component of riparian ecosystems in California. It can be found as an overstory plant or understory plant within these communities. Elderberry also occurs in upland communities such as oak woodland. Occupancy of elderberry by the Valley elderberry longhorn beetle is generally low but tends to be highest in riparian communities.

Determination Reason: There are previously recorded occurrences of this species within the database search area, primarily along the Sacramento and American Rivers. There are no known occurrences of this species within the Natomas Basin (City of Sacramento et al. 2003). Elderberry plants have not been observed within the Plan Area, though direct on the ground surveys have only been performed in the smaller Surveyed Area. There is no indication the Plan Area has specific habitat components required to support this species. This species has been determined to have low potential for occurrence within the Plan Area.

**Giant Gartersnake (*Thamnophis gigas*)**

Special Status: Federal Threatened

NBHCP Covered: Yes

Natural History: Historically ranged in the Sacramento and San Joaquin valleys. Its current range is much reduced, and it is apparently extirpated south of Fresno County except for western Kern County. Primarily associated with marshes and sloughs, less with slow-moving creeks, and absent from larger rivers. Active from May until October.

Determination Reason: While there are recent CNDDB records along the canal at the northern edge of the Plan Area, and DNA for the species was detected over two years in three locations outside of the Plan Area, and one location in the central portion of the Plan Area, habitat in the Plan Area has a low suitability for Giant Gartersnake. Further, intensive sampling efforts (40,703 total trap days), accompanied by a high catch of Valley Gartersnake (*Thamnophis sirtalis fitchi*), but zero captures of Giant Gartersnake, indicate there is low potential for occurrence of Giant Gartersnake population within the Plan Area, though the species may infrequently use interior canals for dispersal.

### *5.6.2.5 Taxa Presumed Absent/No Potential for Occurrence*

Twelve (12) special status wildlife species were assessed as **Presumed Absent/No Potential** within the Plan Area.

**Conservancy Fairy Shrimp (*Branchinecta conservatio*)**

Special Status: Federal Endangered

NBHCP Covered: No

Natural History[6]: The Conservancy Fairy Shrimp is known from a few isolated populations distributed over a large portion of California's Central Valley and in southern California. In the Northeastern Sacramento Valley Vernal Pool Region, four populations are clustered around the Vina Plains area in Tehama and Butte Counties. Populations are also found in the Solano-Colusa Vernal Pool Region on

[6] https://www.fws.gov/sacramento/es/Recovery-Planning/Vernal-Pool/Documents/conserv_fairy_shrimp.pdf

the Greater Jepson Prairie area in Solano County, at the Sacramento National Wildlife Refuge in Glenn County, and in the Tule Ranch unit of the CDFW Yolo Basin Wildlife Area, in Yolo County. The life history of this species is uniquely adapted to the ephemeral conditions of its vernal pool habitat. This species has been found to reach maturity in an average of 46 days, and live for as long as 154 days. However, aquatic invertebrate growth rates are largely controlled by water temperature and can vary greatly. This species produces one large cohort of offspring each wet season. Occurs in vernal pools found on several different landforms, geologic formations and soil types. At the Vina Plains in Tehama County, the species occurs in pools formed on Peters Clay soil on the volcanic Tuscan Formation. At Jepson Prairie, the species is found in large playa-like depressions on deep alluvial soils of Pescadero Clay Loam on Basin Rim landforms.

Determination Reason: There is one previously recorded occurrence of this species within the database search area. Based on extensive surveys of the Surveyed Area, remote observations of the remainder of the Plan Area, and aerial-based analysis of the remainder of the Plan Area, the vernal pool habitat required to support this species is not present. This species has been determined to have no potential for occurrence within the Plan Area.

**Vernal Pool Tadpole Shrimp (*Lepidurus packardi*)**

Special Status: Federal Endangered

NBHCP Covered: Yes

Natural History[7]: The Vernal Pool Tadpole Shrimp is currently distributed across the Central Valley of California and in the San Francisco Bay area. The species' distribution has been greatly reduced from historical times as a result of widespread destruction and degradation of its vernal pool habitat. Vernal pool tadpole shrimp are uncommon even where vernal pool habitats occur. The largest concentration of Vernal Pool Tadpole Shrimp occurrences are found in the Southeastern Sacramento Vernal Pool Region, where the species occurs on a number of public and private lands in Sacramento County. Vernal pool tadpole shrimp are also known from a few locations in Yuba and Placer Counties, including Beale Air Force Base. In the Solano-Colusa Vernal Pool Region the vernal pool tadpole shrimp occurs in the vicinity of Jepson Prairie, Travis Air Force Base, and near Montezuma in Solano County and on the Sacramento National Wildlife Refuge in Glenn County. Although the Vernal Pool Tadpole Shrimp is adapted to survive in seasonally available habitat, the species has a relatively long life span compared to other vernal pool crustaceans. This species has been found to generally take between 3 and 4 weeks to mature.

Determination Reason: There are previously recorded occurrences of this species within the database search area. Based on extensive surveys of the Surveyed Area, remote observations of the remainder of the Plan Area, and aerial-based analysis of the remainder of the Plan Area, the vernal pool habitat required to support this species is not present. This species has been determined to have no potential for occurrence within the Plan Area.

[7] https://www.fws.gov/sacramento/es/Recovery-Planning/Vernal-Pool/Documents/vp_tadpole_shrimp.pdf

**Midvalley Fairy Shrimp (*Branchinecta mesovallensis*)**

Special Status: N/A

NBHCP Covered: Yes

Natural History[8]: The Midvalley Fairy Shrimp is endemic to a small portion of California's Central Valley Based on the few known occurrences, the species' distribution is apparently limited to the Southeastern Sacramento, Southern Sierra Foothill, San Joaquin, and Solano-Colusa Vernal Pool Regions. In the Southeastern Sacramento region, most occurrences are clustered around the City of Sacramento and Mather Air Force Base in Sacramento County. In the Southern Sierra Foothills and San Joaquin Vernal Pool Regions, the Midvalley Fairy Shrimp has been documented in the vicinity of the Virginia Smith Trust property in Merced County and from isolated occurrences in San Joaquin, Madera, and Fresno Counties. However, because this species was described only recently, it is likely additional occurrences will be found in the future.

Determination Reason: There are no previously recorded occurrences of this species within the database search area, however, an analysis of this species was included because of NBHCP coverage. Based on extensive surveys of the Surveyed Area, remote observations of the remainder of the Plan Area, and aerial-based analysis of the remainder of the Plan Area, the vernal pool habitat required to support this species is not present. This species has been determined to have no potential for occurrence within the Plan Area.

**Chinook Salmon (*Oncorhynchus tshawytscha*)**

Special Status: Central Valley spring-run evolutionarily significant unit (ESU) - Federal Threated, California Threatened
Sacramento River winter-run ESU - Federal Endangered, California Endangered

NBHCP Covered: No

Natural History[9]: Chinook salmon have evolved a broad array of life history patterns that allow them to take advantage of diverse riverine conditions throughout the year. Four principal life history variants are recognized and are named for the timing of their upstream migration: fall-run, late fall-run, winter-run, and spring-run. The Sacramento River supports all four runs of Chinook salmon. The larger tributaries to the Sacramento River (American, Yuba, and Feather rivers) and rivers in the San Joaquin Basin also provide habitat for one or more of these runs. Winter-run Chinook salmon are unique because they spawn during summer months when air temperatures usually approach their yearly maximum. As a result, winter-run Chinook salmon require stream reaches with cold water sources that will protect embryos and juveniles from the warm ambient conditions in summer. Adult winter-run Chinook salmon immigration and holding (upstream spawning migration) through the Delta and into the lower Sacramento River occurs from December through July, with a peak during the period extending from January through April. Spawning occurs between late-April and mid-August, with a peak in June and July. Adult Central Valley spring-run Chinook salmon leave the ocean to begin their upstream migration in late January and early February, and enter the Sacramento River between March and September, primarily in May and

[8] https://www.fws.gov/sacramento/es/Recovery-Planning/Vernal-Pool/Documents/midvalley_fairy_shrimp.pdf
[9] https://media.fisheries.noaa.gov/dam-migration/central_valley_salmonids_recovery_plan-accessible.pdf

June. Spawning normally occurs between mid-August and early October, peaking in September.

Determination Reason: There are previously recorded occurrences of this species within the database search area, primarily along the Sacramento River. Critical habitat is also designated along the Sacramento River. The Plan Area, however, lacks the specific habitat components required to support this species. This species has been determined to have no potential for occurrence within the Plan Area.

**Steelhead (*Oncorhynchus mykiss irideus*)**

Special Status: Central Valley distinct population segment (DPS) - Federal Threatened

NBHCP Covered: No

Natural History[10]: Steelhead may exhibit anadromy or freshwater residency. Resident forms are usually referred to as Rainbow Trout, while anadromous life forms are termed ‘‘Steelhead.’’ Resident Rainbow Trout can produce anadromous smolts and anadromous steelhead can produce resident Rainbow Trout in the Central Valley. Steelhead typically migrate to marine waters after spending two years in fresh water. They reside in marine waters for typically two or three years prior to returning to their natal stream to spawn as four- or five-year-olds. Unlike Pacific salmon, steelhead are capable of spawning more than once before they die. However, it is rare for steelhead to spawn more than twice before dying, and most that do so are females. Central Valley Steelhead enter fresh water from August through April. They hold until flows are high enough in tributaries to enter for spawning. Steelhead adults typically spawn from December through April, with peaks from January through March in small streams and tributaries where cool, well oxygenated water is available year-round.

Determination Reason: There are previously recorded occurrences of this species within the database search area, primarily along the Sacramento River, American River, and Dry Creek. Critical habitat is also designated along the Sacramento River. The Plan Area, however, lacks the specific habitat components required to support this species. This species has been determined to have no potential for occurrence within the Plan Area.

**Longfin Smelt (*Spirinchus thaleichthys*)**

Special Status: California Threatened, Federal Candidate

NBHCP Covered: No

Natural History[11]: Historically, populations of Longfin Smelt in California have been present in: (1) Sacramento-San Joaquin estuary, (2) Humboldt Bay, (3) Eel River estuary, and, (4) Klamath River estuary. In the Sacramento-San Joaquin estuary, Longfin Smelt are rarely found upstream of Rio Vista or Medford Island in the Delta. Adults occur seasonally as far downstream as South Bay but they are concentrated in Suisun, San Pablo, and North San Francisco Bays. They are rarely collected outside the estuary. Adult and juvenile Longfin Smelt occupy mostly the middle or bottom of the water column in the salt or brackish water portions of the estuary, although larval Longfin Smelt are concentrated in near-surface, brackish

[10] https://media.fisheries.noaa.gov/dam-migration/central_valley_salmonids_recovery_plan-accessible.pdf
[11] https://ecos.fws.gov/docs/recovery_plan/961126.pdf

waters. Spawning takes place in freshwater, over sandy-gravel substrates, rocks, and aquatic plants.

Determination Reason: There are previously recorded occurrences of this species within the database search area, primarily along the Sacramento River. The Plan Area, however, lacks the specific habitat components required to support this species. This species has been determined to have no potential for occurrence within the Plan Area.

**Western Spadefoot (*Spea hammondii*)**

Special Status: California Species of Special Concern

NBHCP Covered: Yes

Natural History: The Western Spadefoot ranges throughout the Central Valley and adjacent foothills, and is usually quite common where it occurs. In the Coast Ranges it is found from Point Conception, Santa Barbara County, south to the Mexican border. Elevations of occurrence extend from near sea level to 1363 m (4460 ft) in the southern Sierra foothills. This species occurs primarily in grasslands, but occasional populations also occur in valley-foothill hardwood woodlands. Some populations persist for a few years in orchard or vineyard habitats.

Determination Reason: Western Spadefoot is not known to inhabit the Natomas Basin but has been found in Placer County and central Sacramento County. There are no CNDDB records for Western Spadefoot within the RSA.

**California Tiger Salamander (*Ambystoma californiense*)**

Special Status: Federal Threatened, California Threatened

NBHCP Covered: Yes

Natural History: Most commonly found in Annual Grassland habitat, but also occurs in the grassy understory of Valley-Foothill Hardwood habitats, and uncommonly along stream courses in Valley-Foothill Riparian habitats. The species occurs from near Petaluma, Sonoma County, east through the Central Valley to Yolo and Sacramento counties and south to Tulare County; and from the vicinity of San Francisco Bay south to Santa Barbara County. They occur at elevations from 3 meters up to 1,054 meters (3,200 feet).

Determination Reason: California Tiger Salamander has been not documented in the Natomas Basin, despite the presence of a narrow band of vernal pool habitats along the eastern edge of the basin. There are no CNDDB records for California Tiger Salamander within the RSA.

**Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*)**

Special Status: Federal Threatened, California Endangered

NBHCP Covered: No

Natural History: An uncommon to rare summer resident of valley foothill and desert riparian habitats in scattered locations in California. Along the Colorado River, breeding population on California side was estimated at 180 pairs in 1977. Additional pairs reside in the Sacramento and Owens valleys; along the South Fork of the Kern River, Kern County; along the Santa Ana River, Riverside County; and along the Amargosa River, Inyo and San Bernardino counties. Also may nest along San Luis Rey River, San Diego County. Formerly much more common and widespread throughout lowland California, but numbers drastically reduced by habitat loss. Current population estimations show about 50 pairs existing in California.

Inhabits extensive deciduous riparian thickets or forests with dense, low-level or understory foliage, and which abut on slow-moving watercourses, backwaters, or seeps. Willow almost always a dominant component of the vegetation. In Sacramento Valley, also utilizes adjacent orchards, especially of walnut. Along Colorado River, may inhabit mesquite thickets where willow is absent. Nests typically in sites with at least some willow, dense low-level or understory foliage, high humidity, and wooded foraging spaces in excess of 93 m (300 ft) in width and 10 hectares (25 acres) in area.

Determination Reason: There are previously recorded occurrences of this species within the database search area, primarily along the Sacramento River to the north of the Natomas Basin. The Plan Area lacks the habitat components required by this species for nesting or foraging. This species has been determined to have no potential for occurrence within the Plan Area.

**California Black Rail (*Laterallus jamaicensis coturniculus*)**

Special Status: California Threatened

NBHCP Covered: No

Natural History: Rarely seen, scarce, yearlong resident of saline, brackish, and fresh emergent wetlands in the San Francisco Bay area, Sacramento-San Joaquin Delta, coastal southern California at Morro Bay and a few other locations, the Salton Sea, and lower Colorado River area. Formerly a local resident in coastal wetlands from Santa Barbara County to San Diego County; still winters there rarely. Significant loss of saltwater and freshwater wetland habitat in recent decades probably has reduced population. The majority of breeders in the San Francisco Bay area located in San Pablo Bay. Loss of higher wetland around San Francisco Bay apparently has eliminated breeding in the south bay area.

Determination Reason: The Plan Area is outside of the range of species and lacks the habitat components required by this species for nesting or foraging. This species has been determined to have no potential for occurrence within the Plan Area.

**Western Snowy Plover (*Charadrius nivosus nivosus*)**

Special Status: Federal Threatened

NBHCP Covered: No

Natural History: In fall and winter, common on sandy marine and estuarine shores. Nests locally in these same habitats from April through August, but the major nesting habitat now appears to be on salt pond levees. Inland nesting areas occur at the Salton Sea, Mono Lake, and at isolated sites on the shores of alkali lakes in northeastern California, in the Central Valley, and southeastern deserts.

Determination Reason: The Plan Area is outside of the range of species and lacks the habitat components required by this species for nesting or foraging. This species has been determined to have no potential for occurrence within the Plan Area.

**Least Bell's Vireo (*Vireo bellii pusillus*)**

Special Status: Federal Endangered

NBHCP Covered: No

Natural History: Formerly a common and widespread summer resident below about 600 m (2,000 ft) in western Sierra Nevada, throughout Sacramento and San Joaquin valleys, and in the coastal valleys and foothills from Santa Clara County south. Also was

| | |
|---|---|
| | common in coastal southern California from Santa Barbara County south, below about 1,200 m (4,000 ft) east of the Sierra Nevada, in Owens and Benton valleys, along Mojave River and other streams at western edge of southeastern deserts. Has declined drastically or vanished entirely throughout California range in recent decades, apparently from cowbird parasitism and habitat destruction and degradation. Now a rare, local, summer resident below about 600 m (2,000 ft) in willows and other low, dense valley foothill riparian habitat and lower portions of canyons mostly in San Benito and Monterey counties; in coastal southern California from Santa Barbara County south; and along the western edge of the deserts in desert riparian habitat. |
| Determination Reason: | The Plan Area is outside of the range of species and lacks the habitat components required by this species for nesting or foraging. This species has been determined to have no potential for occurrence within the Plan Area. |

## 5.6.3 NBHCP Key Species

This section of the Assessment discusses two key umbrella species of the NBHCP in depth: Swainson's Hawk and Giant Gartersnake.

### *5.6.3.1 Swainson's Hawk*

**Natural History**



*Figure 1. Swainson's Hawk Range in California.*

*Location of the Plan Area is represented by the red dot. Source: CWHR.*

In California, Swainson's Hawk is an uncommon breeding resident and migrant in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and Mojave Desert, with limited breeding reported from Lanfair Valley, Owens Valley, Fish Lake Valley, and Antelope Valley (Bloom 1980, Garrett and Dunn 1981). The species breeds in generally open habitats with isolated stands or narrow corridors of trees, or with widely scattered trees, such as in juniper-sage flats. Swainson's Hawks also breed in riparian areas and in the Central Valley in oak savannah, foraging in adjacent grasslands, suitable grain or alfalfa fields, or livestock pastures. Bloom (1980) estimated 110 nesting pairs, and a total population of 375 pairs, in California. In 2005, a state-wide breeding survey was conducted in the species' known range and estimated 1,893 breeding pairs. In 2006, the Central Valley breeding population was estimated to be 2,251 (CDFW 2016). In southern California, Swainson's Hawks are now mostly limited to spring and fall transients. This species was formerly abundant in California with a wider breeding range (Grinnell and Miller 1944, Bloom 1980, Garrett and Dunn 1981), but declines were noted as early as 1933 (Willett 1933). It is believed that the decline resulted in part from loss of nesting habitat.

Migrants move south through the southern and central interior of California from mid-August through late October and move north from late February through mid-May (eBird online database). The majority of birds migrate to the Argentine pampas in south-central South America, passing in large flocks over Central America (Ferguson-Lees and

Christie 2001). Although formerly migrating in large numbers through much of California, they are now seen regularly in migration only in the extreme northeastern corner of the state and in a few places along the western edge of the deserts. They also congregate in spring migration at staging areas in Anza Borrego State Park and Morongo Valley, from which they move north along the eastern and northern flanks of the coast ranges, across the Tehachapi Mountains and Kern Valley, and into the Central Valley where the largest numbers of Swainson's Hawks still breed in California. In fall migration, Swainson's Hawks are more widely dispersed, with occasional small concentrations observed in the eastern Colorado Desert and Colorado River (Bloom 1980, Bechard et al. 2010, Small 1994). Other than small, isolated wintering populations in California's Sacramento-San Joaquin River Delta and in southern Florida, the majority of birds winter in South America (Bechard et al. 2010). Breeding occurs from late March to late August, with peak activity in late May through July.

Swainson's Hawk is listed as threatened under the California Endangered Species Act. It is also listed as "Sensitive" by the U.S. Forest Service and U.S. Bureau of Land Management, and as a "Bird of Conservation Concern" by the U.S. Fish and Wildlife Service (USFS 2005, BLM 2014, USFWS 2008).

**Status in the Plan Area**

Swainson's Hawk is present in the Plan Area during the breeding season. Bargas qualified avian biologists conducted site surveys guided *by Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000). The breeding territories of three Swainson's Hawk pairs were documented within the Plan Area in 2019 (Bargas 2019). One of the three breeding pairs was observed nesting in 2020. Nesting by one pair of Swainson's Hawks was confirmed inside the study area during the 2021 surveys, and there was activity indicative of nesting pairs observed in the previously identified territories for Pair B and Pair C (Bargas 2021). The Sacramento River corridor is also an important flyway for migrating Swainson's Hawks in the spring, with many streaming over the Project Area and some stopping to forage.

**Status in the Natomas Basin and Regional Study Area**

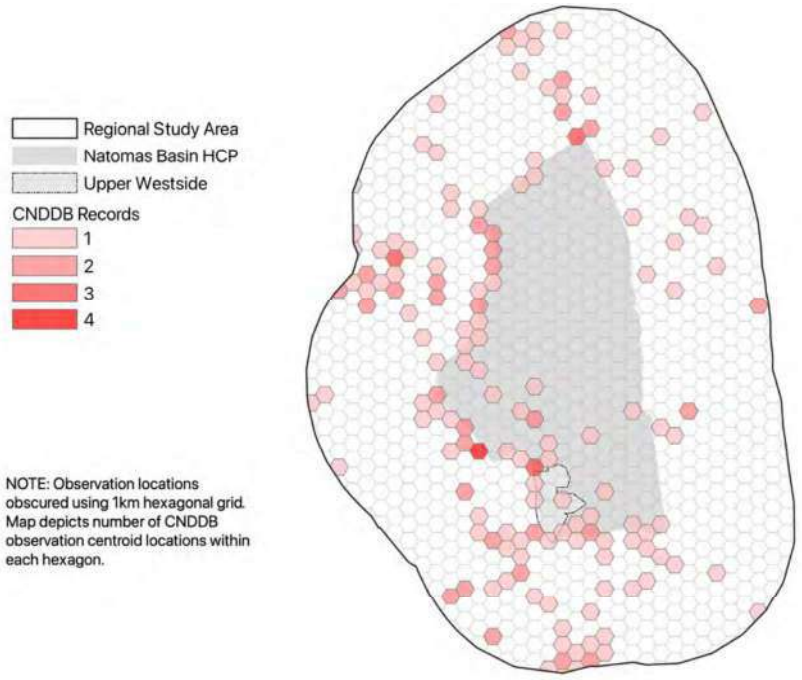
While Swainson's Hawks can be found throughout the RSA, they are most frequently recorded on the western end, especially along the Sacramento River (which forms the western border of the NBHCP), which is also where most nesting records are located (see **Figure 2**). It is important to note, however, that the absence of CNDDB records does not equate to absence of occurrence, as occurrence records require a documenting surveyor to cover an area and later to submit the observation.

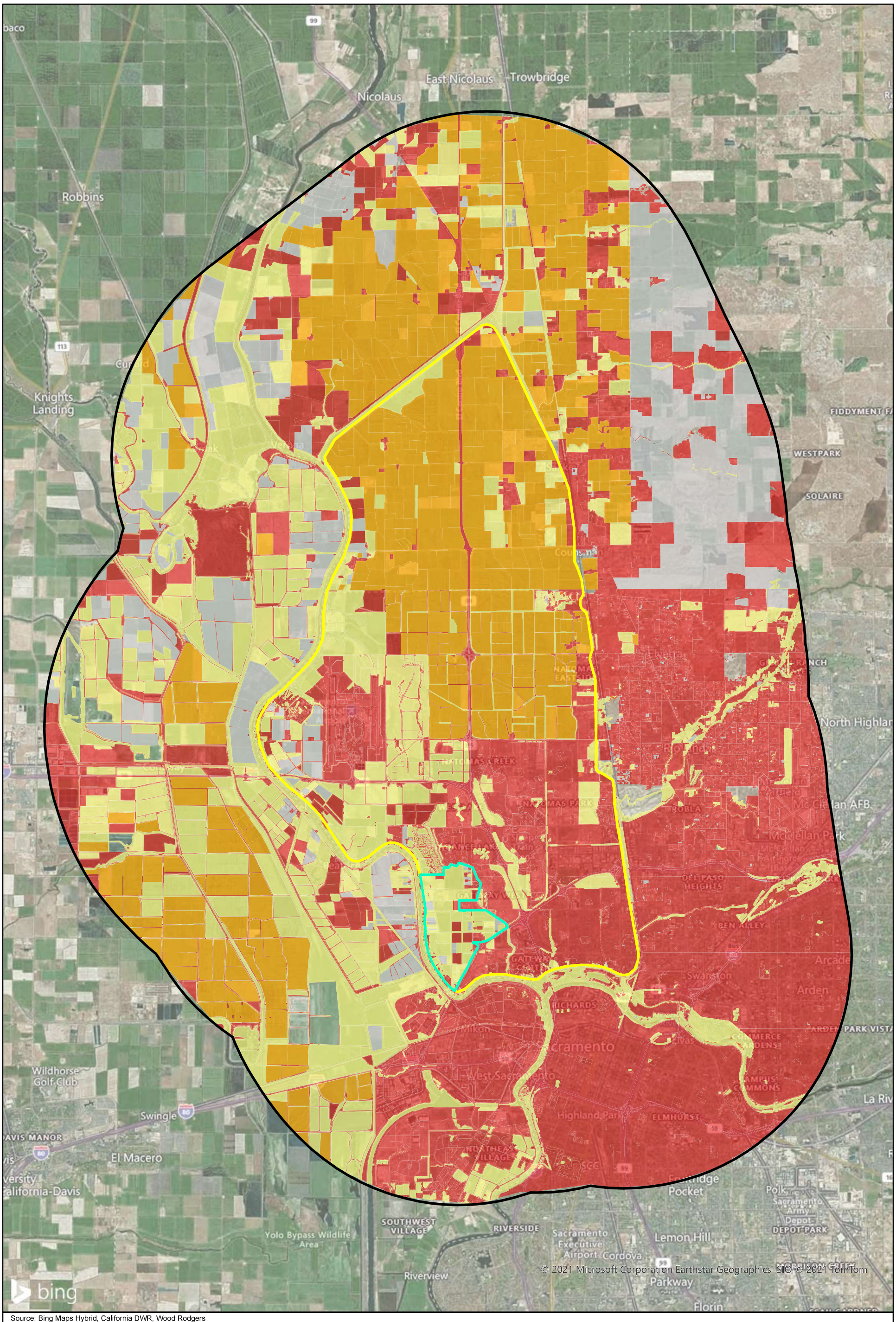
Habitats used by Swainson's Hawk in the RSA (**Table 5**) include Annual Grassland, Barren, Eucalyptus, Urban, Valley Foothill Riparian, and Wet Meadow. Habitat suitability in the RSA for Swainson's Hawk based on CWHR modeling is depicted in **Exhibit 8. Habitat Suitability – Swainson's Hawk.** As Swainson's Hawks use the Urban CWHR habitat type which can include a lot of different cover types including impervious surfaces, the regional-scale mapping of suitability within larger urban areas (such as the limits of the City of Sacramento) presented in Exhibit 8 should be viewed with caution. Swainson's Hawk, however, is present in naturally vegetated areas within the urban zone of the City of Sacramento.

*Table 5. Habitat Suitability Matrix for Swainson's Hawk in the RSA*

| Habitat | CWHR Habitat Metrics | | Suitability (0-1) | | | |
|---|---|---|---|---|---|---|
| | Size | Canopy | Reproduction | Cover | Feeding | Mean |
| Annual Grassland | 1 | M | 0.66 | 0.66 | 1 | 0.77 |
| Barren | 1 | - | 0 | 0.66 | 1 | 0.55 |
| Eucalyptus | 4 | M | 0.33 | 0.33 | 0.33 | 0.33 |
| Eucalyptus | 5 | M | 0.33 | 0.33 | 0.33 | 0.33 |
| Urban | 1 | - | 0.66 | 0.66 | 1 | 0.77 |
| Valley Foothill Riparian | 2 | M | 0 | 0 | 0.33 | 0.11 |
| Valley Foothill Riparian | 5 | M | 1 | 1 | 0.33 | 0.78 |
| Valley Foothill Riparian | 3 | M | 0.33 | 0.33 | 0.33 | 0.33 |
| Valley Foothill Riparian | 4 | M | 0.66 | 0.33 | 0.33 | 0.44 |
| Wet Meadow | 1 | M | 0 | 0.33 | 0.66 | 0.33 |

*Figure 2. CNDDB Occurrences for Swainson's Hawk*






Source: Bing Maps Hybrid, California DWR, Wood Rodgers

0 1 2 Miles

1 inch = 1500 feet

BARGAS Environmental Consulting

Regional Study Area

Upper Westside Specific Plan Area

Natomas Basin

Habitat Suitability

No Suitability

Low

Medium

High

**Exhibit 8**
**Habitat Suitability – Swainson's Hawk**

*Upper Westside*

Map Created: 1/14/2022, Map Revised: N/A, Bargas Project Number: 1024-18

### *5.6.3.2 Giant Gartersnake*

**Natural History**[12]

- The Giant Gartersnake historically ranged in the Sacramento and San Joaquin valleys. Its current range is much reduced, and it is apparently extirpated south of Fresno County except for western Kern County. In this region, Giant Gartersnake typically occurs in agricultural rice fields and wetlands as well as other waterways such as drainage canals and adjacent uplands in many portions of the Natomas Basin[13].

This species is active from May until October.

- **Feeding:** Giant Gartersnakes forage primarily in and along waterways taking fish and amphibians and amphibian larvae. Most current food may be introduced species such as carp, mosquitofish, and bullfrogs, because the native prey such as blackfish, thick-tailed chub, and red-legged frog are no longer available.
- **Cover:** The preferred nocturnal retreats of this active diurnal snake are thought to be holes, especially mammal burrows, crevices, and surface objects. During the day the Giant Gartersnake often basks on emergent vegetation such as cattails and tules. In hotter weather, mammal burrows and piles of vegetation may be used as daytime refuges. When disturbed it usually retreats rapidly to water.
- **Reproduction:** Courtship and mating normally occur soon after spring emergence. Young are born alive between mid-July and early September, usually in secluded sites such as under the loose bark of rotting logs or in dense vegetation at the margins of a waterway. Mean litter size is 23.
- **Water:** No information on water requirements. This species is normally found in the immediate vicinity of permanent or semi-permanent sources of water.
- **Activity Patterns:** An active diurnal snake. During the warm days of summer most activity occurs during the morning and afternoon. During the cooler weather of spring and fall, snakes restrict their activity to the warm afternoons.



*Figure 3. Giant Gartersnake Range in California.*

*Location of the Plan Area is represented by the red dot. Source: CWHR.*

- **Seasonal Movements/Migration:** Migration is not expected.
- **Home Range:** The nature of the home range of gartersnakes in California is not well known. There is likely considerable overlap in the home ranges of neighboring individuals.

[12] Natural history sourced directly from the California Department of Fish and Wildlife's species account in the *California Wildlife Habitat Relationships* system.
[13] https://www.fws.gov/sacramento/es_species/Accounts/Amphibians-Reptiles/giant_garter_snake/

- **Territory:** Not thought to be territorial. Although this species is not well studied, other gartersnakes have not been observed exhibiting behaviors suggesting territoriality.
- **Niche:** Giant Gartersnakes are taken as prey by mammals, birds, and other snakes despite the release of a repulsive musk from the postanal glands of disturbed individuals. Their competitive relationships with other snakes (especially other gartersnakes) are not well understood.
- **Comments:** The Giant Gartersnake now is very scarce throughout its range in the Central Valley. Perhaps California's most aquatic gartersnake, populations have been eliminated or decimated by the elimination of natural sloughs and marshy areas. Heavy use of pesticides is suspected as a contributing factor in the decline of this once-abundant gartersnake of the Central Valley. Protection of waterfowl habitat may allow it to survive in a small portion of its original range.

**Status in the Plan Area**

While there are recent CNDDB records along the canal at the northern edge of the Plan Area, and DNA for the species was detected over two years in three locations outside of the Plan Area and one location in the central portion of the Plan Area, habitat in the Plan Area has a low suitability for Giant Gartersnake. Further, intensive sampling efforts (40,703 total trap days), accompanied by a high catch of Valley Gartersnake (*Thamnophis sirtalis fitchi*), but zero captures of Giant Gartersnake, indicate there there is low potential for occurrence of Giant Gartersnake population within the Plan Area, though the species may use interior canals infrequently for dispersal.

The CNDDB record along the northern limits of the Plan Area is associated with a large canal that is hydrologically connected to Fisherman's Lake, where there is a known population of the species. This canal is significantly larger than the interior canals in the Plan Area with extensive areas of wetland vegetation. It also has steep sides that may impede use of adjacent uplands by this species.

**Status in the Natomas Basin and Regional Study Area**

CNDDB records (**Figure 4**) indicate historical occurrence for Giant Gartersnake throughout the northern three quarters of the NBHCP. In the RSA outside of the NBHCP, records are limited to the northern and southwestern ends.

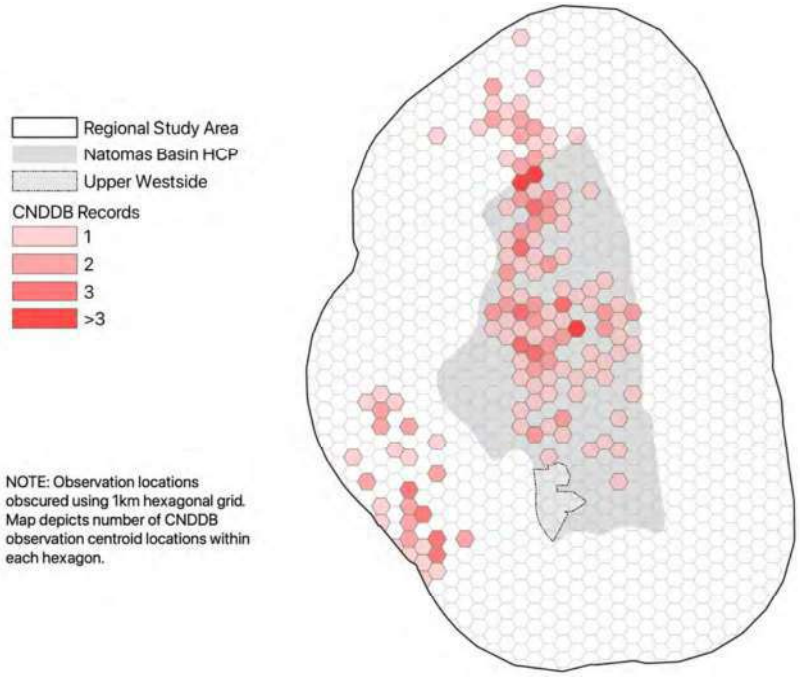
Habitats used by Giant Gartersnake in the RSA (**Table 6**) include Annual Grassland, Freshwater Marsh, Lacustrine, Valley Foothill Riparian, and Wet Meadow. Habitat suitability in the RSA for Giant Gartersnake based on CWHR modeling is depicted in **Exhibit 9. Habitat Suitability – Giant Gartersnake.**

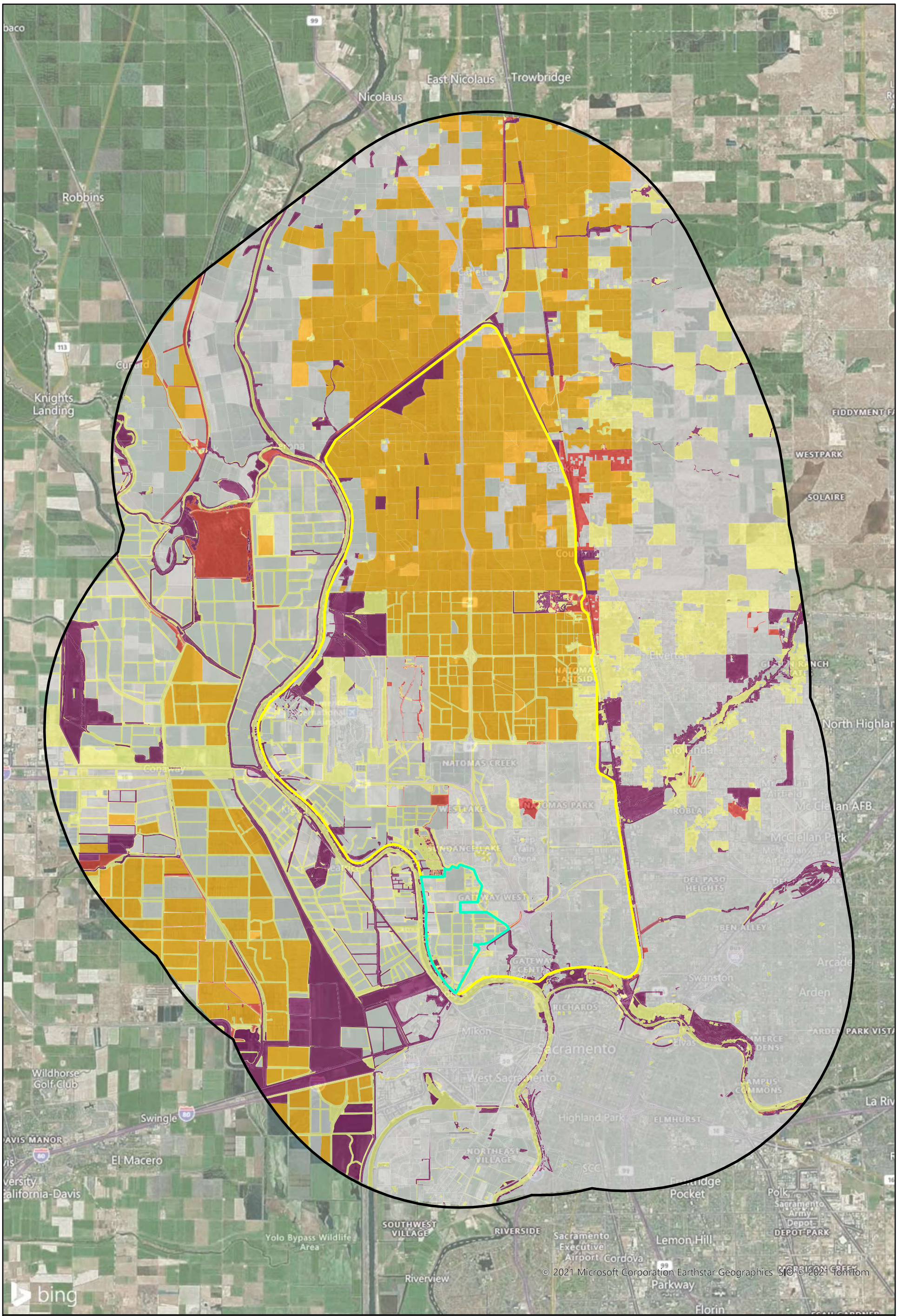
*Table 6. Habitat Suitability Matrix for Giant Gartersnake*

| Habitat | CWHR Habitat Metrics | | Suitability (0-1) | | | |
|---|---|---|---|---|---|---|
| | Size | Canopy | Reproduction | Cover | Feeding | Mean |
| Annual Grassland | 1 | M | 0.33 | 0.33 | 0.33 | 0.33 |
| Freshwater Marsh | 1 | M | 1 | 1 | 1 | 1 |
| Lacustrine | 1 | - | 0 | 0.33 | 0.33 | 0.22 |
| Valley Foothill Riparian | 2 | M | 1 | 1 | 1 | 1 |
| Valley Foothill Riparian | 3 | M | 1 | 1 | 1 | 1 |
| Valley Foothill Riparian | 4 | M | 1 | 1 | 1 | 1 |
| Valley Foothill Riparian | 5 | M | 1 | 1 | 1 | 1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Wet Meadow | 1 | M | 1 | 1 | 1 | 1 |

*Figure 4. CNDDB Occurrences for Giant Gartersnake*






Source: Bing Maps Hybrid, California DWR, Wood Rodgers

0 1 2 Miles

1 inch = 2 miles

BARGAS Environmental Consulting

Regional Study Area

Upper Westside Specific Plan Area

Natomas Basin

Habitat Suitability

No Suitability

Low

Medium

High

**Exhibit 9**
**Habitat Suitability – Giant Gartersnake**

*Upper Westside*

Map Created: 1/14/2022, Map Revised: N/A, Bargas Project Number: 1024-18

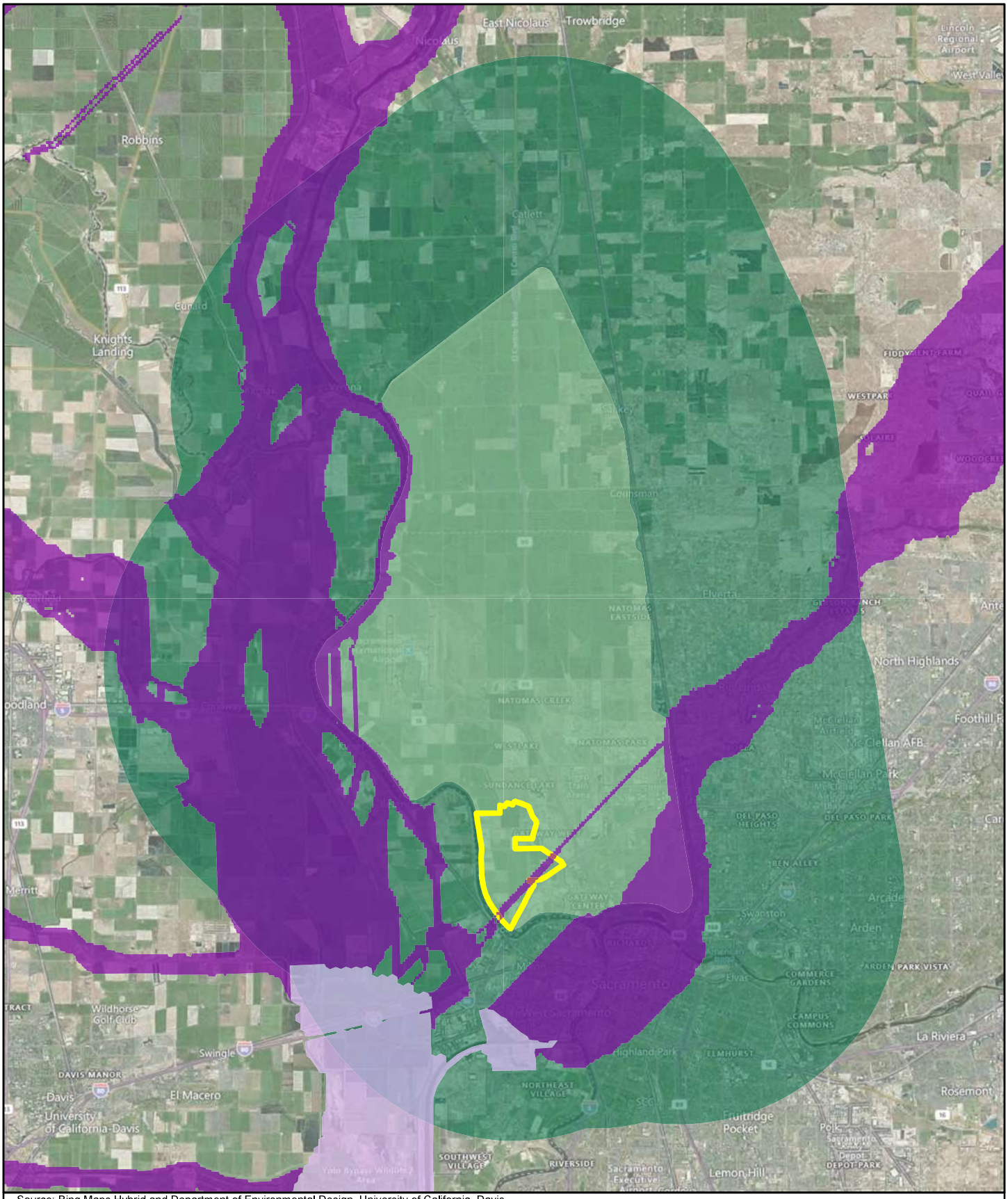
## 5.7 Wildlife Movement and Habitat Corridors

Effects on wildlife movement are an important consideration when assessing any anthropogenic effect on biological resources. At a small enough scale, any project or activity can potentially affect the movement of wildlife if any wildlife are present. In general, however, the term "wildlife movement corridor" denotes an area of habitat that is important for the movement of wildlife between larger habitat areas. Wildlife movement corridors are important for maintaining population levels and genetic diversity.

Regionally, wildlife movement was modeled by ecologists at UC Davis in 2010[14]. The dataset was produced to analyze the impact of scale effects on conservation planning by analyzing conservation networks at local and regional scales within the central valley of California to analyze the impact of scale effects on conservation planning using industry-standard MARXAN and least corridor analysis technologies. The result, shown in **Exhibit 10. Central Valley Core Reserves and Corridors**, depicts a potential – albeit narrow – corridor through the southeast portion of the Plan Area. This appears, intuitively, to have been a direct connection between natural areas associated with the Dry Creek watershed and the Sacramento River. Since the time the analysis was completed, much of the area within that modeled corridor has been extensively developed and the modeled corridor is no longer valid. In essence, the Plan Area does not act as a wildlife corridor as classically considered.

At a smaller scale, the Plan Area has potential – via agriculture irrigation ditches – to support movement of wildlife species that use small waterways. Specifically, Giant Gartersnake DNA was identified in and adjacent to Reclamation District 1000's West Drainage Canal and within the drainage ditch adjacent to Bryte Bend Road, both sites outside of the Plan Area. The eDNA surveys in the BSA outside of the Plan Area returned three positive detections in 2019 (Hansen 2019) and one positive detection in 2020 (Hansen 2020). A comprehensive 2-year Giant Gartersnake trapping study found no species presence in the Plan Area, however their DNA was found in the canal north of the Plan Area and in a central portion of the Plan Area, and hence the snakes could potentially be using the agricultural irrigation ditches as dispersal corridors.

[14] CDFW BIOS dataset ds2693


East Nicolaus
Trowbridge
Robbins
Knights Landing
Catlett
Courtland
Willows
Natomas
Elverta
North Highlands
Foothill Farms
McClellan AFB
McClellan Park
Arden
Arcade
Sacramento
West Sacramento
Davis
El Macero
University of California-Davis
Wildhorse Golf Club
Swingle
Merritt
La Riviera
Rosemont
Fruitridge Pocket
Lemon Hill
Source: Bing Maps Hybrid and Department of Environmental Design, University of California, Davis
0
1.5
3 Miles
1 inch = 3 miles
Upper Westside Specific Plan Area
Natomas Basin
Regional Study Area
Core Reserve
Corridor
BARGAS
Environmental Consulting
Exhibit 10
Central Valley Core Reserves and Corridors
Upper Westside Effects Analysis
Map Created: 8/25/2021, Map Revised: 1/14/2022, Bargas Project Number: 1024-18

# 6 CEQA Analysis: Effects and Minimization Measures

## 6.1 Types of Effects Analyzed

CEQA describes three types of potential project effects that are pertinent to biological resources and are analyzed in this Assessment:

- **Direct Effects:** Section 15064(d)(1) of the CEQA Guidelines describes a direct effect as "a physical change in the environment which is caused by and immediately related to the project." In the context of the proposed project described in this report, direct effects include adverse effects that would occur to plants, wildlife, and vegetation communities within or immediately adjacent to the proposed Project footprint and other work areas.
- **Indirect Effects:** Section 15064(d)(2) of the CEQA Guidelines describes an indirect effect as any "physical change in the environment, which is not immediately related to the project, but which is caused indirectly by the project. If a direct physical change in the environment, in turn, causes another change in the environment, then the other change is an indirect physical change in the environment." Indirect effects, also known as secondary effects, are reasonably foreseeable and caused by a project but occur at a different time or place. Examples of indirect effects pertinent to many development projects could include a change in drainage patterns that ultimately affect vegetation communities not otherwise affected by the project or a reduction in native wildlife species resulting from a decrease in habitat.
- **Cumulative Effects:** Section 15355 of the CEQA Guidelines describe a cumulative effect as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." The CEQA Guidelines further state the following regarding cumulative effects:
    - The individual effects may be changes resulting from a single project or a number of separate projects.
    - The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

  Section 15064 (h)(1) of CEQA Guidelines states that "the lead agency shall consider whether the cumulative impact is significant and whether the effects of the project are cumulatively considerable." 'Cumulatively considerable' means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects and the effects of probable future projects". Section 15064 (h)(2) states that "a lead agency may determine…that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant."

## 6.2 Thresholds of Significance

Appendix G of the CEQA Guidelines (as amended through January 2019) is frequently cited by public agencies to determine whether a project may have a significant impact on biological resources. Under Appendix G, a project may have a significant impact on biological resources if it would:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations by the CDFW or USFWS.

2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS.
3. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
5. Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance.
6. Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan.

## 6.3 Key Metrics for Assessing Project Effects

Prior to assessing the significance of Project effects on biological resources, it is important to understand the factors to be considered in the analysis. Primary among these are direct impacts to vegetation communities/habitats due to grading, conservation measures being implemented by the Applicant to offset Project effects, and the regional context of the Project. These factors are discussed below.

### 6.3.1 Grading Impacts and Avoidance

Current plans for the Project proposing grading 1,486.7 acres of existing vegetation communities/land uses in the Plan Area. This proposes direct impacts to 72% of the Plan Area, with the remaining 28% to remain in its current state. These impacts are summarized in **Table 7**. As proposed, Project-related grading would impact the following habitat types:

- **Irrigated Row and Field Crops** comprise 892.1 acres of the Plan Area. The Project proposes direct impacts to 658.2 acres, or 73.8% of this habitat in the Plan Area. The Project would preserve 233.9 acres, or 26.2% of this habitat in the Plan Area.
- **Irrigated Hayfield** comprises 511.1 acres of the Plan Area. The Project proposes direct impacts to 402.6 acres, or 78.8% of this habitat in the Plan Area. The Project would preserve 108.5 acres, or 21.2% of this habitat in the Plan Area.
- **Annual Grassland** comprises 232.8 acres of the Plan Area. The Project proposes direct impacts to 168.6 acres, or 72.4% of this habitat in the Plan Area. The Project would preserve 64.2 acres, or 27.6% of this habitat in the Plan Area.
- **Pasture** comprises 193.3 acres of the Plan Area. The Project proposes direct impacts to 169.5 acres, or 87.7% of this habitat in the Plan Area. The Project would preserve 23.8 acres, or 12.3% of this habitat in the Plan Area.
- **Urban** comprises 143.5 acres of the Plan Area. The Project proposes direct impacts to 43.8 acres, or 30.5% of this habitat in the Plan Area. The Project would preserve 99.7 acres, or 69.5% of this habitat in the Plan Area.
- **Valley Foothill Riparian** comprises 50.0 acres of the Plan Area. The Project proposes direct impacts to 7.0 acres, or 14.1% of this habitat in the Plan Area. The Project would preserve 43.0 acres, or 85.9% of this habitat in the Plan Area.

- **Riverine** comprises 20.1 acres of the Plan Area. The Project proposes direct impacts to 18.2 acres, or 90.7% of this habitat in the Plan Area. The Project would preserve 1.9 acres, or 9.3% of this habitat in the Plan Area.
- **Vineyard** comprises 17.6 acres of the Plan Area. The Project proposes direct impacts to 17.6 acres, or 100% of this habitat in the Plan Area. The Project would preserve 0.0 acres, or 0% of this habitat in the Plan Area.
- **Deciduous Orchard** comprises 4.7 acres of the Plan Area. The Project proposes direct impacts to 1.1 acres, or 24.5% of this habitat in the Plan Area. The Project would preserve 3.6 acres, or 75.5% of this habitat in the Plan Area.

*Table 7. Vegetation Community Impacts and Avoidance*

| Mapped Type | Acres Existing | Acres Impacted | Percent Impacted | Acres Preserved | Percent Preserved |
|---|---|---|---|---|---|
| Irrigated Row and Field Crops | 892.1 | 658.2 | 73.8% | 233.9 | 26.2% |
| Irrigated Hayfield | 511.1 | 402.6 | 78.8% | 108.5 | 21.2% |
| Annual Grassland | 232.8 | 168.6 | 72.4% | 64.2 | 27.6% |
| Pasture | 193.3 | 169.5 | 87.7% | 23.8 | 12.3% |
| Urban | 143.5 | 43.8 | 30.5% | 99.7 | 69.5% |
| Valley Foothill Riparian | 50.0 | 7.0 | 14.1% | 43.0 | 85.9% |
| Riverine | 20.1 | 18.2 | 90.7% | 1.9 | 9.3% |
| Vineyard | 17.6 | 17.6 | 100.0% | 0.0 | 0% |
| Deciduous Orchard | 4.7 | 1.1 | 24.5% | 3.6 | 75.5% |
| **TOTAL** | **2064.9** | **1486.7** | **72.0%** | **578.2** | **28.0%** |

### 6.3.2 Conservation Strategy

The Project proposes to offset all potentially significant biological effects in the following manner:

- On-site (within the Plan Area) preservation of habitats in areas not directly impacted by grading.
- The permanent preservation of habitats in one or more Off-Site Reserves.

A Conservation Strategy is being prepared to outline the resource conservation goals and objectives for the Upper Westside Specific Plan, describe conservation measures to avoid, minimize and/or reduce resource impacts during project implementation, and discuss establishment, implementation, maintenance and long-term management for any reserve properties identified to mitigate impacts. For biological resources, the Conservation Strategy is guided by the biological goals and objective to avoid and minimize the take of covered species, and will be developed in consultation with local, state, and federal regulatory agencies.

## 6.4 Regional Context

To understand the significance of various biological effects of the Project, it is important to understand the Project's regional biological context. This includes disturbance, habitats, species, and other biotic factors within a distance of the Project that are biologically meaningful. For this Assessment, we have frequently referred to the Regional Study Area (or RSA), which includes the Natomas Basin and a five-mile buffer. While the Natomas Basin itself is of the greatest importance herein, the Plan Area is located at the extreme southwestern edge of the basin. As such,

considering only the basin itself would ignore resources immediately across the Sacramento River. Additionally, considering the value of resources in the RSA provides an opportunity to pursue conservation activities beyond limits of the Natomas Basin.

## 6.5 Project Effects on Candidate, Sensitive, or Special Status Species

This section addresses the portion of the CEQA Guidelines requiring an assessment of whether the Project will *have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations by the CDFW or USFWS.*

### 6.5.1 Summary Statement of Effects

Section 5 of this Assessment reviewed the potential for occurrence of 54 special status plant and wildlife species:

- 21 special status species were determined to have no potential to occur. Effects on these species due to Project implementation would not be expected.
- 20 special status species were determined to have low potential to occur and are unlikely to be affected by Project implementation.
- 5 special status species were determined to have moderate potential to occur and could be affected by the Project if found.
- 4 special status species were determined to have high potential to occur and are likely to be affected by Project implementation.
- 4 special status species were determined to be present in the Plan Area and are likely to be affected by Project implementation.

Proposed Off-Site Reserves, as well as on-site measures, will result in a net benefit for all special status species discussed in this Assessment.

### 6.5.2 Detailed Discussion of Effects and Avoidance and Minimization Measures

The Project proposes Off-Site Reserves that will permanently preserve habitat for special status plant and wildlife species on lands of sufficient quality and quantity to offset proposed direct Project effects on biological resources in the Plan Area. The acreage, location and composition of the Off-Site Reserves will be determined during consultation with local, state, and federal regulatory agencies.

USFWS and CDFW may need to be consulted regarding the potential for the proposed project to result in the take of listed species and any avoidance measures or mitigation measures suggested by USFWS and CDFW should be implemented.

#### *6.5.2.1 Special Status Species with No Potential to Occur in the Plan Area*

As detailed in Section 5 above, the following 21 special status species were determined to have no potential to occur in the Plan Area: Ferris' Milkvetch, Peruvian Dodder, Boggs Lake Hedge Hyssop, Delta Tule Pea, Legenere, Colusa Grass, Slender Orcutt Grass, Sacramento Orcutt Grass, Suisun Marsh Aster, Conservancy Fairy Shrimp, Vernal Pool Tadpole Shrimp, Midvalley Fairy Shrimp, Chinook Salmon, Steelhead, Longfin Smelt, Western Spadefoot, California Tiger Salamander, Western Yellow-billed Cuckoo, California Black Rail, Western Snowy Plover, and Least Bell's Vireo. These species have no potential to be adversely affected by the Project and will not be discussed further.

#### *6.5.2.2 Special Status Species with Low Potential to Occur in the Plan Area*

Twenty (20) special status species were determined to have low potential to occur in the Plan Area:

- **Woolly Rose-Mallow**: the Plan Area contains marginal habitat for this species and there are few records in the region. This species' presence is unlikely. This species could potentially benefit from habitat preservation in proposed off-site reserves.
- **Mason's Lilaeopsis:** the Plan Area contains marginal habitat for this species and there are few records in the region. This species' presence is unlikely. This species could potentially benefit from habitat preservation in proposed off-site reserves.
- **Sanford's Arrowhead:** the Plan Area contains marginal habitat for this species and there are few records in the region. This species' presence is unlikely. This species could potentially benefit from habitat preservation in proposed off-site reserves.
- **Sanford's Arrowhead:** primary threats to the species are agriculture and drainage channelization, which are predominant land uses in the Plan Area. Further, some of the irrigation canals and ditches within the Plan Area are periodically maintained (i.e. accumulated sediment removed, vegetation along banks mowed/trimmed), with some not always inundated with water (dependent upon the agricultural irrigation needs), reducing their suitability as potential habitat. As such, potential for the occurrence of this species is low in remainder of the Plan Area. This species could potentially benefit from habitat preservation in proposed off-site reserves.
- **Heartscale:** While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. This species could potentially benefit from habitat preservation in proposed off-site reserves.
- **Brittlescale:** While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. This species could potentially benefit from habitat preservation in proposed off-site reserves.
- **Bristly Sedge:** While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. This species could potentially benefit from habitat preservation in proposed off-site reserves.
- **Pappose Tarplant:** While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. This species could potentially benefit from habitat preservation in proposed off-site reserves.
- **Palmate-bracted Bird's-Beak:** While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As

such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. This species could potentially benefit from habitat preservation in proposed off-site reserves.

- **Dwarf Downingia:** While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. This species could potentially benefit from habitat preservation in proposed off-site reserves.
- **Jepson's Coyote Thistle:** While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. This species could potentially benefit from habitat preservation in proposed off-site reserves.
- **San Joaquin Spearscale:** While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. This species could potentially benefit from habitat preservation in proposed off-site reserves.
- **Heckard's Pepper Grass:** While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. This species could potentially benefit from habitat preservation in proposed off-site reserves.
- **Baker's Navarretia:** While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. This species could potentially benefit from habitat preservation in proposed off-site reserves.
- **Bearded Popcorn Flower:** While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. This species could potentially benefit from habitat preservation in proposed off-site reserves.
- **California Alkaligrass:** While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. This species could potentially benefit from habitat preservation in proposed off-site reserves.
- **Saline Clover:** While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. This species could potentially benefit from habitat preservation in proposed off-site reserves.

- **Crampton's Tuctoria:** While grassland habitat was mapped in the Plan Area (Section 5.4), this habitat represents a temporary state of fallow agricultural fields and does not occur on the correct soils (Section 5.2) for this species. Other habitats preferred by this species are not present in the Plan Area. As such, this species is unlikely to occur and has been determined to have low potential for occurrence within the Plan Area. This species could potentially benefit from habitat preservation in proposed off-site reserves.
- **Vernal Pool Fairy Shrimp:** with the absence of vernal pools in the Plan Area, this species is unlikely to be present, however, it cannot be entirely dismissed because it sometimes appears in temporary post-rain water accumulations such as tire ruts, which would not allow this species to complete its life cycle. This species could potentially benefit from habitat preservation in proposed off-site reserves.
- **Valley Elderberry Longhorn Beetle**: the Plan Area has not been observed to contain suitable habitat, including host plants, for this species. Surveys have not been performed throughout the entire Plan Area and elderberry plants can become quickly established in new areas. This species could potentially benefit from habitat preservation in proposed off-site reserves.
- **Giant Gartersnake:** Giant Gartersnakes were not located within the Plan Area after a two-year trapping effort but may use the agricultural irrigation ditches in the Plan Area for dispersal. This species is discussed in greater detail in **Section 6.5.2.6.**

#### *6.5.2.3 Special Status Species with Moderate Potential to Occur in the Plan Area*

Five (5) special status species were determined to have moderate potential to occur in the Plan Area:

- **Aleutian Cackling Goose:** while there is potential foraging habitat for this species in the Plan Area, there are no recorded occurrences in the Natomas Basin so it is unlikely to occur in the Plan Area. Implementation of the Project would impact potential winter foraging habitat, though foraging by this species in the Plan Area has not been documented. This species could potentially benefit from habitat preservation in proposed off-site reserves.
- **White-faced Ibis:** there is no nesting habitat but potential foraging habitat for this species in the Plan Area, however, this species rarely occurs in the Natomas Basin and is unlikely to occur in the Plan Area. Implementation of the Project would impact potential winter foraging habitat, though foraging by this species in the Plan Area has not been documented. This species could potentially benefit from habitat preservation in proposed off-site reserves.
- **Burrowing Owl:** this species is rarely recorded in the southwestern portion of the Natomas Basin, though some habitat is present. This species could potentially benefit from habitat preservation in proposed off-site reserves.
- **Bank Swallow:** there is no nesting habitat for this species in the Plan Area. Implementation of the Project would not affect foraging of this species, if it were to otherwise occur.
- **Tricolored Blackbird:** there is no nesting habitat for this species in the Plan Area. Implementation of the Project would impact potential winter foraging habitat, though foraging by this species in the Plan Area has not been documented. This species could potentially benefit from habitat preservation in proposed off-site reserves.

#### *6.5.2.4 Special Status Species with High Potential to Occur in the Plan Area*

Four (4) special status species were determined to have high potential to occur in the Plan Area:

- **Northwestern Pond Turtle**: this species has not been documented in the Plan Area, however, habitat is present and it is known to occur nearby. Effects on this species would be minimized by implementation of measures proposed for Giant Gartersnake in **Section 6.5.2.6**.
- **Loggerhead Shrike:** there is minimal nesting habitat and abundant potential foraging habitat for this species in the Plan Area. It has, however, been rarely recorded in the Natomas Basin. Effects on this species would be minimized by implementation of measures proposed for Swainson's Hawk in **Section 6.5.2.6**.
- **Yellow-headed Blackbird:** Implementation of the Project would impact potential winter foraging habitat, though foraging by this species in the Plan Area has not been documented. This species could potentially benefit from habitat preservation in proposed off-site reserves.
- **Yellow Warbler:** there is no breeding habitat in the Plan Area for this species. Its high potential to occur is based on its occurrence in adjacent riparian woodlands along the Sacramento River. Implementation of the Project would not adversely affect this species.

### *6.5.2.5 Special Status Species Present in the Plan Area*

Four (4) special status species were determined to be present in the Plan Area:

- **American White Pelican:** American White Pelicans are a transient and highly mobile species in many areas of California outside of the breeding season. There is no breeding habitat for this species in the Plan Area. Implementation of the Project would not have a significant adverse effect on this species.
- **Swainson's Hawk:** As a keystone species in the Natomas Basin, this species is discussed in greater detail in **Section 6.5.2.6.**
- **White-tailed Kite:** Effects on this species would be minimized by implementation of measures proposed for Swainson's Hawk in **Section 6.5.2.6**.
- **Northern Harrier:** Effects on this species would be minimized by implementation of measures proposed for Swainson's Hawk in **Section 6.5.2.6**.

### *6.5.2.6 Effects, Avoidance, and Minimization Measures*

#### *6.5.2.6.1 Special Status Species Pre-Construction Surveys*

As recommended by the NBHCP, not less than 30 days or more than 6 months prior to commencement of construction activities on sites in the Plan Area, a pre-construction survey of the specific site shall be conducted to determine the status and presence of, and likely impacts to, all potentially occurring special status species on the site. However, pre-construction surveys for an individual species may be completed up to one year in advance if the sole period for reliable detection of that species is between May 1 and December 31.

The results of the pre-construction surveys along with recommended minimization measures shall be documented in a report and shall be submitted to the appropriate agencies. Based upon the survey results, the project will identify applicable take avoidance and other site specific minimization measures, required to be carried out on the site.

Reconnaissance level surveys should be conducted prior to species specific surveys to determine what habitats are present on a specific development site and what, if any, more intensive survey activities should be conducted to accurately determine the status of the special status species on the site. Note: negative species-specific survey results may not obviate the requirement to implement minimization measures prescribed where a pre-construction survey indicates that habitat for a particular listed species exists onsite.

#### *6.5.2.6.2 General Measures to Minimize Take*

In order to generally minimize the impacts of development on special status species, the following requirements shall apply as recommended by the NBHCP:

a. Tree Preservation: Valley Oaks and other large trees should be preserved whenever possible. Preserve and restore stands of riparian trees used by Swainson's Hawks and other animals for nesting, particularly adjacent to Fisherman's Lake.

b. Native Plants: Improve the wildlife value of landscaped parks, buffers, and developed areas by planting trees and shrubs which are native to the Natomas Basin and therefore are used by native animals.

c. Protect Raptor Nests: Avoid the raptor nesting season when scheduling construction near nests..

d. Protected Plant/Animal Species, also referred to as "Special Status Species": Search for protected plants species during flowering season prior

#### *6.5.2.6.3 Swainson's Hawk*

The Project would directly impact Swainson's Hawk through potential removal of a minimum of one Swainson's Hawk nest tree. Based on the habitat modeling presented in Section 5.3.6.1, the Project could impact 791.6 acres of 1,130.6 extant acres of Swainson's Hawk habitat (**Table 8**). Impacts include 381.9 acres of modeled high-quality habitat, and 409.7 acres of modeled low-quality habitat. The Project would preserve 338.9 acres of modeled Swainson's Hawk habitat, including 187.6 acres of modeled high-quality habitat and 151.4 acres of modeled low-quality habitat.

Regionally, habitat modeling indicates 127,997.3 potential acres of Swainson's Hawk habitat are found within the RSA, with 28,500.6 acres in the Natomas Basin. The Plan Area supports:

- 0.8% of the modeled habitat for Swainson's Hawk in the RSA.
- 4% of the modeled habitat for Swainson's Hawk in the Natomas Basin.

*Table 8. Impacts and Conservation of Modeled Swainson's Hawk Habitat*

| Area | Habitat Quality | Total Acres |
|---|---|---|
| **Plan Area** | High | 569.5 |
| | Low | 561.1 |
| **Total** | | 1130.5 |
| | | |
| **Grading Limits** | High | 381.9 |
| | Low | 409.7 |
| **Total** | | 791.6 |
| | | |
| **Natomas Basin** | High | 18746.1 |
| | Low | 9749.0 |
| | Medium | 5.5 |

| Area | Habitat Quality | Total Acres |
|---|---|---|
| **Total** | | 28500.6 |
| | | |
| **Regional Study Area** | High | 93187.5 |
| | Low | 34774.6 |
| | Medium | 35.2 |
| **Total** | | 127997.3 |

Other potential adverse effects on Swainson's Hawk due to Project implementation include the following:

- **Construction-Related Effects:** Project construction has the potential to displace and/or disturb nesting Swainson's Hawks. Nest disturbance from the operation of heavy construction equipment and continued activity near nest sites could cause nest abandonment or interfere with the incubation and feeding of young in a way that reduces nesting success.
- **Decreased Habitat Quality:** Due to the indirect effects of habitat-adjacent anthropogenic land uses, including direct recreational disturbance, the introgression of non-native plants into natural areas, non-native predators such as domestic dogs and cats, excessive light, and noise.
- **Reduction of Prey Base:** Conversion of higher-suitability habitats to lower-suitability habitats would be accompanied by a reduction in prey base that may reduce nest survival or the fat reserves required by hawks for their fall migration to Central Mexico, without any change in overall habitat acreage.

The following measures are proposed to avoid and minimize construction-related effects on Swainson's Hawks:

- **Measures to Minimize Nest Disturbance:** The Applicant will undertake the following measures to minimize disturbance to nesting Swainson's Hawks, if present during Project construction.
    - Surveys shall be conducted by a qualified biologist on and adjacent to the Plan Area and a 0.5-mile buffer of any other properties associated with the Project where construction or restoration activities resulting in ground disturbance, mechanized land clearing, or vegetation management would occur. The surveys shall be conducted consistent with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (SHTAC 2000) in the calendar year that construction is scheduled to commence.
    - If breeding Swainson's Hawks (i.e., exhibiting nest building or nesting behavior) are identified, no new disturbances (e.g., heavy equipment operation associated with construction) will occur within 0.5 mile of an active nest between March 15 and September 15, or until a qualified biologist, with concurrence by CDFW, has either determined that young have fledged or that the nest is no longer occupied, or that construction can commence with precautions developed in coordination with CDFW in place. Routine disturbances such as agricultural activities, commuter traffic, and routine facility maintenance activities within 0.5 mile of an active nest are not restricted.
    - Where disturbance of a Swainson's Hawk nest cannot be avoided, such disturbance shall be temporarily avoided (i.e., defer construction activities until after the nesting season), and then, if unavoidable, the nest tree may be destroyed during the non-nesting season. For purposes of this provision, the Swainson's Hawk nesting season is defined as the beginning of Swainson's Hawk Survey Period II to the end of Survey Period V (March 20 to July 31, Swainson's Hawk Technical

Advisory Committee [2000]). If a nest tree (any tree that has an active nest in the year the impact is to occur) must be removed, tree removal shall only occur between August 1 and March 19.

- If a Swainson's Hawk nest tree is to be removed and fledglings are present, the tree may not be removed until September 15 or until a qualified biologist in coordination with CDFW has determined that the young have fledged and are no longer dependent upon the nest tree.
- If construction or other project-related activities which may disturb nesting birds are proposed within a ¼-mile buffer zone of an active nest, intensive monitoring (funded by the Applicant) by a qualified biologist will be required. Exact implementation of this measure will be based on specific information at the construction area.

- **Measures to Minimize Loss of Nest Trees:** The Applicant will undertake the following measures to minimize loss of Swainson's Hawk nest trees.
  - Valley oaks, tree groves, riparian habitat, and other large trees will be preserved wherever possible. The Applicant shall preserve and restore stands of riparian trees used by Swainson's Hawks and other animals, particularly near Fisherman's Lake and elsewhere in the Plan Area where large oak groves, tree groves, and riparian habitat have been identified in the Plan Area.
  - The raptor nesting season shall be avoided when scheduling construction near nests in accordance with applicable guidelines published by CDFW and USFWS or through consultation with those agencies.
  - Annually, prior to the Swainson's Hawk nesting season (March 15 to September 15) and until the Project is complete, the Applicant will notify the County of Sacramento and CDFW of the location of all Swainson's Hawk nest(s) and implement the specific mitigation measures to avoid and minimize take of the species.

In addition to avoiding on-site effects during construction, the Project proposes the identification and creation of Off-Site Reserves in consultation with local, state, and federal regulatory agencies, as discussed in **Section 2** of this Assessment. Habitats within the Off-Site Reserves would be of sufficient quality and quantity to offset all potential impacts to suitable habitat for Swainson's Hawk. The Sacramento County Swainson's Hawk Ordinance requires project proponents to provide title or easement to approved Swainson's Hawk mitigation lands with one acre preserved for each one acre impacted.

Overall, based on the analysis of habitat quality and availability for Swainson's Hawk conducted for this Assessment, the Project would not affect the viability of the Swainson's Hawk population in the Natomas Basin and would contribute to the overall success of Swainson's Hawk population in the Natomas Basin and beyond.

#### *6.5.2.6.4 Giant Gartersnake*

While Giant Gartersnake has not been documented in the Plan Area, the species could use agricultural irrigation ditches in the Plan Area for dispersal. Based on the habitat modeling presented in Section 5.3.6.2, the Project would directly impact 193.9 acres of 302.8 extant acres of modeled Giant Gartersnake habitat (**Table 9**). Impacts include 7.0 acres of modeled high-quality habitat, and 186.9 acres of modeled low-quality habitat. The Project would preserve 108.9 acres of modeled Giant Gartersnake habitat, including 43.0 acres of modeled high-quality habitat and 66 acres of modeled low-quality habitat.

Regionally, habitat modeling indicates 97,953.1 potential acres of Giant Gartersnake habitat are found within the RSA, with 28,808 acres in the Natomas Basin. The Plan Area supports:

- 0.3% of the modeled habitat for Giant Gartersnake in the RSA.
- 1% of the modeled habitat for Giant Gartersnake in the Natomas Basin.

*Table 9. Impacts and Conservation of Modeled Giant Gartersnake Habitat*

| Area | Habitat Quality | Total Acres |
|---|---|---|
| **Plan Area** | High | 50.0 |
| | Low | 252.8 |
| **Total** | | 302.8 |
| | | |
| **Grading Limits** | High | 7.0 |
| | Low | 186.9 |
| **Total** | | 193.9 |
| | | |
| **Natomas Basin** | High | 2461.3 |
| | Low | 4520.9 |
| | Medium | 21825.8 |
| **Total** | | 28808.0 |
| | | |
| **Regional Study Area** | High | 17011.2 |
| | Low | 24377.6 |
| | Medium | 56564.4 |
| **Total** | | 97953.1 |

Other potential adverse effects on Giant Gartersnake due to Project implementation include the following:

- **Construction-Related Effects:** During Project construction, Giant Gartersnakes – if present – could be killed or injured by vehicle strikes, crushed beneath heavy machinery, and/or entombed in or excavated from their winter retreats.
- **Habitat Quality:** due to the indirect effects of habitat-adjacent anthropogenic land uses, including direct recreational disturbance, the introgression of non-native plants into natural areas, non-native predators such as domestic dogs and cats, excessive light, and noise. Additionally, water channels lose their habitat value for Giant Gartersnake when cleaned of aquatic vegetation, during low/no flow periods or when high water releases eliminate or alter basking sites, refugia, foraging areas or juvenile microhabitat (USFWS 1999a). In the Natomas Basin, canal and drain maintenance, and irrigation practices, involve periodic clearing of vegetation along waterways, and short-term, seasonal and inter-annual changes in flow in waterways. A recent habitat assessment of canals and drains throughout the Natomas Basin indicates that operation and management practices are reducing habitat quality along a substantial portion of these waterways (Jones & Stokes 2005). Water diversions may also reduce the abundance of the snakes' aquatic prey. Water diversions or changes in land use within the area served by a canal or drain watershed may alter

flows or even cause a canal or drain to be abandoned. Residential developments may also result in increased runoff of hydrocarbons and of chemicals used for lawns and gardens, and increased stormwater volume (and associated increases in flow depths and velocities) because of high coverage of impervious surfaces.

The following measures are proposed to avoid and minimize construction-related effects on Giant Gartersnake:

- Within the Natomas Basin, all construction activity involving disturbance of habitat, such as site preparation and initial grading, is restricted to the period between May 1 and September 30. This is the active period for the Giant Gartersnake, and direct mortality is lessened because snakes are expected to actively move and avoid danger.
- Pre-construction surveys for Giant Gartersnake must be completed for all development projects by a qualified biologist approved by USFWS and CDFW. If any Giant Gartersnake habitat is found within a specific site, the following additional measures shall be implemented to minimize disturbance of habitat and harassment of Giant Gartersnake, unless such project is specifically exempted by USFWS.
    - Between April 15 and September 30, all irrigation ditches, canals, or other aquatic habitats should be completely dewatered, with no puddled water remaining, for at least 15 consecutive days prior to the excavation or filling in of the dewatered habitat. The Applicant will ensure dewatered habitat does not continue to support Giant Gartersnake prey, which could detain or attract snakes into the area. If a site cannot be completely dewatered, netting and salvage of prey items may be necessary. This measure reduces the suitability of the habitat by reducing available prey. As a result of the loss of prey species, Giant Gartersnake may be induced to vacate the area of their own volition.
    - For sites that contain Giant Gartersnake habitat, no more than 24-hours prior to start of construction activities (site preparation and/or grading), the project area shall be surveyed for the presence of Giant Gartersnake. If construction activities stop on the project site for a period of two weeks or more, a new Giant Gartersnake survey shall be completed no more than 24-hours prior to the re-start of construction activities.
    - Confine clearing to the minimal area necessary to facilitate construction activities. Flag and designate avoided Giant Gartersnake habitat within or adjacent to the project as Environmentally Sensitive Areas. This area shall be avoided by all construction personnel.
    - Construction personnel completing site preparation and grading operations shall receive USFWS approved environmental awareness training. This training instructs workers on how to identify Giant Gartersnakes and their habitats, and what to do if a Giant Gartersnake is encountered during construction activities. During this training, an on-site biological monitor shall be designated.
    - A qualified biological monitor shall be present during grading activities within 200 feet of aquatic Giant Gartersnake habitat to ensure that construction activities do not encroach into unauthorized areas. If a live Giant Gartersnake is found during construction activities, the biological monitor shall immediately notify USFWS. The biological monitor shall have the authority to stop construction in the vicinity of the snake. The snake shall be monitored and given a chance to leave the area on its own. If the snake does not leave on its own within one working day, the biological monitor shall consult with the USFWS to determine any necessary additional measures. The biological monitor shall also report any Giant Gartersnake mortality within one working day to USFWS. Any project-related activity that results in Giant Gartersnake mortality shall cease so that this activity can be modified to the extent practicable to avoid future mortality.

- If a live Giant Gartersnake is found during construction activities, immediately notify the USFWS and the project's biological monitor. The biological monitor, or his/her assignee, shall stop construction in the vicinity of the snake. Monitor the snake and allow the snake to leave on its own. The monitor shall remain in the area for the remainder of the workday to make sure the snake is not harmed or, if it leaves the site, does not return. Escape routes for Giant Gartersnake should be determined in advance of construction, and snakes should always be allowed to leave on their own. If a Giant Gartersnake does not leave on its own within one working day, further consultation with USFWS is required.
- Fill, or construction debris may be used by Giant Gartersnake as an over-wintering site. Therefore, upon completion of construction activities, remove any temporary fill and/or construction debris from the site. If this material is situated near undisturbed Giant Gartersnake habitat and it is to be removed between October 1 and April 30, it shall be inspected by a qualified biologist to assure that Giant Gartersnake are not using it as hibernaculae.

In addition to avoiding on-site effects during construction, the Project proposes the identification and creation of Off-Site Reserves in consultation with local, state, and federal regulatory agencies, as discussed in **Section 2** of this Assessment. Habitats within the Off-Site Reserves would be of sufficient quality and quantity to offset all potential impacts to suitable habitat for Giant Gartersnake.

Preservation of habitat has benefits in addition to those of habitat enhancement. In the Natomas Basin, a particularly important benefit of habitat preservation is that it ensures that the habitat will continue to exist, and it buffers total habitat availability from year-to-year fluctuations. For Giant Gartersnake, privately owned habitat in the Natomas Basin is primarily rice and associated canals, and there are no assurances that rice cultivation will continue on any particular site. Furthermore, agricultural markets will cause the total acreage of rice, and consequently of Giant Gartersnake habitat, to fluctuate substantially from year to year. Such environmental fluctuations strongly influence populations and reduce their viability. In contrast, preserved lands will provide habitat on a much more consistent basis, and thus reduce the magnitude of fluctuations in habitat availability.

Both habitat enhancement and preservation also can contribute to population viability by reducing anthropogenic causes of mortality. Preservation reduces human disturbance and minimizes activities that could harm or kill snakes. Habitat enhancement and management also reduces or eliminates agricultural activities that can harm or kill snakes. In addition, the preservation and enhancement of habitat typically results in larger blocks of higher quality habitat, and this should reduce long distance movements by snakes, which would also reduce the risk of mortality associated with those movements. Dispersal and other long-distance movements are dangerous for snakes, particularly where road crossings are involved (Bonnet et al. 1999, Rosen and Lowe 1994).

#### *6.5.2.6.5 Measures to Reduce Take to Valley Elderberry Longhorn Beetle*

While Valley Elderberry Longhorn Beetle is unlikely to occur in the Plan Area, as recommended by the NBHCP the proposed project shall comply with conservation practices for the Valley Elderberry Longhorn Beetle set forth in the conditions of the *USFWS Compensation Guidelines for the Valley Elderberry Longhorn Beetle*, dated 1999, as it may be updated from time to time. This policy assumes that any elderberry bushes found within the range of the species are likely to provide beetle habitat, and any destruction or loss of such elderberry shrub habitat must be mitigated according to the Guidelines. The principle conditions of the Guidelines are summarized below.

Prior to the commencement of construction activities, a pre-construction survey shall be conducted. If such survey determines Valley Elderberry Longhorn Beetle habitat is present, the following measures, as appropriate, to avoid take and minimize of individuals shall apply:

- Impacts to Valley Elderberry Longhorn Beetle habitat including any direct and indirect effects on VELB critical habitat will be avoided whenever possible. To the maximum extent practicable, projects will be designed to avoid stands of elderberry bushes and to avoid isolation of the plants from other nearby populations. Pre-construction surveys at the construction impact site will be conducted to assess the appropriate amount of mitigation.
- If elderberry plants cannot be avoided, they shall be transplanted during the dormant season (November 1 to February 15) to an area protected in perpetuity and approved by the USFWS.
- Replacement seedling plants will be provided at a ratio of 2 to 1 to 5 to 1 depending on the extent of beetle utilization of the plants moved or lost. A 1,800-square-foot area will be provided for each transplanted elderberry shrub or every five elderberry seedling plants.
- Annual monitoring of Valley Elderberry Longhorn Beetle habitat will be provided in the planted mitigation sites for a ten year period.
- Replacement elderberry shrubs will meet a 60% survival rate by the end of the ten year period and the 60% survival rate shall be required for the term of the applicable permit.

#### *6.5.2.6.6 Measures to Reduce Take of Burrowing Owl*

While Burrowing Owl is unlikely to occur in the Plan Area, as recommended by the NBHCP, prior to the commencement of construction activities a CDFW approved qualified biologist shall perform a pre-construction survey of the site to determine if any Burrowing Owls are using the site for foraging or nesting. The pre-construction survey shall be submitted to the appropriate agencies prior to the commencement of construction activities and a mitigation program shall be developed, if applicable, prior to initiation of any physical disturbance on the site.

Occupied burrows shall not be disturbed during nesting season (February 1 through August 31) unless a qualified biologist approved by the CDFW verifies through non-invasive measures that either: 1) the birds have not begun egg-laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

If nest sites are found, the CDFW shall be contacted regarding suitable mitigation measures, which may include a 300 foot buffer from the nest site during the breeding season (February 1 - August 31), or a relocation effort for the burrowing owls if the birds have not begun egg-laying and incubation or the juveniles from the occupied burrows are foraging independently and are capable of independent survival. If on-site avoidance is required, the location of the buffer zone will be determined by a qualified biologist. The developer shall mark the limit of the buffer zone with yellow caution tape, stakes, or temporary fencing. The buffer will be maintained throughout the construction period.

If relocation of the owls is approved for the site by CDFW, the developer shall hire a qualified biologist to prepare a plan for relocating the owls to a suitable site. The relocation plan must include: (a) the location of the nest and owls proposed for relocation; (b) the location of the proposed relocation site; (c) the number of owls involved and the time of year when the relocation is proposed to take place; (d) the name and credentials of the biologist who will be retained to supervise the relocation; (e) the proposed method of capture and transport for the owls to the new site; (f) a description of the site preparations at the relocation site (e.g., enhancement of existing burrows, creation of artificial burrows, one-time or long-term vegetation control, etc.); and (g) a description of efforts and funding support proposed to monitor the relocation. Relocation options may include passive relocation to another area of the site not subject to disturbance through one way doors on burrow openings, or construction of artificial burrows in accordance with the CDFW's October 17, 1995, *Staff Report on Burrowing Owl Mitigation*.

Where on-site avoidance is not possible, disturbance and/or destruction of burrows shall be offset through development of suitable habitat on upland reserves. Such habitat shall include creation of new burrows with adequate foraging area (a minimum of 6.5 acres) or 300 feet radii around the newly created burrows. Additional habitat design and mitigation measures are described in the CDFW's October 17, 1995, *Staff Report on Burrowing Owl Mitigation.*

#### *6.5.2.6.7 Measures to Reduce Take on Loggerhead Shrike*

While Loggerhead Shrike is unlikely to occur in the Plan Area, as recommended by the NBHCP, prior to the commencement of construction activities, a pre-construction survey shall be conducted. If surveys identify an active Loggerhead Shrike nest that will be impacted by the proposed activities, the project proponent shall install brightly colored construction fencing that establishes a boundary 100 feet from the active nest. No disturbance shall occur within the 100 foot fenced area during the nesting season of March 1 through July 31. A qualified biologist, with concurrence of USFWS must determine young have fledged or that the nest is no longer occupied prior to disturbance of the nest site.

#### *6.5.2.6.8 Measures to Reduce Take on Aleutian Cackling Goose*

While Aleutian Cackling Goose is unlikely to occur in the Plan Area, as recommended by the NBHCP, prior to the commencement of construction activities, a pre-construction survey shall be conducted. If such survey determines Aleutian Cackling Goose are present, the project proponent shall consult with USFWS and/or CDFW to determine appropriate measures to avoid and minimize take of individuals. Such measures shall be appropriate for the use (e.g., foraging, roosting, etc.) and activity of the species, since this species is a seasonal visitor to the region.

#### *6.5.2.6.9 Measures to Reduce Take on White-faced Ibis*

While White-faced Ibis is unlikely to occur in the Plan Area, as recommended by the NBHCP, prior to the commencement of construction activities, a pre-construction survey shall be conducted. If surveys determine the presence of active nest sites of White-faced Ibis, disturbance within 1/4 mile of nests will be avoided within the nesting season of May 15 through August 31 or until a qualified biologist, with concurrence of Wildlife Agencies, has determined that young have fledged or that the nest is no longer occupied.

#### *6.5.2.6.10 Measures to Reduce Take on Bank Swallow*

Bank Swallow nesting colony habitat is not present in the Plan Area. If activities related to Project implementation could occur in the vicinity of Bank Swallow nesting colonies off-site, disturbance to Bank Swallow nesting colonies will be avoided within the nesting season of May 1 through August 31 (or until a qualified biologist, with concurrence of USFWS and CDFW, has determined that young have fledged or that the nest is no longer occupied) during all activities conducted in the Plan Area.

If surveys identify an active Bank Swallow nesting colony that will be impacted, the proponent shall install brightly colored construction fencing that establishes a boundary 250 feet from the active nesting colony. No disturbance associated with project shall occur within the 250 foot fenced area during the nesting season of May 1 through August 31. Additionally, disturbance within ½ mile upstream or downstream of the colony will be avoided if the colony is located upon a natural waterway.

#### *6.5.2.6.11 Measures to Reduce Take on Northwestern Pond Turtle*

As recommended by the NBHCP, take of the Northwestern Pond Turtle as a result of habitat destruction during construction activities, including the removal of irrigation ditches and drains, and during ditch and drain maintenance, will be minimized by the dewatering requirement described for Giant Gartersnake.

#### *6.5.2.6.12 Measures to Reduce Take of Vernal Pool Fairy Shrimp, Vernal Pool Tadpole Shrimp, and Midvalley Fairy Shrimp*

Vernal pool habitat and related species have not been detected in the Plan Area. As recommended by the NBHCP, however, prior to the commencement of construction activities, a pre-construction survey shall be conducted if applicable habitat is determined to be present. If such survey determines Vernal Pool Fairy Shrimp, Vernal Pool Tadpole Shrimp, and Midvalley Fairy Shrimp are present, the project proponent shall consult with USFWS to determine appropriate measures to avoid and minimize take of individuals.

#### *6.5.2.6.13 Measures to Reduce Take on Sanford's Arrowhead and Other Special Status Plant Species*

Prior to the commencement of construction activities, seasonally appropriate special status plant surveys shall be conducted. If no special-status plants are observed, the botanist should document the findings in a letter report to be sent to the project proponent and no additional measures are recommended. If a species is found within areas of potential construction disturbance, it should be avoided to the greatest extent feasible. If the plants cannot be avoided, then a qualified botanist should prepare an avoidance and mitigation plan detailing protection and avoidance measures, transplanting procedures, success criteria, and long-term monitoring protocols.

If Sanford's arrowhead plants are identified through a pre-construction survey, notice to USFWS, CDFW and the California Native Plant Society shall be provided. Under such circumstances, the proponent shall allow the transplantation of plants prior to site disturbance.

### 6.5.3 Significance Statement

With the implementation of the Project's proposed conservation measures, the Project will not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations by the CDFW or USFWS.

## 6.6 Project Effects on Riparian Habitat or Other Sensitive Natural Community

This section addresses the portion of the CEQA Guidelines requiring an assessment of whether the Project will *have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS*.

### 6.6.1 Summary Statement of Effects

As proposed, the Project has potential to directly impact 14.1% of the Valley Foothill Riparian habitat mapped within the Plan Area. This is the only adverse effect on riparian habitat or other sensitive natural communities identified for the Project. This adverse effect would be minimized through the implementation of one or more mitigation measures.

### 6.6.2 Detailed Discussion of Effects and Avoidance and Minimization Measures

The desktop review identified Northern Hardpan Vernal Pool, Northern Claypan Vernal Pool, and Great Valley Cottonwood Riparian Forest as the only sensitive vegetation communities recorded within the area analyzed. As described previously in **Section 5.4.4,** none of these communities are present within the Plan Area.

Valley Foothill Riparian is a riparian habitat that comprises 50.0 acres of the Plan Area. The Project proposes direct impacts to 7.0 acres, or 14.1% of this habitat in the Plan Area. The Project would preserve 43.0 acres, or 85.9% of this habitat in the Plan Area. To offset the direct impact to 7.0 acres of Valley Foothill Riparian habitat, the Applicant shall do one or more of the following:

- Modify the grading plan to avoid impacting Valley Foothill Riparian habitat.

- Habitat replacement equal to the amount impacted, associated with mitigation for jurisdictional impacts as described in **Section 6.7**.
- Preservation of Valley Foothill Riparian habitat of equivalent quantity and quality in one or more Off-Site Reserves.

### 6.6.3 Significance Statement

With the implementation of the Project's proposed conservation measures, the Project will not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS.

## 6.7 Project Effects on State or Federally Protected Wetlands

This section addresses the portion of the CEQA Guidelines requiring an assessment of whether the Project will *have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.*

### 6.7.1 Summary Statement of Effects

As proposed, the Project would have direct impacts to a total of 18.21 acres and 88,732 linear feet of potential other waters of the U.S. subject to USACE jurisdiction. To offset this impact, the Project proposes in-kind preservation of jurisdictional waters within the Plan Area or at Off-Site Reserves.

### 6.7.2 Detailed Discussion of Effects and Avoidance and Minimization Measures

The proposed Project is likely to have adverse effects, either directly or through indirect impacts to downstream water quality, to state and federally protected aquatic resources. Based upon the verified aquatic resources delineation (USACE 2020) and subsequent desktop assessment, a total of 18.21 acres and 88,732 linear feet of potential other waters of the U.S. subject to USACE jurisdiction pursuant to CWA Section 404 are present within the proposed grading limits of the Project. Of the USACE-verified (USACE 2020) potential jurisdictional other waters of the U.S., 11.11 acres and 41,504 linear feet are anticipated to be directly impacted by the Project. A total of 7.1 acres and 47,228 linear feet of desktop assessed potential jurisdictional other waters of the U.S. are anticipated to be directly impacted by the Project. These features are also potential other waters of the state subject to Central Valley RWQCB (CVRWQCB) jurisdiction and aquatic / riparian habitat subject to CDFW jurisdiction pursuant to CWA Section 401 and California Fish and Game Code Section 1600 respectively.

As currently proposed, the Project is anticipated to directly impact portions of what was mapped within the Plan Area for features R5UBFx-14, -20, -21, -26, -27, -28, -30, -32, -33, and -38; whereas the entire area that was mapped within the Plan Area for the remaining features is anticipated to be directly impacted by the Project. **Table 10** below provides a summary of the area of each feature identified within the proposed grading limit of the Project. **Exhibit 5** displays each feature identified within the Plan Area with the proposed grading limit indicated by the hatching.

*Table 10. Potential Jurisdictional Aquatic Resources within Proposed Grading Limits*

| Feature Name | Area (acres)* | Length (linear feet) |
|---|---|---|
| R5UBFx-1 | 0.20 | 1106 |
| R5UBFx-2 | 0.43 | 2337 |
| R5UBFx-3 | 0.54 | 2985 |

| Feature Name | Area (acres)* | Length (linear feet) |
|---|---|---|
| R5UBFx-4 | 0.88 | 2724 |
| R5UBFx-5 | 0.27 | 1184 |
| R5UBFx-6 | 0.32 | 1773 |
| R5UBFx-7 | 0.53 | 1786 |
| R5UBFx-8 | 0.68 | 1475 |
| R5UBFx-9 | 0.42 | 1392 |
| R5UBFx-10 | 0.22 | 1894 |
| R5UBFx-11 | 2.77 | 7563 |
| R5UBFx-12 | 0.36 | 1323 |
| R5UBFx-13 | 2.05 | 6857 |
| R5UBFx-14 | 0.62 | 2249 |
| R5UBFx-15 | 1.69 | 7399 |
| R5UBFx-16 | 0.72 | 2414 |
| R5UBFx-17 | 0.15 | 1328 |
| R5UBFx-18 | 0.02 | 100 |
| R5UBFx-20 | 0.00 | 3 |
| R5UBFx-21 | 0.05 | 158 |
| R5UBFx-22 | 0.77 | 2559 |
| R5UBFx-23 | 0.56 | 2428 |
| R5UBFx-24 | 0.55 | 2370 |
| R5UBFx-25 | 0.93 | 2880 |
| R5UBFx-26 | 0.45 | 5226 |
| R5UBFx-27 | 0.05 | 132 |
| R5UBFx-28 | 0.00 | 31 |
| R5UBFx-29 | 0.11 | 941 |
| R5UBFx-30 | 0.00 | 8 |
| R5UBFx-31 | 0.18 | 1297 |
| R5UBFx-32 | 0.00 | 21 |
| R5UBFx-33 | 0.37 | 4633 |
| R5UBFx-34 | 0.15 | 2227 |
| R5UBFx-35 | 0.44 | 5486 |
| R5UBFx-36 | 0.64 | 8004 |
| R5UBFx-37 | 0.08 | 2286 |

| Feature Name | Area (acres)* | Length (linear feet) |
|---|---|---|
| R5UBFx-38 | 0.01 | 153 |
| **Total Direct Impacts from Proposed Grading Limits:** | **18.21** | **88,732** |

Source: Bargas 2020 and 2022. *Acreages for features R5UBFx-1 through -18 overlapping the Surveyed Area have been verified by the USACE as potential jurisdictional aquatic resources through PJD, SPK-2020-00237. The remaining acreage of features R5UBFx-1 through -18 are subject to modification pending formal verification by USACE. Features R5UBFx-20 through -38 are anticipated to require a formal aquatic resources delineation survey to obtain a PJD from USACE. Feature R5UBFx-19 was removed from the aquatic resources delineation for verification as the feature was confirmed to no longer exist during the June 2020 supplemental site visit.

Based on the results of the Applicant's USACE-verified aquatic resources delineation, the Applicant shall commit to replace, restore, or enhance on a "no net loss" basis, in accordance with the USACE and the CVRWQCB, as appropriate for each agency's jurisdiction, the acreage of all waters of the U.S. and wetland habitats, including USACE jurisdictional "isolated" wetlands that would be removed with implementation of the Project. Wetland restoration, enhancement, and/or replacement shall be at a location and by methods acceptable to the USACE, CDFW, and CVRWQCB, as determined during the Section 404, Section 1600, and Section 401 permitting processes.

The Applicant shall prepare and submit a habitat mitigation and monitoring plan to the USACE for the creation of jurisdictional waters at a mitigation ratio no less than 1:1 acres of created waters of the U.S., including wetlands, to each acre filled. The mitigation plans shall demonstrate how the USACE criteria for jurisdictional waters will be met through implementation. Wetland mitigation achieved through the establishment of Off-Site Reserves can satisfy this measure if conducted in such a way that it meets both habitat function and the USACE criteria for creation of waters of the U.S. The wetland creation section of the habitat mitigation and monitoring plan shall include the following:

- target areas for creation,
- a complete biological assessment of the existing resources on the target areas,
- specific creation and restoration plans for each target area,
- performance standards for success that will illustrate that the compensation ratios are met, and
- a monitoring plan including schedule and annual report format.

Consultations with the agencies may result in the need to acquire one or more of the following permits and regulatory approvals:

- **USACE CWA 404 Permit:** Authorization for the fill of jurisdictional waters of the U.S. shall be secured prior to placing any fill in jurisdictional wetlands from the USACE through the CWA Section 404 permitting process. Timing for compliance with the specific conditions of the 404 permit shall be per conditions specified by the USACE as part of permit issuance. It is expected that the Project would require an Individual Permit because wetland impacts would total more than 0.5 acre. In its final stage and once approved by the USACE, the mitigation plan is expected to detail proposed wetland restoration, enhancement, and/or replacement activities that would ensure no net loss of jurisdictional wetlands function and values in an agency-approved location. As required by Section 404, approval and implementation of the wetland mitigation and monitoring plan shall ensure no net loss of jurisdictional waters of the U.S., including USACE jurisdictional wetlands. Mitigation for impacts to USACE jurisdictional "isolated" wetlands shall be included in the same mitigation plan. All mitigation requirements identified through this process shall be implemented before construction

begins in any areas containing wetland features. Any additional measures required as part of the issuance of the permit shall be implemented.

- **CVRWQCB CWA Section 401 Water Quality Certification:** Prior to construction in any areas containing wetland features, the Applicant shall obtain a water quality certification pursuant to Section 401 of the CWA for the project. Any measures required as part of the issuance of the water quality certification shall be implemented.
- **CDFW Section 1602 LSAA**: The Applicant shall obtain a Streambed Alteration Agreement under Section 1600 et seq. of the California Fish & Game Code for impacts to Waters of the State as defined under Section 1602 of the California Fish & Game Code. Any measures required as part of the issuance of the Agreement shall be implemented.
- **CVRWQCB Waste Discharge Requirements**: The Applicant shall file a report of waste discharge with the CVRWQCB for activities affecting "isolated" waters of the state, if applicable.

### 6.7.3 Significance Statement

With the implementation of the Project's proposed conservation measures, the Project will not have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

## 6.8 Project Effects on Wildlife Movement and Nursery Sites

This section addresses the portion of the CEQA Guidelines requiring an assessment of whether the Project will *interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites*.

### 6.8.1 Summary Statement of Effects

The Project would not impact wildlife movement corridors. Proposed mitigation measures will avoid Project impacts to nesting birds.

### 6.8.2 Detailed Discussion of Effects and Avoidance and Minimization Measures

As discussed in **Section 5.7**, ecologists at UC Davis conducted a GIS-based study of wildlife corridors in the Central Valley in 2010. This study showed a potential – albeit narrow – corridor through the southeast portion of the Plan Area. Since the time the analysis was completed, much of the area within that modeled corridor has been extensively developed and the modeled corridor is no longer valid. In essence, the Plan Area does not act as a wildlife corridor as classically considered.

The Project could impact nesting birds protected by the federal Migratory Bird Treaty Act. The following avoidance and minimization measures shall be implemented prior to site disturbance to avoid impacts to nesting raptors and other birds in the Plan Area or immediately adjacent properties.

- A nesting bird survey shall be conducted within the Plan Area (raptors and non-raptors) and a 500-foot buffer (raptors only) prior to commencing with earth-moving or construction work if this work would occur during the typical nesting season (between February 1 and August 31).
- If nesting birds are identified during the surveys, a qualified biologist will determine an appropriate disturbance-free buffer zone and clearly demarcate that buffer zone in the field for avoidance by construction activities.

- The size of an established buffer may be altered if a qualified biologist conducts behavioral observations and determines the nesting birds are well acclimated to disturbance. If this occurs, the biologist shall prescribe a modified buffer that allows sufficient room to prevent undue disturbance/harassment to the nesting birds. If the buffer is reduced, the qualified biologist shall remain on site to monitor the behavior of the nesting birds during construction in order to ensure that the reduced buffer does not result in take of eggs or nestlings.
- No construction or earth-moving activity shall occur within the established buffer until it is determined by a qualified biologist that the young have fledged (are no longer dependent on the nest or the adults for feeding) and have attained sufficient flight skills to avoid project construction zones. This typically occurs by August 31. This date may be earlier or later and shall be determined by a qualified biologist. If a qualified biologist is not hired to monitor the nesting raptors, then the full buffer(s) shall be maintained in place from February 1 through the month of August. The buffer may be removed, and work may proceed as otherwise planned within the buffer on September 1.

### 6.8.3 Significance Statement

The Project will not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

## 6.9 Project Effects on Local Policies or Ordinances Protecting Biological Resources

This section addresses the portion of the CEQA Guidelines requiring an assessment of whether the Project will *conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance*.

### 6.9.1 Summary Statement of Effects

Development of the Project has the potential to conflict with the Sacramento County Tree Preservation and Protection Ordinance and the Sacramento County Swainson's Hawk Ordinance. Conflicts with these plans will be avoided by implementing the measures required by each.

### 6.9.2 Detailed Discussion of Effects and Avoidance and Minimization Measures

As previously described in **Section 3.4**, Sacramento County has two ordinances pertaining to protection of biological resources:

- **Tree Preservation and Protection Ordinance:** Sacramento County's tree preservation and protection ordinance is intended to prevent the loss of native oak trees. The ordinance protects any living native oak tree having at least one trunk of six inches or more in diameter measured four and one-half feet above the ground, or a multi-trunked native oak tree having an aggregate diameter of ten inches or more, measured four and one-half feet above the ground. The Applicant will comply with the ordinance by implementing one of the following:
    - Minor modifications to the grading plan to avoid impacting protected trees.
    - Tree replacement, if required, as part of Valley Foothill Riparian habitat impact mitigation as discussed in **Section 6.6.**
    - Preservation of protected trees of equivalent quantity and quality in one or more Off-Site Reserves.

- **Swainson's Hawk Ordinance:** Sacramento County's Swainson's Hawk ordinance requires project proponents to provide title or easement to approved Swainson's Hawk mitigation lands with one acre preserved for each one acre impacted for impacts of 40 acres or greater. Compliance with this ordinance is described above in the **Section 6.5.2.6**.

### 6.9.3 Significance Statement

With the implementation of the Project's proposed conservation measures, the Project will not conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance.

## 6.10 Project Effects on the Provisions of an Adopted Habitat Conservation Plan

This section addresses the portion of the CEQA Guidelines requiring an assessment of whether the Project will *conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan.*

### 6.10.1 Summary Statement of Effects

The Project is located within the boundaries of the Natomas Basin Habitat Conservation Plan and provides potential habitat for a number of covered species.

### 6.10.2 Detailed Discussion of Effects and Avoidance and Minimization Measures

The Project does not seek take coverage under the federal Section 10(a)(1)(B) permit and the State Section 2081 Permit issued as part of the NBHCP process. To maintain consistency with the NBHCP and MAPHCP, the Applicant will endeavor to avoid conflicts with the provisions of those existing HCPs while USACE is conducting formal Section 7 consultation with USFWS under FESA regarding potential take as a result of the Project.

Because the Project would result in additional development and reserve establishment that was not addressed in the NBHCP, a programmatic effects analysis is also being prepared to evaluate its potential effects on the Covered Species and their habitats, the attainment of the goals and objectives of the NBHCP and MAPHCP, and on the viability of the populations of Covered Species in the Natomas Basin. Such mitigation would address the effect of reduced agricultural lands on the biological viability of the NBHCP.

The NBHCP and MAPHCP share the same overall goal of creating a multi-species conservation program to mitigate impacts to covered species that may result from development in the Natomas Basin. The goals of each HCP will be incorporated into the take coverage sought by the Applicant for the Project. Though there may be differences in the approach to these goals, such as the consideration of off-site mitigation, the intent of take coverage for the Project will be consistent with the existing biological goals and objectives of the NBHCP and MAPHCP.

### 6.10.3 Significance Statement

With the implementation of the Project's proposed conservation measures, the Project will not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan.

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# Appendix A. Faunal Compendium

The table below lists in taxonomic order the 100 wildlife species, including 2 reptiles, 92 birds, 6 mammals, detected during surveys conducted by Bargas from 2019 to 2021. Many species were detected off-site in the vicinity of the Plan Area, but likely could be found within the Plan Area at some point during their life cycle.

| | Common Name | Scientific Name |
|---|---|---|
| REPTILIA (Reptiles) | | |
| SQUAMATA (Lizards and Snakes) | | |
| PHRYNOSOMATIDAE (North American Spiny Lizards) | | |
| | Western Fence Lizard | Sceloporus occidentalis |
| TESTUDINES (Turtles and Tortoises) | | |
| EMYDIDAE (Box and Basking Turtles) | | |
| | Red-eared Slider | Trachemys scripta |
| AVES (Birds) | | |
| ANSERIFORMES (Screamers, Swans, Geese, and Ducks) | | |
| ANATIDAE (Geese, Ducks, and Swans) | | |
| | Snow Goose | Anser caerulescens |
| | Canada Goose | Branta canadensis |
| | Cinnamon Teal | Spatula cyanoptera |
| | Gadwall | Mareca strepera |
| | Mallard | Anas platyrhynchos |
| GALLIFORMES (Gallinaceous Birds) | | |
| ODONTOPHORIDAE (New World Quail) | | |
| | California Quail | Callipepla californica |
| PHASIANIDAE (Partridges, Grouse, Turkeys, and Old World Quail) | | |
| | Ring-necked Pheasant | Phasianus colchicus |
| | Wild Turkey | Meleagris gallopavo |
| PODICIPEDIFORMES (Grebes) | | |
| PODICIPEDIDAE (Grebes) | | |
| | Pied-billed Grebe | Podilymbus podiceps |
| COLUMBIFORMES (Pigeons and Doves) | | |
| COLUMBIDAE (Pigeons and Doves) | | |
| | Rock Pigeon | Columba livia |
| | Eurasian Collared-Dove | Streptopelia decaocto |
| | Mourning Dove | Zenaida macroura |
| APODIFORMES (Swifts and Hummingbirds) | | |
| APODIDAE (Swifts) | | |
| | White-throated Swift | Aeronautes saxatalis |
| TROCHILIDAE (Hummingbirds) | | |

| | | Common Name | Scientific Name |
|---|---|---|---|
| | | Anna's Hummingbird | Calypte anna |
| | | Rufous Hummingbird | Selasphorus rufus |
| | GRUIFORMES (Rails, Cranes, and Allies) | | |
| | | RALLIDAE (Rails, Gallinules, and Coots) | |
| | | American Coot | Fulica americana |
| | CHARADRIIFORMES (Shorebirds, Gulls, Auks, and Allies) | | |
| | | CHARADRIIDAE (Lapwings and Plovers) | |
| | | Killdeer | Charadrius vociferus |
| | | SCOLOPACIDAE (Sandpipers, Phalaropes, and Allies) | |
| | | Whimbrel | Numenius phaeopus |
| | SULIFORMES (Frigatebirds, Boobies, and Cormorants) | | |
| | | PHALACROCORACIDAE (Cormorants) | |
| | | Double-crested Cormorant | Phalacrocorax auritus |
| | PELECANIFORMES (Pelicans, Herons, Ibises, and Allies) | | |
| | | PELECANIDAE (Pelicans) | |
| | | American White Pelican | Pelecanus erythrorhynchos |
| | | ARDEIDAE (Herons, Bitterns, and Allies) | |
| | | American Bittern | Botaurus lentiginosus |
| | | Great Blue Heron | Ardea herodias |
| | | Great Egret | Ardea alba |
| | | Snowy Egret | Egretta thula |
| | CATHARTIFORMES (New World Vultures) | | |
| | | CATHARTIDAE (New World Vultures) | |
| | | Turkey Vulture | Cathartes aura |
| | ACCIPITRIFORMES (Kites, Hawks, Eagles, and Allies) | | |
| | | PANDIONIDAE (Ospreys) | |
| | | Osprey | Pandion haliaetus |
| | | ACCIPITRIDAE (Kites, Hawks, Eagles, and Allies) | |
| | | White-tailed Kite | Elanus leucurus |
| | | Northern Harrier | Circus hudsonius |
| | | Cooper's Hawk | Accipiter cooperii |
| | | Red-shouldered Hawk | Buteo lineatus |
| | | Swainson's Hawk | Buteo swainsoni |
| | | Red-tailed Hawk | Buteo jamaicensis |
| | | Rough-legged Hawk | Buteo lagopus |
| | STRIGIFORMES (Owls) | | |
| | | STRIGIDAE (Typical Owls) | |
| | | Great Horned Owl | Bubo virginianus |

| | Common Name | Scientific Name |
|---|---|---|
| CORACIIFORMES (Rollers, Motmots, Kingfishers, and Allies) | | |
| ALCEDINIDAE (Kingfishers) | | |
| | Belted Kingfisher | Megaceryle alcyon |
| PICIFORMES (Woodpeckers) | | |
| PICIDAE (Woodpeckers) | | |
| | Downy Woodpecker | Dryobates pubescens |
| | Nuttall's Woodpecker | Dryobates nuttallii |
| | Northern Flicker | Colaptes auratus |
| | Acorn Woodpecker | Melanerpes formicivorus |
| FALCONIFORMES (Caracaras and Falcons) | | |
| FALCONIDAE (Caracaras and Falcons) | | |
| | Prairie Falcon | Falco mexicanus |
| | American Kestrel | Falco sparverius |
| PASSERIFORMES (Passerine Birds) | | |
| TYRANIDAE (Tyrant Flycatchers) | | |
| | Black Phoebe | Sayornis nigricans |
| | Say's Phoebe | Sayornis saya |
| | Western Kingbird | Tyrannus verticalis |
| CORVIDAE (Crows and Jays) | | |
| | California Scrub-Jay | Aphelocoma californica |
| | Yellow-billed Magpie | Pica nuttalli |
| | American Crow | Corvus brachyrhynchos |
| | Common Raven | Corvus corax |
| PARIDAE (Chickadees and Titmice) | | |
| | Oak Titmouse | Baeolophus inornatus |
| ALAUDIDAE (Larks) | | |
| | Horned Lark | Eremophila alpestris |
| HIRUNDINIDAE (Swallows) | | |
| | Northern Rough-winged Swallow | Stelgidopteryx serripennis |
| | Tree Swallow | Tachycineta bicolor |
| | Barn Swallow | Hirundo rustica |
| | Cliff Swallow | Petrochelidon pyrrhonota |
| AEGITHALIDAE (Long-tailed Tits and Bushtits) | | |
| | Bushtit | Psaltriparus minimus |
| REGULIDAE (Kinglets) | | |
| | Golden-crowned Kinglet | Regulus satrapa |
| | Ruby-crowned Kinglet | Regulus calendula |
| BOMBYCILLIDAE (Waxwings) | | |

| | Common Name | Scientific Name |
|---|---|---|
| | Cedar Waxwing | Bombycilla cedrorum |
| SITTIDAE (Nuthatches) | | |
| | White-breasted Nuthatch | Sitta carolinensis |
| TROGLODYTIDAE (Wrens) | | |
| | House Wren | Troglodytes aedon |
| | Bewick's Wren | Thryomanes bewickii |
| MIMIDAE (Mockingbirds and Thrashers) | | |
| | Northern Mockingbird | Mimus polyglottos |
| STURNIDAE (Starlings) | | |
| | European Starling | Sturnus vulgaris |
| TURDIDAE (Thrushes) | | |
| | Western Bluebird | Sialia mexicana |
| | American Robin | Turdus migratorius |
| PASSERIDAE (Old World Sparrows) | | |
| | House Sparrow | Passer domesticus |
| MOTACILLIDAE (Wagtails and Pipits) | | |
| | American Pipit | Anthus rubescens |
| FRINGILLIDAE (Fringilline and Cardueline Finches and Allies) | | |
| | House Finch | Haemorhous mexicanus |
| | Lesser Goldfinch | Spinus psaltria |
| | American Goldfinch | Spinus tristis |
| PASSERELIDAE (New World Sparrows) | | |
| | Lark Sparrow | Chondestes grammacus |
| | Dark-eyed Junco | Junco hyemalis |
| | White-crowned Sparrow | Zonotrichia leucophrys |
| | Golden-crowned Sparrow | Zonotrichia atricapilla |
| | Savannah Sparrow | Passerculus sandwichensis |
| | Song Sparrow | Melospiza melodia |
| | Lincoln's Sparrow | Melospiza lincolnii |
| | California Towhee | Melozone crissalis |
| | Spotted Towhee | Pipilo maculatus |
| ICTERIDAE (Blackbirds) | | |
| | Western Meadowlark | Sturnella neglecta |
| | Hooded Oriole | Icterus cucullatus |
| | Bullock's Oriole | Icterus bullockii |
| | Yellow-headed Blackbird | Xanthocephalus xanthocephalus |
| | Red-winged Blackbird | Agelaius phoeniceus |
| | Brewer's Blackbird | Euphagus cyanocephalus |

| | | Common Name | Scientific Name |
|---|---|---|---|
| | | Great-tailed Grackle | Quiscalus mexicanus |
| | | Brown-headed Cowbird | Molothrus ater |
| | PARULIDAE (Warblers) | | |
| | | Common Yellowthroat | Geothlypis trichas |
| | | Yellow Warbler | Setophaga petechia |
| | | Yellow-rumped Warbler | Setophaga coronata |
| | CARDINALIDAE (Cardinals and Allies) | | |
| | | Black-headed Grosbeak | Pheucticus melanocephalus |
| | | Blue Grosbeak | Passerina caerulea |
| MAMMALIA (Mammals) | | | |
| | LAGOMORPHA (Rabbits and Hares) | | |
| | LEPORIDAE (Hares and Rabbits) | | |
| | | Black-tailed Jackrabbit | Lepus californicus |
| | RODENTIA (Rodents) | | |
| | SCIURIDAE (Squirrels) | | |
| | | California Ground-Squirrel | Otospermophilus beecheyi |
| | | Eastern Fox Squirrel | Sciurus niger |
| | CASTORIDAE (Beavers) | | |
| | | North American Beaver | Castor canadensis |
| | CARNIVORA (Carnivores) | | |
| | MUSTELIDAE (Weasels, Otters, and Badgers) | | |
| | | American Mink | Neovison vison |
| | | North American River Otter | Lontra canadensis |

# Appendix B: Floral Compendium

The table below lists in alphabetical order the 58 plant species observed during surveys conducted by Bargas from 2019 to 2021.

| Common Name | Scientific Name |
|---|---|
| Velvet Leaf | Abutilon theophrasti |
| Kiwi | Actinidia deliciosa |
| Tree-of-heaven | Ailanthus altissima |
| Pigweed Amaranth | Amaranthus albus |
| Scarlet Pimpernel | Anagallis arvensis |
| Wild Oats | Avena fatua |
| River Bulrush | Bolboschoenus fluviatilis |
| Black Mustard | Brassica nigra |
| Ripgut Brome | Bromus diandrus |
| Soft Chess | Bromus hordeaceus |
| Chili Peppers | Capsicum annuum |
| Italian thistle | Carduus pycnocephalus |
| Big Leaf Sedge | Carex amplifolia |
| Safflower | Carthamus tinctorium |
| Yellow Star Thistle | Centaurea solstitialis |
| Watermelon | Citrullus lanatus |
| Field Bindweed | Convolvulus arvensis |
| Turkey Mullein | Croton setiger |
| Tall cyperus | Cyperus eragrostis |
| Nutgrass | Cyperus rotundus |
| Yellow Nutsedge | Cyperus strigosus |
| Jimsonweed | Datura wrightii |
| Horseweed | Erigeron canadensis |
| Broadleaf Filaree | Erodium botrys |
| Gum species | Eucalyptus sp. |
| Strawberry | Fragaria x ananassa |
| Bristly Ox-tongue | Helminthotheca echioides |
| Summer Mustard | Hirschfeldia incana |

| Common Name | Scientific Name |
|---|---|
| Barley | Hordeum vulgare |
| Baltic Rush | Juncus balticus |
| Prickly Lettuce | Lactuca serriola |
| Duckweed | Lemna minor |
| Annual Ryegrass | Festuca perennis |
| Water Primrose | Ludwigia sp. |
| Hyssop Loosestrife | Lythrum hyssopifolia |
| Cheeseweed | Malva parviflora |
| Bur Clover | Medicago polymorpha |
| Alfalfa | Medicago sativa |
| Rice | Oryza sativa |
| Reed Canary Grass | Phalaris arundinacea |
| American Sycamore | Platanus occidentalis |
| Fremont's Cottonwood | Populus fremontii |
| Valley Oak | Quercus lobata |
| Wild Radish | Raphanus sativus |
| Himalayan Blackberry | Rubus armeniacus |
| Curly Dock | Rumex crispus |
| Fiddle Dock | Rumex pulcher |
| Gooding's Black Willow | Salix gooddingi |
| Tule | Schoenoplectus acutus var. occidentalis |
| Coastal Redwood | Sequoia sempervirens |
| Milk Thistle | Silybum marianum |
| Tomato | Solanum lycopersicum |
| Johnsongrass | Sorghum halepense |
| Dandelion | Taraxacum officinale |
| Wheat | Triticum aestivum |
| Common Cattail | Typha latifolia |
| Foxtail Fescue | Vulpia myuros |
| Maize | Zea mays |

# Appendix C. Special Status Resource Summary

The following table summarizes the legal status and potential for occurrence of three sensitive vegetation communities, as well as 26 plant, 5 invertebrate, 3 fish, 2 amphibian, 2 reptile, and 16 bird species with special status discussed in this Assessment.

| Common Name | Scientific Name | Status* | NBHCP Covered Species | Potential for Occurrence | Notes |
|---|---|---|---|---|---|
| VEGETATION COMMUNITIES | | | | | |
| Northern Hardpan Vernal Pool | Northern Hardpan Vernal Pool | - | - | Presumed Absent/No Potential | Eight location records in CNDDB desktop review. Nearest is six miles northeast of Plan Area. |
| Northern Claypan Vernal Pool | Northern Claypan Vernal Pool | - | - | Presumed Absent/No Potential | Single location record in CNDDB desktop review four miles east of Plan Area. |
| Great Valley Cottonwood Riparian Forest | Great Valley Cottonwood Riparian Forest | - | - | Presumed Absent/No Potential | Single location record in CNDDB desktop review, mapped along the far shore of the Sacramento River bend immediately southeast of the Plan Area. |
| PLANTS | | | | | |
| Ferris' Milkvetch | Astragalus tener var. ferrisae | CRPR 1B.1 | No | Presumed Absent/No Potential | Required habitat components absent in Plan Area, not observed during protocol surveys |
| Heartscale | Atriplex cordulata var. cordulata | CRPR 1B.2 | No | Low | Not found in Surveyed Area. Unlikely to occur in remainder of Plan Area, but can't be entirely dismissed without surveys. |
| Brittlescale | Atriplex depressa | CRPR 1B.2 | No | Low | Not found in Surveyed Area. Unlikely to occur in remainder of Plan Area, but can't be entirely dismissed without surveys. |
| Bristly Sedge | Carex comosa | CRPR 2B.1 | No | Low | Not found in Surveyed Area. Unlikely to occur in remainder of Plan Area, but can't be entirely dismissed without surveys. |
| Pappose Tarplant | Centromadia parryi ssp. parryi | CRPR 1B.2 | No | Low | Not found in Surveyed Area. Unlikely to occur in remainder of Plan Area, but can't be entirely dismissed without surveys. |
| Palmate-bracted Bird's-Beak | Chloropyron palmatum | FE, SE, CRPR 1B.1 | No | Low | Not found in Surveyed Area. Unlikely to occur in remainder of Plan Area, but can't be entirely dismissed without surveys. |
| Peruvian Dodder | Cuscuta obtusiflora var. glandulosa | CRPR 2B.2 | No | Presumed Absent/No Potential | Required habitat components absent in Plan Area, not observed during protocol surveys |
| Dwarf Downingia | Downingia pusilla | CRPR 2B.2 | No | Low | Not found in Surveyed Area. Unlikely to occur in remainder of Plan Area, but can't be entirely dismissed without surveys. |

| Common Name | Scientific Name | Status* | NBHCP Covered Species | Potential for Occurrence | Notes |
|---|---|---|---|---|---|
| Boggs Lake Hedge Hyssop | Gratiola heterosepala | SE, CRPR 1B.2 | **Yes** | Presumed Absent/No Potential | Required habitat components absent in Plan Area, not observed during protocol surveys |
| Jepson's Coyote Thistle | Eryngium jepsonii | CRPR 1B.2 | No | Low | Not found in Surveyed Area. Unlikely to occur in remainder of Plan Area, but can't be entirely dismissed without surveys. |
| San Joaquin Spearscale | Extriplex joaquinana | CRPR 1B.2 | No | Low | Not found in Surveyed Area. Unlikely to occur in remainder of Plan Area, but can't be entirely dismissed without surveys. |
| Woolly Rose-Mallow | Hibiscus lasiocarpos var. occidentalis | CRPR 1B.2 | No | Low | Marginal habitat present within the Plan Area, and previously recorded occurrences near the Plan Area |
| Delta Tule Pea | Lathyrus jepsonii var. jepsonii | CRPR 1B.2 | **Yes** | Presumed Absent/No Potential | Required habitat components absent in Plan Area, not observed during protocol surveys |
| Legenere | Legenere limosa | CRPR 1B.1 | **Yes** | Presumed Absent/No Potential | Required habitat components absent in Plan Area, not observed during protocol surveys |
| Heckard's Pepper Grass | Lepidium latipes var. heckardii | CRPR 1B.2 | No | Low | Not found in Surveyed Area. Unlikely to occur in remainder of Plan Area, but can't be entirely dismissed without surveys. |
| Mason's Lilaeopsis | Lilaeopsis masonii | CRPR 1B.1 | No | Low | Marginal habitat may present within the Plan Area, and previously recorded occurrences near the Plan Area |
| Baker's Navarretia | Navarretia leucocephala ssp. bakeri | CRPR 1B.1 | No | Low | Not found in Surveyed Area. Unlikely to occur in remainder of Plan Area, but can't be entirely dismissed without surveys. |
| Colusa Grass | Neostapfia colusana | FT, SE, CRPR 1B.1 | **Yes** | Presumed Absent/No Potential | Required habitat components absent in Plan Area, not observed during protocol surveys |
| Slender Orcutt Grass | Orcuttia tenuis | FT, SE, CRPR 1B.1 | **Yes** | Presumed Absent/No Potential | Plan Area is outside species' elevational/distributional range, required habitat components absent in Plan Area, not observed during protocol surveys |
| Sacramento Orcutt Grass | Orcuttia viscida | FE, SE, CRPR 1B.1 | **Yes** | Presumed Absent/No Potential | Plan Area is outside species' elevational/distributional range, required habitat components absent in Plan Area, not observed during protocol surveys |
| Bearded Popcorn Flower | Plagiobothrys hystriculus | CRPR 1B.1 | No | Low | Not found in Surveyed Area. Unlikely to occur in remainder of Plan Area, but can't be entirely dismissed without surveys. |

| Common Name | Scientific Name | Status* | NBHCP Covered Species | Potential for Occurrence | Notes |
|---|---|---|---|---|---|
| California Alkaligrass | Puccinellia simplex | CRPR 1B.2 | No | Low | Not found in Surveyed Area. Unlikely to occur in remainder of Plan Area, but can't be entirely dismissed without surveys. |
| Sanford's Arrowhead | Sagittaria sanfordii | CRPR 1B.2 | **Yes** | Low | Marginal habitat may present within the Plan Area, and previously recorded occurrences near the Plan Area |
| Suisun Marsh Aster | Symphyotrichum lentum | CRPR 1B.2 | No | Presumed Absent/No Potential | Required habitat components absent in Plan Area, not observed during protocol surveys |
| Saline Clover | Trifolium hydrophilum | CRPR 1B.2 | No | Low | Not found in Surveyed Area. Unlikely to occur in remainder of Plan Area, but can't be entirely dismissed without surveys. |
| Crampton's Tuctoria | Tuctoria mucronata | FE, SE, CRPR 1B.1 | No | Low | Not found in Surveyed Area. Unlikely to occur in remainder of Plan Area, but can't be entirely dismissed without surveys. |
| INVERTEBRATES | | | | | |
| Conservancy Fairy Shrimp | Branchinecta conservatio | FE | No | Presumed Absent/No Potential | No suitable habitat in the Plan Area. |
| Vernal Pool Fairy Shrimp | Branchinecta lynchi | FT | **Yes** | Low | No suitable habitat in the Plan Area for long term population persistence, but may occur in disturbed water accumulations. |
| Vernal Pool Tadpole Shrimp | Lepidurus packardi | FE | **Yes** | Presumed Absent/No Potential | No suitable habitat in the Plan Area. |
| Midvalley Fairy Shrimp | Branchinecta mesovallensis | - | **Yes** | Presumed Absent/No Potential | No suitable habitat in the Plan Area. |
| Valley Elderberry Longhorn Beetle | Desmocerus californicus dimorphus | FT | **Yes** | Low | No suitable habitat has been found in the Plan Area, however, elderberry plants are widespread and grow quickly. |
| FISH | | | | | |
| Chinook Salmon | Oncorhynchus tshawytscha | FT, ST | No | Presumed Absent/No Potential | No suitable habitat in the Plan Area. |
| Steelhead | Oncorhynchus mykiss irideus | FT | No | Presumed Absent/No Potential | No suitable habitat in the Plan Area. |
| Longfin Smelt | Spirinchus thaleichthys | ST, SSC | No | Presumed Absent/No Potential | No suitable habitat in the Plan Area. |
| AMPHIBIANS | | | | | |

| Common Name | Scientific Name | Status* | NBHCP Covered Species | Potential for Occurrence | Notes |
|---|---|---|---|---|---|
| Western Spadefoot | Spea hammondii | SSC | **Yes** | Presumed Absent/No Potential | No known occurrences in the Natomas Basin and limited suitable habitat in the Plan Area. |
| California Tiger Salamander | Ambystoma californiense | FT, ST | **Yes** | Presumed Absent/No Potential | No known occurrences in the Natomas Basin and limited suitable habitat in the Plan Area. |
| REPTILES | | | | | |
| Giant Gartersnake | Thamnophis gigas | FT | **Yes** | Low | Unlikely to occur regularly but may infrequently use canals in Plan Area for dispersal. |
| Northwestern Pond Turtle | Actinemys marmorata | ST | **Yes** | High | Appropriate habitat present within and adjacent to the Plan Area |
| BIRDS | | | | | |
| Aleutian Cackling Goose | Branta hutchinsii leucopareia | FD, SSC | **Yes** | Moderate | No record in Natomas Basin, but foraging habitat is present within the Plan Area. |
| Western Yellow-billed Cuckoo | Coccyzus americanus occidentalis | FT, SE | No | Presumed Absent/No Potential | Considered extirpated in region. No suitable habitat in the Plan Area. |
| California Black Rail | Laterallus jamaicensis coturniculus | ST | No | Presumed Absent/No Potential | Outside of the range of species and no suitable habitat present. |
| Western Snowy Plover | Charadrius nivosus nivosus | FT | No | Presumed Absent/No Potential | Outside of the range of species and no suitable habitat present. |
| American White Pelican | Pelecanus erythrorhynchos | SSC | **No** | Present | Observed once in Plan Area on a channel. No breeding habitat. |
| White-faced Ibis | Plegadis chihi | - | Yes | Moderate | Rare in the Natomas Basin but expanding range-wide. Appropriate foraging habitat present. |
| Swainson's Hawk | Buteo swainsonii | ST | **Yes** | Present | Has nested in Plan Area and uses much of it for hunting. |
| White-tailed Kite | Elanus leucurus | FP | No | Present | Uses Plan Area for hunting. No confirmed nesting. |
| Northern Harrier | Circus hudsonius | SSC | No | Present | Uses Plan Area for hunting. No confirmed nesting. |
| Burrowing Owl | Athene cunicularia | SSC | Yes | Moderate | Present in the Natomas Basin but not near Plan Area. Could occur as transient or in winter. |
| Least Bell's Vireo | Vireo bellii pusillus | FE | No | Presumed Absent/No Potential | Outside of the range of species and no suitable habitat present. |
| Loggerhead Shrike | Lanius ludovicianus | SCC | Yes | High | Suitable habitat present. Several older eBird records near Plan Area. |

| Common Name | Scientific Name | Status* | NBHCP Covered Species | Potential for Occurrence | Notes |
|---|---|---|---|---|---|
| Bank Swallow | Riparia riparia | ST | **Yes** | Moderate | Appropriate foraging habitat present and several nearby eBird records. No breeding habitat in Plan Area. |
| Tricolored Blackbird | Agelaius tricolor | ST, SSC | **Yes** | Moderate | Appropriate foraging habitat present and several nearby eBird records. No breeding habitat in Plan Area. |
| Yellow-headed Blackbird | Xanthocephalus xanthocephalus | SSC | No | High | Observed east of the Plan Area during surveys. Most likely to occur in winter. No breeding habitat. |
| Yellow Warbler | Setophaga petechia | SSC | No | High | Common in riparian habitat along the Sacramento River. |

**Federal Designations:**
(Federal Endangered Species Act, USFWS)

FE: Federally listed, Endangered
FT: Federally listed, Threatened

**State Designations:**
(California Endangered Species Act, CDFW)

SE: State-listed, Endangered
ST: State-listed, Threatened
SSC: California Species of Special Concern
FP: Fully Protected Species

**California Rare Plant Rank (CRPR)**

1B: Rare, threatened, or endangered in California and elsewhere
2B: Rare, threatened, or endangered in California but more common elsewhere

0.1-Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2-Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
0.3-Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

# Appendix D. NRCS Soils Report

United States Department of Agriculture

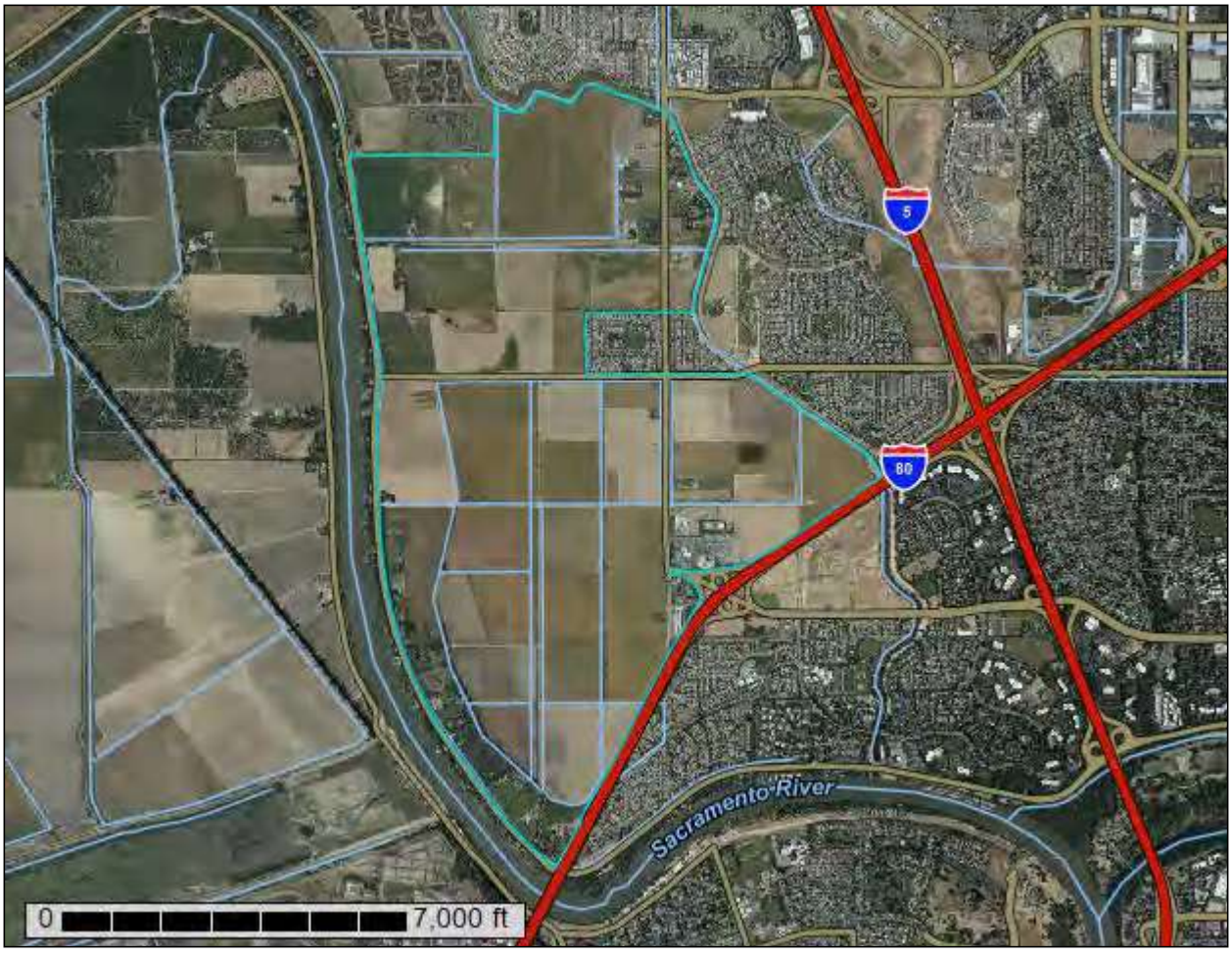
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

# Custom Soil Resource Report for Sacramento County, California

## Upper Westside Specific Plan




January 13, 2022

# Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

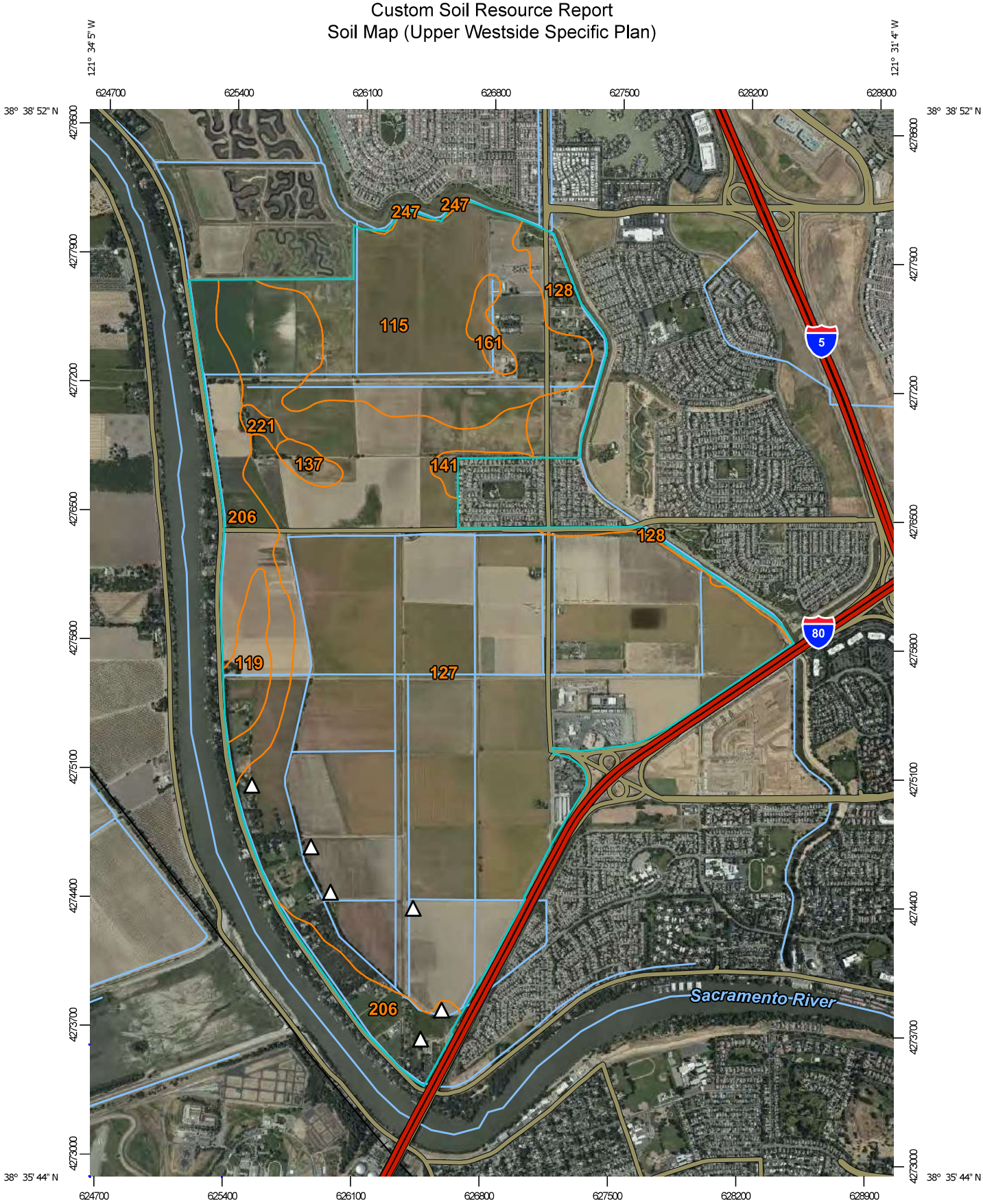
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

# Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

# Custom Soil Resource Report
## Soil Map (Upper Westside Specific Plan)




Map Scale: 1:28,200 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 400 800 1600 2400

Feet
0 1000 2000 4000 6000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

## MAP LEGEND

**Area of Interest (AOI)**
- Area of Interest (AOI)

**Soils**
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

**Special Point Features**
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

**Water Features**
- Streams and Canals

**Transportation**
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

**Background**
- Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Sacramento County, California
Survey Area Data: Version 20, Sep 3, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 8, 2019—May 20, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

# Map Unit Legend (Upper Westside Specific Plan)

| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
|---|---|---|---|
| 115 | Clear Lake clay, hardpan substratum, drained, 0 to 1 percent slopes | 310.3 | 15.0% |
| 119 | Columbia sandy loam, clayey substratum, partially drained, 0 to 2 percent slopes | 38.9 | 1.9% |
| 127 | Cosumnes silt loam, partially drained, 0 to 2 percent slopes | 1,401.2 | 67.8% |
| 128 | Cosumnes silt loam, drained, 0 to 2 percent slopes | 75.4 | 3.7% |
| 137 | Durixeralfs, 0 to 1 percent slopes | 13.3 | 0.6% |
| 141 | Egbert clay, partially drained, 0 to 2 percent slopes | 9.4 | 0.5% |
| 161 | Jacktone clay, drained, 0 to 2 percent slopes | 17.2 | 0.8% |
| 206 | Sailboat silt loam, partially drained, 0 to 2 percent slopes, MLRA 16 | 189.6 | 9.2% |
| 221 | San Joaquin-Xerarents complex, leveled, 0 to 1 percent slopes | 7.3 | 0.4% |
| 247 | Water | 2.4 | 0.1% |
| **Totals for Area of Interest** | | **2,065.2** | **100.0%** |

# Map Unit Descriptions (Upper Westside Specific Plan)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made

up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

# Sacramento County, California

## 115—Clear Lake clay, hardpan substratum, drained, 0 to 1 percent slopes

### Map Unit Setting

*National map unit symbol:* hhlp
*Elevation:* 0 to 100 feet
*Mean annual precipitation:* 12 to 18 inches
*Mean annual air temperature:* 61 degrees F
*Frost-free period:* 260 to 280 days
*Farmland classification:* Prime farmland if irrigated

### Map Unit Composition

*Clear lake and similar soils:* 85 percent
*Minor components:* 15 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Clear Lake

#### Setting

*Landform:* Basin floors
*Landform position (two-dimensional):* Toeslope
*Landform position (three-dimensional):* Tread
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Parent material:* Alluvium

#### Typical profile

*H1 - 0 to 15 inches:* clay
*H2 - 15 to 34 inches:* clay
*H3 - 34 to 48 inches:* clay loam
*H4 - 48 to 64 inches:* cemented

#### Properties and qualities

*Slope:* 0 to 1 percent
*Depth to restrictive feature:* 48 to 64 inches to duripan
*Drainage class:* Somewhat poorly drained
*Runoff class:* High
*Capacity of the most limiting layer to transmit water (Ksat):* Very low (0.00 to 0.00 in/hr)
*Depth to water table:* About 0 inches
*Frequency of flooding:* Rare
*Frequency of ponding:* None
*Calcium carbonate, maximum content:* 10 percent
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
*Available water supply, 0 to 60 inches:* Moderate (about 7.3 inches)

#### Interpretive groups

*Land capability classification (irrigated):* 2s
*Land capability classification (nonirrigated):* 3s
*Hydrologic Soil Group:* C/D
*Ecological site:* R017XY901CA - Clayey Basin Group
*Hydric soil rating:* Yes

**Minor Components**

**Cosumnes**

*Percent of map unit:* 8 percent
*Landform:* Flood plains
*Landform position (two-dimensional):* Toeslope
*Landform position (three-dimensional):* Tread
*Hydric soil rating:* Yes

**San joaquin**

*Percent of map unit:* 7 percent
*Hydric soil rating:* No

## 119—Columbia sandy loam, clayey substratum, partially drained, 0 to 2 percent slopes

**Map Unit Setting**

*National map unit symbol:* hhlt
*Elevation:* 150 feet
*Mean annual precipitation:* 12 to 25 inches
*Mean annual air temperature:* 63 degrees F
*Frost-free period:* 230 to 340 days
*Farmland classification:* Prime farmland if irrigated

**Map Unit Composition**

*Columbia and similar soils:* 85 percent
*Minor components:* 15 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Columbia**

**Setting**

*Landform:* Flood plains, natural levees
*Landform position (two-dimensional):* Toeslope, summit
*Landform position (three-dimensional):* Tread
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Parent material:* Alluvium

**Typical profile**

*H1 - 0 to 11 inches:* sandy loam
*H2 - 11 to 43 inches:* stratified loamy sand to silt loam
*H3 - 43 to 64 inches:* clay loam

**Properties and qualities**

*Slope:* 0 to 2 percent
*Depth to restrictive feature:* More than 80 inches
*Drainage class:* Somewhat poorly drained
*Runoff class:* Very low

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)
*Depth to water table:* About 0 inches
*Frequency of flooding:* Rare
*Frequency of ponding:* None
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
*Available water supply, 0 to 60 inches:* Moderate (about 6.9 inches)

**Interpretive groups**

*Land capability classification (irrigated):* 2w
*Land capability classification (nonirrigated):* 3w
*Hydrologic Soil Group:* A/D
*Hydric soil rating:* Yes

**Minor Components**

**Sailboat**

*Percent of map unit:* 5 percent
*Landform:* Flood plains
*Landform position (two-dimensional):* Toeslope
*Landform position (three-dimensional):* Tread
*Hydric soil rating:* Yes

**Columbia**

*Percent of map unit:* 5 percent
*Landform:* Flood plains
*Landform position (two-dimensional):* Toeslope
*Landform position (three-dimensional):* Tread
*Hydric soil rating:* Yes

**Valpac**

*Percent of map unit:* 5 percent
*Landform:* Flood plains
*Landform position (two-dimensional):* Toeslope
*Landform position (three-dimensional):* Tread
*Hydric soil rating:* Yes

## 127—Cosumnes silt loam, partially drained, 0 to 2 percent slopes

**Map Unit Setting**

*National map unit symbol:* 2x4l5
*Elevation:* 0 to 40 feet
*Mean annual precipitation:* 17 to 20 inches
*Mean annual air temperature:* 61 to 62 degrees F
*Frost-free period:* 271 to 330 days
*Farmland classification:* Prime farmland if irrigated

**Map Unit Composition**

*Cosumnes and similar soils:* 85 percent
*Minor components:* 15 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

## Description of Cosumnes

### Setting

*Landform:* Flood plains
*Landform position (three-dimensional):* Tread
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Parent material:* Alluvium derived from igneous and metamorphic rock

### Typical profile

*Ap - 0 to 8 inches:* silt loam
*C - 8 to 21 inches:* stratified silty clay loam to clay
*2Ab - 21 to 43 inches:* stratified clay loam to clay
*2Bk - 43 to 60 inches:* stratified clay loam to clay

### Properties and qualities

*Slope:* 0 to 2 percent
*Depth to restrictive feature:* More than 80 inches
*Drainage class:* Somewhat poorly drained
*Runoff class:* Low
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)
*Depth to water table:* About 0 inches
*Frequency of flooding:* Rare
*Frequency of ponding:* None
*Calcium carbonate, maximum content:* 5 percent
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
*Sodium adsorption ratio, maximum:* 2.0
*Available water supply, 0 to 60 inches:* High (about 9.6 inches)

### Interpretive groups

*Land capability classification (irrigated):* 2w
*Land capability classification (nonirrigated):* 3w
*Hydrologic Soil Group:* C/D
*Hydric soil rating:* Yes

## Minor Components

### Clear lake

*Percent of map unit:* 4 percent
*Landform:* Basin floors
*Landform position (three-dimensional):* Tread
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Hydric soil rating:* Yes

### Sailboat

*Percent of map unit:* 4 percent
*Landform:* Flood plains on delta plains, natural levees on delta plains
*Landform position (three-dimensional):* Tread
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Ecological site:* R016XA002CA - Freshwater, Stratified, Fluventic Sites (PROVISIONAL)
*Hydric soil rating:* Yes

**Columbia**

*Percent of map unit:* 4 percent
*Landform:* Flood plains
*Landform position (three-dimensional):* Tread
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Ecological site:* R016XA002CA - Freshwater, Stratified, Fluventic Sites (PROVISIONAL)
*Hydric soil rating:* Yes

**Egbert**

*Percent of map unit:* 3 percent
*Landform:* Flood plains on delta plains
*Landform position (two-dimensional):* Toeslope
*Landform position (three-dimensional):* Tread
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Ecological site:* R016XA001CA - Tidally-Influenced, Freshwater Sites (PROVISIONAL)
*Hydric soil rating:* Yes

## 128—Cosumnes silt loam, drained, 0 to 2 percent slopes

### Map Unit Setting

*National map unit symbol:* hhm3
*Elevation:* 10 to 70 feet
*Mean annual precipitation:* 15 inches
*Mean annual air temperature:* 61 degrees F
*Frost-free period:* 250 to 300 days
*Farmland classification:* Prime farmland if irrigated

### Map Unit Composition

*Cosumnes and similar soils:* 85 percent
*Minor components:* 15 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Cosumnes

#### Setting

*Landform:* Flood plains
*Landform position (two-dimensional):* Toeslope
*Landform position (three-dimensional):* Tread
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Parent material:* Alluvium

#### Typical profile

*H1 - 0 to 8 inches:* silt loam
*H2 - 8 to 21 inches:* stratified silty clay loam to clay
*H3 - 21 to 43 inches:* stratified clay loam to clay

*H4 - 43 to 60 inches:* stratified clay loam to clay

**Properties and qualities**

*Slope:* 0 to 2 percent
*Depth to restrictive feature:* More than 80 inches
*Drainage class:* Somewhat poorly drained
*Runoff class:* High
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)
*Depth to water table:* More than 80 inches
*Frequency of flooding:* Rare
*Frequency of ponding:* None
*Calcium carbonate, maximum content:* 5 percent
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
*Available water supply, 0 to 60 inches:* High (about 9.7 inches)

**Interpretive groups**

*Land capability classification (irrigated):* 2s
*Land capability classification (nonirrigated):* 3s
*Hydrologic Soil Group:* C
*Hydric soil rating:* Yes

**Minor Components**

**Columbia**

*Percent of map unit:* 3 percent
*Landform:* Flood plains
*Landform position (two-dimensional):* Toeslope
*Landform position (three-dimensional):* Tread
*Hydric soil rating:* Yes

**Egbert**

*Percent of map unit:* 3 percent
*Landform:* Flood plains
*Landform position (two-dimensional):* Toeslope
*Landform position (three-dimensional):* Tread
*Hydric soil rating:* Yes

**Dierssen**

*Percent of map unit:* 3 percent
*Landform:* Basin floors
*Landform position (two-dimensional):* Toeslope
*Landform position (three-dimensional):* Tread
*Hydric soil rating:* Yes

**Sailboat**

*Percent of map unit:* 2 percent
*Landform:* Flood plains
*Landform position (two-dimensional):* Toeslope
*Landform position (three-dimensional):* Tread
*Hydric soil rating:* Yes

**San joaquin**

*Percent of map unit:* 2 percent
*Hydric soil rating:* No

**Unnamed, sandy strata**

*Percent of map unit:* 1 percent

*Hydric soil rating:* No

**Unnamed, frequently flooded**

*Percent of map unit:* 1 percent
*Landform:* Flood plains
*Landform position (two-dimensional):* Toeslope
*Landform position (three-dimensional):* Tread
*Hydric soil rating:* Yes

## 137—Durixeralfs, 0 to 1 percent slopes

### Map Unit Setting

*National map unit symbol:* hhmd
*Elevation:* 20 to 150 feet
*Mean annual precipitation:* 10 to 20 inches
*Mean annual air temperature:* 61 to 63 degrees F
*Frost-free period:* 250 to 300 days
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Durixeralfs and similar soils:* 80 percent
*Minor components:* 20 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Durixeralfs

#### Setting

*Landform:* Terraces
*Landform position (two-dimensional):* Toeslope
*Landform position (three-dimensional):* Tread
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Parent material:* Alluvium derived from granite

#### Typical profile

*H1 - 0 to 6 inches:* clay
*H2 - 6 to 20 inches:* clay loam
*H3 - 20 to 60 inches:* indurated

#### Properties and qualities

*Slope:* 0 to 1 percent
*Depth to restrictive feature:* 20 to 60 inches to duripan
*Drainage class:* Well drained
*Runoff class:* Very high
*Capacity of the most limiting layer to transmit water (Ksat):* Very low (0.00 to 0.00 in/hr)
*Depth to water table:* More than 80 inches
*Frequency of flooding:* None
*Frequency of ponding:* None
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
*Available water supply, 0 to 60 inches:* Very low (about 2.9 inches)

**Interpretive groups**

*Land capability classification (irrigated):* 4s
*Land capability classification (nonirrigated):* 4s
*Hydrologic Soil Group:* D
*Hydric soil rating:* No

**Minor Components**

**Galt**

*Percent of map unit:* 6 percent
*Landform:* Terraces
*Hydric soil rating:* Yes

**Xerarents**

*Percent of map unit:* 6 percent
*Hydric soil rating:* No

**Redding**

*Percent of map unit:* 6 percent
*Hydric soil rating:* No

**Unnamed, very shallow loamy**

*Percent of map unit:* 2 percent
*Hydric soil rating:* No

## 141—Egbert clay, partially drained, 0 to 2 percent slopes

**Map Unit Setting**

*National map unit symbol:* hhmj
*Elevation:* 10 to 20 feet
*Mean annual precipitation:* 17 inches
*Mean annual air temperature:* 63 degrees F
*Frost-free period:* 220 to 260 days
*Farmland classification:* Prime farmland if irrigated

**Map Unit Composition**

*Egbert and similar soils:* 75 percent
*Minor components:* 25 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Egbert**

**Setting**

*Landform:* Flood plains, backswamps
*Landform position (two-dimensional):* Toeslope
*Landform position (three-dimensional):* Tread, dip
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Parent material:* Alluvium

**Typical profile**

*H1 - 0 to 18 inches:* clay
*H2 - 18 to 46 inches:* silty clay loam
*H3 - 46 to 60 inches:* stratified sandy clay loam to clay loam

**Properties and qualities**

*Slope:* 0 to 2 percent
*Depth to restrictive feature:* More than 80 inches
*Drainage class:* Poorly drained
*Runoff class:* High
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)
*Depth to water table:* About 0 inches
*Frequency of flooding:* Rare
*Frequency of ponding:* None
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
*Available water supply, 0 to 60 inches:* High (about 10.0 inches)

**Interpretive groups**

*Land capability classification (irrigated):* 2w
*Land capability classification (nonirrigated):* 3w
*Hydrologic Soil Group:* C/D
*Ecological site:* R016XA001CA - Tidally-Influenced, Freshwater Sites (PROVISIONAL)
*Hydric soil rating:* Yes

**Minor Components**

**Gazwell**

*Percent of map unit:* 5 percent
*Landform:* Backswamps
*Ecological site:* R016XA001CA - Tidally-Influenced, Freshwater Sites (PROVISIONAL)
*Hydric soil rating:* Yes

**Laugenour**

*Percent of map unit:* 5 percent
*Landform:* Levees
*Ecological site:* R016XA002CA - Freshwater, Stratified, Fluventic Sites (PROVISIONAL)
*Hydric soil rating:* Yes

**Clear lake**

*Percent of map unit:* 5 percent
*Landform:* Basin floors
*Landform position (two-dimensional):* Toeslope
*Landform position (three-dimensional):* Tread
*Hydric soil rating:* Yes

**Scribner**

*Percent of map unit:* 5 percent
*Landform:* Backswamps
*Ecological site:* R016XA001CA - Tidally-Influenced, Freshwater Sites (PROVISIONAL)
*Hydric soil rating:* Yes

**Valpac**

*Percent of map unit:* 5 percent
*Landform:* Levees
*Ecological site:* R016XA002CA - Freshwater, Stratified, Fluventic Sites (PROVISIONAL)
*Hydric soil rating:* Yes

## 161—Jacktone clay, drained, 0 to 2 percent slopes

**Map Unit Setting**

*National map unit symbol:* hhn5
*Elevation:* 10 to 100 feet
*Mean annual precipitation:* 12 to 20 inches
*Mean annual air temperature:* 61 to 64 degrees F
*Frost-free period:* 250 to 300 days
*Farmland classification:* Farmland of statewide importance

**Map Unit Composition**

*Jacktone and similar soils:* 85 percent
*Minor components:* 15 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Jacktone**

**Setting**

*Landform:* Basin floors
*Landform position (two-dimensional):* Toeslope
*Landform position (three-dimensional):* Tread
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Parent material:* Alluvium

**Typical profile**

*H1 - 0 to 11 inches:* clay
*H2 - 11 to 34 inches:* clay loam
*H3 - 34 to 52 inches:* indurated
*H4 - 52 to 60 inches:* stratified loam to clay loam

**Properties and qualities**

*Slope:* 0 to 2 percent
*Depth to restrictive feature:* 34 to 52 inches to duripan
*Drainage class:* Somewhat poorly drained
*Runoff class:* High
*Capacity of the most limiting layer to transmit water (Ksat):* Very low (0.00 to 0.00 in/hr)
*Depth to water table:* About 0 inches
*Frequency of flooding:* Rare
*Frequency of ponding:* None
*Calcium carbonate, maximum content:* 10 percent
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Available water supply, 0 to 60 inches:* Low (about 5.1 inches)

**Interpretive groups**

*Land capability classification (irrigated):* 3s
*Land capability classification (nonirrigated):* 3s
*Hydrologic Soil Group:* D
*Ecological site:* R017XY902CA - Duripan Vernal Pools
*Hydric soil rating:* Yes

**Minor Components**

**Cosumnes**

*Percent of map unit:* 3 percent
*Landform:* Flood plains
*Landform position (two-dimensional):* Toeslope
*Landform position (three-dimensional):* Tread
*Hydric soil rating:* Yes

**San joaquin**

*Percent of map unit:* 3 percent
*Hydric soil rating:* No

**Xerarents**

*Percent of map unit:* 3 percent
*Hydric soil rating:* No

**Clear lake**

*Percent of map unit:* 3 percent
*Landform:* Basin floors
*Landform position (two-dimensional):* Toeslope
*Landform position (three-dimensional):* Tread
*Hydric soil rating:* Yes

**Durixeralfs**

*Percent of map unit:* 3 percent
*Hydric soil rating:* No

## 206—Sailboat silt loam, partially drained, 0 to 2 percent slopes, MLRA 16

**Map Unit Setting**

*National map unit symbol:* 2xlch
*Elevation:* -10 to 30 feet
*Mean annual precipitation:* 18 to 20 inches
*Mean annual air temperature:* 61 to 62 degrees F
*Frost-free period:* 320 to 330 days
*Farmland classification:* Prime farmland if irrigated

**Map Unit Composition**

*Sailboat and similar soils:* 85 percent
*Minor components:* 15 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

## Description of Sailboat

### Setting

*Landform:* Flood plains on natural levees
*Landform position (three-dimensional):* Tread
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Parent material:* Alluvium derived from igneous, metamorphic and sedimentary rock

### Typical profile

*Ap - 0 to 6 inches:* silt loam
*A - 6 to 16 inches:* silt loam
*C - 16 to 28 inches:* silt loam
*2Akb - 28 to 34 inches:* clay loam
*2C - 34 to 49 inches:* loam
*2Ck - 49 to 62 inches:* loam

### Properties and qualities

*Slope:* 0 to 3 percent
*Depth to restrictive feature:* More than 80 inches
*Drainage class:* Somewhat poorly drained
*Runoff class:* Negligible
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.14 to 1.42 in/hr)
*Depth to water table:* About 24 to 35 inches
*Frequency of flooding:* Rare
*Frequency of ponding:* None
*Calcium carbonate, maximum content:* 5 percent
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
*Available water supply, 0 to 60 inches:* Very high (about 12.4 inches)

### Interpretive groups

*Land capability classification (irrigated):* 2w
*Land capability classification (nonirrigated):* 3w
*Hydrologic Soil Group:* C
*Ecological site:* R016XA002CA - Freshwater, Stratified, Fluventic Sites (PROVISIONAL)
*Hydric soil rating:* Yes

## Minor Components

### Scribner

*Percent of map unit:* 3 percent
*Landform:* Flood plains
*Landform position (three-dimensional):* Tread
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Ecological site:* R016XA002CA - Freshwater, Stratified, Fluventic Sites (PROVISIONAL)
*Hydric soil rating:* Yes

### Egbert

*Percent of map unit:* 3 percent
*Landform:* — error in exists on —
*Landform position (three-dimensional):* Tread

*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Ecological site:* R016XA002CA - Freshwater, Stratified, Fluventic Sites (PROVISIONAL)
*Hydric soil rating:* Yes

**Gazwell**

*Percent of map unit:* 3 percent
*Landform:* Backswamps
*Landform position (three-dimensional):* Dip
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Ecological site:* R016XA001CA - Tidally-Influenced, Freshwater Sites (PROVISIONAL)
*Hydric soil rating:* Yes

**Columbia**

*Percent of map unit:* 3 percent
*Landform:* Flood plains
*Landform position (three-dimensional):* Tread
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Ecological site:* R016XA002CA - Freshwater, Stratified, Fluventic Sites (PROVISIONAL), R016XA002CA - Freshwater, Stratified, Fluventic Sites (PROVISIONAL)
*Hydric soil rating:* Yes

**Cosumnes**

*Percent of map unit:* 3 percent
*Landform:* Flood plains
*Landform position (three-dimensional):* Tread
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Hydric soil rating:* Yes

## 221—San Joaquin-Xerarents complex, leveled, 0 to 1 percent slopes

**Map Unit Setting**

*National map unit symbol:* hhq3
*Elevation:* 0 to 2,500 feet
*Mean annual precipitation:* 10 to 22 inches
*Mean annual air temperature:* 61 to 63 degrees F
*Frost-free period:* 250 to 300 days
*Farmland classification:* Farmland of statewide importance

**Map Unit Composition**

*San joaquin and similar soils:* 45 percent
*Xerarents and similar soils:* 40 percent
*Minor components:* 15 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

## Description of San Joaquin

### Setting

*Landform:* Terraces
*Landform position (two-dimensional):* Toeslope
*Landform position (three-dimensional):* Tread
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Parent material:* Alluvium derived from granite

### Typical profile

*H1 - 0 to 23 inches:* silt loam
*H2 - 23 to 28 inches:* clay loam
*H3 - 28 to 54 inches:* indurated
*H4 - 54 to 60 inches:* stratified sandy loam to loam

### Properties and qualities

*Slope:* 0 to 1 percent
*Depth to restrictive feature:* More than 80 inches; 28 to 54 inches to duripan
*Drainage class:* Moderately well drained
*Runoff class:* High
*Capacity of the most limiting layer to transmit water (Ksat):* Very low (0.00 to 0.00 in/hr)
*Depth to water table:* More than 80 inches
*Frequency of flooding:* None
*Frequency of ponding:* None
*Available water supply, 0 to 60 inches:* Low (about 3.4 inches)

### Interpretive groups

*Land capability classification (irrigated):* 3s
*Land capability classification (nonirrigated):* 3s
*Hydrologic Soil Group:* C
*Hydric soil rating:* No

## Description of Xerarents

### Setting

*Landform:* Terraces
*Landform position (two-dimensional):* Toeslope
*Landform position (three-dimensional):* Tread
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Parent material:* Alluvium derived from granite

### Typical profile

*H1 - 0 to 60 inches:* variable

### Properties and qualities

*Slope:* 0 to 1 percent
*Depth to restrictive feature:* More than 80 inches
*Drainage class:* Well drained
*Depth to water table:* More than 80 inches
*Frequency of flooding:* None
*Frequency of ponding:* None
*Available water supply, 0 to 60 inches:* Very low (about 0.0 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified
*Land capability classification (nonirrigated):* 7e
*Hydric soil rating:* No

**Minor Components**

**Clear lake**

*Percent of map unit:* 3 percent
*Landform:* Basin floors
*Landform position (two-dimensional):* Toeslope
*Landform position (three-dimensional):* Tread
*Hydric soil rating:* Yes

**Columbia**

*Percent of map unit:* 3 percent
*Landform:* Flood plains
*Landform position (two-dimensional):* Toeslope
*Landform position (three-dimensional):* Tread
*Hydric soil rating:* Yes

**Sailboat**

*Percent of map unit:* 2 percent
*Landform:* Flood plains
*Landform position (two-dimensional):* Toeslope
*Landform position (three-dimensional):* Tread
*Hydric soil rating:* Yes

**Kimball**

*Percent of map unit:* 2 percent
*Hydric soil rating:* No

**Galt**

*Percent of map unit:* 2 percent
*Landform:* Terraces
*Hydric soil rating:* Yes

**Durixeralfs**

*Percent of map unit:* 2 percent
*Hydric soil rating:* No

**Unnamed, rarely flooded**

*Percent of map unit:* 1 percent
*Hydric soil rating:* No

## 247—Water

**Map Unit Composition**

*Water:* 100 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

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# APPENDIX BIO-3

## PLANT AND WILDLIFE SPECIES LISTS FOR THE PROJECT SITE

# Selected Elements by Scientific Name

## California Department of Fish and Wildlife

## California Natural Diversity Database

**Query Criteria:** Quad IS (Sacramento West (3812155) OR Grays Bend (3812166) OR Taylor Monument (3812165) OR Rio Linda (3812164) OR Davis (3812156) OR Sacramento East (3812154) OR Saxon (3812146) OR Clarksburg (3812145) OR Florin (3812144))

| Species | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|---|---|---|---|---|---|---|
| ***Accipiter cooperii*** Cooper's hawk | ABNKC12040 | None | None | G5 | S4 | WL |
| ***Acipenser medirostris pop. 1*** green sturgeon - southern DPS | AFCAA01031 | Threatened | None | G2T1 | S1 | |
| ***Agelaius tricolor*** tricolored blackbird | ABPBXB0020 | None | Threatened | G1G2 | S2 | SSC |
| ***Ammodramus savannarum*** grasshopper sparrow | ABPBXA0020 | None | None | G5 | S3 | SSC |
| ***Antrozous pallidus*** pallid bat | AMACC10010 | None | None | G4 | S3 | SSC |
| ***Archoplites interruptus*** Sacramento perch | AFCQB07010 | None | None | G1 | S1 | SSC |
| ***Ardea alba*** great egret | ABNGA04040 | None | None | G5 | S4 | |
| ***Ardea herodias*** great blue heron | ABNGA04010 | None | None | G5 | S4 | |
| ***Astragalus tener var. ferrisiae*** Ferris' milk-vetch | PDFAB0F8R3 | None | None | G2T1 | S1 | 1B.1 |
| ***Astragalus tener var. tener*** alkali milk-vetch | PDFAB0F8R1 | None | None | G2T1 | S1 | 1B.2 |
| ***Athene cunicularia*** burrowing owl | ABNSB10010 | None | None | G4 | S2 | SSC |
| ***Atriplex cordulata var. cordulata*** heartscale | PDCHE040B0 | None | None | G3T2 | S2 | 1B.2 |
| ***Atriplex depressa*** brittlescale | PDCHE042L0 | None | None | G2 | S2 | 1B.2 |
| ***Bombus crotchii*** Crotch bumble bee | IIHYM24480 | None | Candidate Endangered | G2 | S2 | |
| ***Bombus occidentalis*** western bumble bee | IIHYM24252 | None | Candidate Endangered | G3 | S1 | |
| ***Bombus pensylvanicus*** American bumble bee | IIHYM24260 | None | None | G3G4 | S2 | |
| ***Branchinecta conservatio*** Conservancy fairy shrimp | ICBRA03010 | Endangered | None | G2 | S2 | |
| ***Branchinecta lynchi*** vernal pool fairy shrimp | ICBRA03030 | Threatened | None | G3 | S3 | |

| Species | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|---|---|---|---|---|---|---|
| ***Branchinecta mesovallensis*** midvalley fairy shrimp | ICBRA03150 | None | None | G2 | S2S3 | |
| ***Buteo regalis*** ferruginous hawk | ABNKC19120 | None | None | G4 | S3S4 | WL |
| ***Buteo swainsoni*** Swainson's hawk | ABNKC19070 | None | Threatened | G5 | S4 | |
| ***Carex comosa*** bristly sedge | PMCYP032Y0 | None | None | G5 | S2 | 2B.1 |
| ***Centromadia parryi ssp. parryi*** pappose tarplant | PDAST4R0P2 | None | None | G3T2 | S2 | 1B.2 |
| ***Charadrius montanus*** mountain plover | ABNNB03100 | None | None | G3 | S2 | SSC |
| ***Charadrius nivosus nivosus*** western snowy plover | ABNNB03031 | Threatened | None | G3T3 | S3 | SSC |
| ***Chloropyron palmatum*** palmate-bracted bird's-beak | PDSCR0J0J0 | Endangered | Endangered | G1 | S1 | 1B.1 |
| ***Cicindela hirticollis abrupta*** Sacramento Valley tiger beetle | IICOL02106 | None | None | G5TH | SH | |
| ***Coccyzus americanus occidentalis*** western yellow-billed cuckoo | ABNRB02022 | Threatened | Endangered | G5T2T3 | S1 | |
| ***Cuscuta obtusiflora var. glandulosa*** Peruvian dodder | PDCUS01111 | None | None | G5T4? | SH | 2B.2 |
| ***Desmocerus californicus dimorphus*** valley elderberry longhorn beetle | IICOL48011 | Threatened | None | G3T3 | S3 | |
| ***Downingia pusilla*** dwarf downingia | PDCAM060C0 | None | None | GU | S2 | 2B.2 |
| ***Egretta thula*** snowy egret | ABNGA06030 | None | None | G5 | S4 | |
| ***Elanus leucurus*** white-tailed kite | ABNKC06010 | None | None | G5 | S3S4 | FP |
| ***Elderberry Savanna*** Elderberry Savanna | CTT63440CA | None | None | G2 | S2.1 | |
| ***Emys marmorata*** western pond turtle | ARAAD02030 | None | None | G3G4 | S3 | SSC |
| ***Eryngium jepsonii*** Jepson's coyote-thistle | PDAPI0Z130 | None | None | G2 | S2 | 1B.2 |
| ***Extriplex joaquinana*** San Joaquin spearscale | PDCHE041F3 | None | None | G2 | S2 | 1B.2 |
| ***Falco columbarius*** merlin | ABNKD06030 | None | None | G5 | S3S4 | WL |
| ***Fritillaria agrestis*** stinkbells | PMLIL0V010 | None | None | G3 | S3 | 4.2 |

| Species | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|---|---|---|---|---|---|---|
| ***Gonidea angulata*** western ridged mussel | IMBIV19010 | None | None | G3 | S2 | |
| ***Gratiola heterosepala*** Boggs Lake hedge-hyssop | PDSCR0R060 | None | Endangered | G2 | S2 | 1B.2 |
| ***Great Valley Cottonwood Riparian Forest*** Great Valley Cottonwood Riparian Forest | CTT61410CA | None | None | G2 | S2.1 | |
| ***Hibiscus lasiocarpos var. occidentalis*** woolly rose-mallow | PDMAL0H0R3 | None | None | G5T3 | S3 | 1B.2 |
| ***Hypomesus transpacificus*** Delta smelt | AFCHB01040 | Threatened | Endangered | G1 | S1 | |
| ***Lasionycteris noctivagans*** silver-haired bat | AMACC02010 | None | None | G3G4 | S3S4 | |
| ***Lasiurus cinereus*** hoary bat | AMACC05032 | None | None | G3G4 | S4 | |
| ***Lasthenia chrysantha*** alkali-sink goldfields | PDAST5L030 | None | None | G2 | S2 | 1B.1 |
| ***Laterallus jamaicensis coturniculus*** California black rail | ABNME03041 | None | Threatened | G3T1 | S2 | FP |
| ***Legenere limosa*** legenere | PDCAM0C010 | None | None | G2 | S2 | 1B.1 |
| ***Lepidium latipes var. heckardii*** Heckard's pepper-grass | PDBRA1M0K1 | None | None | G4T1 | S1 | 1B.2 |
| ***Lepidurus packardi*** vernal pool tadpole shrimp | ICBRA10010 | Endangered | None | G3 | S3 | |
| ***Lilaeopsis masonii*** Mason's lilaeopsis | PDAPI19030 | None | Rare | G2 | S2 | 1B.1 |
| ***Linderiella occidentalis*** California linderiella | ICBRA06010 | None | None | G2G3 | S2S3 | |
| ***Melospiza melodia pop. 1*** song sparrow ("Modesto" population) | ABPBXA3013 | None | None | G5T3?Q | S3? | SSC |
| ***Myrmosula pacifica*** Antioch multilid wasp | IIHYM15010 | None | None | GH | SH | |
| ***Nannopterum auritum*** double-crested cormorant | ABNFD01020 | None | None | G5 | S4 | WL |
| ***Navarretia leucocephala ssp. bakeri*** Baker's navarretia | PDPLM0C0E1 | None | None | G4T2 | S2 | 1B.1 |
| ***Neostapfia colusana*** Colusa grass | PMPOA4C010 | Threatened | Endangered | G1 | S1 | 1B.1 |
| ***Northern Claypan Vernal Pool*** Northern Claypan Vernal Pool | CTT44120CA | None | None | G1 | S1.1 | |
| ***Northern Hardpan Vernal Pool*** Northern Hardpan Vernal Pool | CTT44110CA | None | None | G3 | S3.1 | |

| Species | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|---|---|---|---|---|---|---|
| ***Nycticorax nycticorax*** black-crowned night heron | ABNGA11010 | None | None | G5 | S4 | |
| ***Oncorhynchus mykiss irideus pop. 11*** steelhead - Central Valley DPS | AFCHA0209K | Threatened | None | G5T2Q | S2 | |
| ***Oncorhynchus tshawytscha pop. 11*** chinook salmon - Central Valley spring-run ESU | AFCHA0205L | Threatened | Threatened | G5T2Q | S2 | |
| ***Oncorhynchus tshawytscha pop. 7*** chinook salmon - Sacramento River winter-run ESU | AFCHA0205B | Endangered | Endangered | G5T1Q | S2 | |
| ***Plagiobothrys hystriculus*** bearded popcornflower | PDBOR0V0H0 | None | None | G2 | S2 | 1B.1 |
| ***Plegadis chihi*** white-faced ibis | ABNGE02020 | None | None | G5 | S3S4 | WL |
| ***Pogonichthys macrolepidotus*** Sacramento splittail | AFCJB34020 | None | None | G3 | S3 | SSC |
| ***Progne subis*** purple martin | ABPAU01010 | None | None | G5 | S3 | SSC |
| ***Puccinellia simplex*** California alkali grass | PMPOA53110 | None | None | G2 | S2 | 1B.2 |
| ***Riparia riparia*** bank swallow | ABPAU08010 | None | Threatened | G5 | S3 | |
| ***Sagittaria sanfordii*** Sanford's arrowhead | PMALI040Q0 | None | None | G3 | S3 | 1B.2 |
| ***Sidalcea keckii*** Keck's checkerbloom | PDMAL110D0 | Endangered | None | G2 | S2 | 1B.1 |
| ***Spirinchus thaleichthys*** longfin smelt | AFCHB03010 | Candidate | Threatened | G5 | S1 | |
| ***Symphyotrichum lentum*** Suisun Marsh aster | PDASTE8470 | None | None | G2 | S2 | 1B.2 |
| ***Taxidea taxus*** American badger | AMAJF04010 | None | None | G5 | S3 | SSC |
| ***Thamnophis gigas*** giant gartersnake | ARADB36150 | Threatened | Threatened | G2 | S2 | |
| ***Trifolium hydrophilum*** saline clover | PDFAB400R5 | None | None | G2 | S2 | 1B.2 |
| ***Tuctoria mucronata*** Crampton's tuctoria or Solano grass | PMPOA6N020 | Endangered | Endangered | G1 | S1 | 1B.1 |
| ***Vireo bellii pusillus*** least Bell's vireo | ABPBW01114 | Endangered | Endangered | G5T2 | S3 | |
| ***Xanthocephalus xanthocephalus*** yellow-headed blackbird | ABPBXB3010 | None | None | G5 | S3 | SSC |

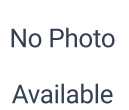
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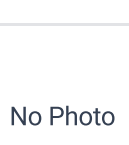
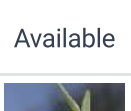
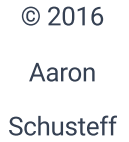
CNPS Rare Plant Inventory

## Search Results

33 matches found. Click on scientific name for details

Search Criteria: 9-Quad include [3812155:3812166:3812165:3812164:3812156:3812154:3812146:3812145:3812144]

| ▲ SCIENTIFIC NAME | COMMON NAME | FAMILY | LIFEFORM | BLOOMING PERIOD | FED LIST | STATE LIST | GLOBAL RANK | STATE RANK | CA RARE PLANT RANK | CA ENDEMIC | DATE ADDED | PHOTO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Astragalus pauperculus* | depauperate milk-vetch | Fabaceae | annual herb | Mar-Jun | None | None | G4 | S4 | 4.3 | Yes | 1974-01-01 |  ©2012 Tim Kellison |
| *Astragalus tener* var. *ferrisiae* | Ferris' milk-vetch | Fabaceae | annual herb | Apr-May | None | None | G2T1 | S1 | 1B.1 | Yes | 1994-01-01 | No Photo Available |
| *Astragalus tener* var. *tener* | alkali milk-vetch | Fabaceae | annual herb | Mar-Jun | None | None | G2T1 | S1 | 1B.2 | Yes | 1994-01-01 | No Photo Available |
| *Atriplex cordulata* var. *cordulata* | heartscale | Chenopodiaceae | annual herb | Apr-Oct | None | None | G3T2 | S2 | 1B.2 | Yes | 1988-01-01 |  © 1994 Robert E. Preston, Ph.D. |
| *Atriplex depressa* | brittlescale | Chenopodiaceae | annual herb | Apr-Oct | None | None | G2 | S2 | 1B.2 | Yes | 1994-01-01 |  © 2009 Zoya Akulova |
| *Brodiaea rosea* ssp. *vallicola* | valley brodiaea | Themidaceae | perennial bulbiferous herb | Apr-May(Jun) | None | None | G5T3 | S3 | 4.2 | Yes | 2019-01-07 |  © 2011 Steven Perry |
| *Carex comosa* | bristly sedge | Cyperaceae | perennial rhizomatous herb | May-Sep | None | None | G5 | S2 | 2B.1 | | 1994-01-01 |  Dean Wm. Taylor 1997 |
| *Centromadia parryi* ssp. *parryi* | pappose tarplant | Asteraceae | annual herb | May-Nov | None | None | G3T2 | S2 | 1B.2 | Yes | 2004-01-01 |  © 2016 John Doyen |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Centromadia parryi* ssp. *rudis* | Parry's rough tarplant | Asteraceae | annual herb | May-Oct | None | None | G3T3 | S3 | 4.2 | Yes | 2007-05-22 |  © 2019 John Doyen |
| *Chloropyron palmatum* | palmate-bracted bird's-beak | Orobanchaceae | annual herb (hemiparasitic) | May-Oct | FE | CE | G1 | S1 | 1B.1 | Yes | 1974-01-01 | No Photo Available |
| *Cuscuta obtusiflora* var. *glandulosa* | Peruvian dodder | Convolvulaceae | annual vine (parasitic) | Jul-Oct | None | None | G5T4? | SH | 2B.2 | | 2011-08-24 | No Photo Available |
| *Downingia pusilla* | dwarf downingia | Campanulaceae | annual herb | Mar-May | None | None | GU | S2 | 2B.2 | | 1980-01-01 |  © 2013 Aaron Arthur |
| *Eryngium jepsonii* | Jepson's coyote-thistle | Apiaceae | perennial herb | Apr-Aug | None | None | G2 | S2 | 1B.2 | Yes | 2016-09-13 | No Photo Available |
| *Extriplex joaquinana* | San Joaquin spearscale | Chenopodiaceae | annual herb | Apr-Oct | None | None | G2 | S2 | 1B.2 | Yes | 1988-01-01 | No Photo Available |
| *Fritillaria agrestis* | stinkbells | Liliaceae | perennial bulbiferous herb | Mar-Jun | None | None | G3 | S3 | 4.2 | Yes | 1980-01-01 |  © 2016 Aaron Schusteff |
| *Gratiola heterosepala* | Boggs Lake hedge-hyssop | Plantaginaceae | annual herb | Apr-Aug | None | CE | G2 | S2 | 1B.2 | | 1974-01-01 |  ©2004 Carol W. Witham |
| *Hesperevax caulescens* | hogwallow starfish | Asteraceae | annual herb | Mar-Jun | None | None | G3 | S3 | 4.2 | Yes | 2001-01-01 |  © 2017 John Doyen |
| *Hibiscus lasiocarpos* var. *occidentalis* | woolly rose-mallow | Malvaceae | perennial rhizomatous herb (emergent) | Jun-Sep | None | None | G5T3 | S3 | 1B.2 | Yes | 1974-01-01 |  © 2020 Steven Perry |
| *Lasthenia chrysantha* | alkali-sink goldfields | Asteraceae | annual herb | Feb-Apr | None | None | G2 | S2 | 1B.1 | Yes | 2019-09-30 |  © 2009 California State University, Stanislaus |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Legenere limosa* | legenere | Campanulaceae | annual herb | Apr-Jun | None | None | G2 | S2 | 1B.1 | Yes | 1974-01-01 |  ©2000 John Game |
| *Lepidium latipes* var. *heckardii* | Heckard's pepper-grass | Brassicaceae | annual herb | Mar-May | None | None | G4T1 | S1 | 1B.2 | Yes | 1994-01-01 |  2018 Jennifer Buck |
| *Lilaeopsis masonii* | Mason's lilaeopsis | Apiaceae | perennial rhizomatous herb | Apr-Nov | None | CR | G2 | S2 | 1B.1 | Yes | 1974-01-01 | No Photo Available |
| *Myosurus minimus* ssp. *apus* | little mousetail | Ranunculaceae | annual herb | Mar-Jun | None | None | G5T2Q | S2 | 3.1 | | 1980-01-01 | No Photo Available |
| *Navarretia cotulifolia* | cotula navarretia | Polemoniaceae | annual herb | May-Jun | None | None | G4 | S4 | 4.2 | Yes | 2001-01-01 |  © 2020 Zoya Akulova |
| *Navarretia leucocephala* ssp. *bakeri* | Baker's navarretia | Polemoniaceae | annual herb | Apr-Jul | None | None | G4T2 | S2 | 1B.1 | Yes | 1994-01-01 |  © 2018 Barry Rice |
| *Neostapfia colusana* | Colusa grass | Poaceae | annual herb | May-Aug | FT | CE | G1 | S1 | 1B.1 | Yes | 1974-01-01 | No Photo Available |
| *Plagiobothrys hystriculus* | bearded popcornflower | Boraginaceae | annual herb | Apr-May | None | None | G2 | S2 | 1B.1 | Yes | 1974-01-01 | No Photo Available |
| *Puccinellia simplex* | California alkali grass | Poaceae | annual herb | Mar-May | None | None | G2 | S2 | 1B.2 | | 2015-10-15 | No Photo Available |
| *Sagittaria sanfordii* | Sanford's arrowhead | Alismataceae | perennial rhizomatous herb (emergent) | May-Oct(Nov) | None | None | G3 | S3 | 1B.2 | Yes | 1984-01-01 |  ©2013 Debra L. Cook |
| *Sidalcea keckii* | Keck's checkerbloom | Malvaceae | annual herb | Apr-May(Jun) | FE | None | G2 | S2 | 1B.1 | Yes | 1974-01-01 | No Photo Available |
| *Symphyotrichum lentum* | Suisun Marsh aster | Asteraceae | perennial rhizomatous herb | (Apr)May-Nov | None | None | G2 | S2 | 1B.2 | Yes | 1974-01-01 | No Photo Available |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Trifolium hydrophilum* | saline clover | Fabaceae | annual herb | Apr-Jun | None | None | G2 | S2 | 1B.2 | Yes | 2001-01-01 |
| *Tuctoria mucronata* | Crampton's tuctoria or Solano grass | Poaceae | annual herb | Apr-Aug | FE | CE | G1 | S1 | 1B.1 | Yes | 1974-01-01 |


© 2005 Dean Wm Taylor

No Photo Available

Showing 1 to 33 of 33 entries

Suggested Citation:
California Native Plant Society, Rare Plant Program. 2023. Rare Plant Inventory (online edition, v9.5). Website https://www.rareplants.cnps.org [accessed 2 November 2023].

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Project Code: 2023-0028133
Project Name: Upper Westside Specific Plan

November 02, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

**Migratory Birds**: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

**Note:** IPaC has provided all available attachments because this project is in multiple field office jurisdictions.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

# OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Sacramento Fish And Wildlife Office**
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

This project's location is within the jurisdiction of multiple offices. However, only one species list document will be provided for all offices. The species and critical habitats in this document reflect the aggregation of those that fall in each of the affiliated office's jurisdiction. Other offices affiliated with the project:

**San Francisco Bay-Delta Fish And Wildlife**
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
(916) 930-5603

# PROJECT SUMMARY

Project Code: 2023-0028133
Project Name: Upper Westside Specific Plan
Project Type: Mixed-Use Construction
Project Description: The UWSP would guide development on 2,066 acres of unincorporated land in northwestern Sacramento County, including a mix of residential and non-residential land uses, including a mixed-use Town Center, parks, and an extensive system of greenbelts and multi-use trails with linkages to downtown Sacramento.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.62256705,-121.54329540452497,14z




Counties: Sacramento County, California

# ENDANGERED SPECIES ACT SPECIES

There is a total of 9 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## BIRDS

| NAME | STATUS |
|---|---|
| Least Bell's Vireo *Vireo bellii pusillus* | Endangered |

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/5945

## REPTILES

| NAME | STATUS |
|---|---|
| Giant Garter Snake *Thamnophis gigas* | Threatened |

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/4482

## AMPHIBIANS

| NAME | STATUS |
|---|---|
| California Tiger Salamander *Ambystoma californiense* | Threatened |

Population: U.S.A. (Central CA DPS)
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/2076

## FISHES

| NAME | STATUS |
|---|---|
| Delta Smelt *Hypomesus transpacificus*<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/321 | Threatened |
| Longfin Smelt *Spirinchus thaleichthys*<br>Population: San Francisco Bay-Delta DPS<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/9011 | Proposed Endangered |

## INSECTS

| NAME | STATUS |
|---|---|
| Monarch Butterfly *Danaus plexippus*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/9743 | Candidate |
| Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus*<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/7850 | Threatened |

## CRUSTACEANS

| NAME | STATUS |
|---|---|
| Vernal Pool Fairy Shrimp *Branchinecta lynchi*<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/498 | Threatened |
| Vernal Pool Tadpole Shrimp *Lepidurus packardi*<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/2246 | Endangered |

## CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

# USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

# BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

**There are bald and/or golden eagles in your project area.**

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

| NAME | BREEDING SEASON |
|---|---|
| Bald Eagle *Haliaeetus leucocephalus*<br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.<br>https://ecos.fws.gov/ecp/species/1626 | Breeds Jan 1 to Aug 31 |
| Golden Eagle *Aquila chrysaetos*<br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.<br>https://ecos.fws.gov/ecp/species/1680 | Breeds Jan 1 to Aug 31 |

# PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read the supplemental information and specifically the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

**Probability of Presence (■)**

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

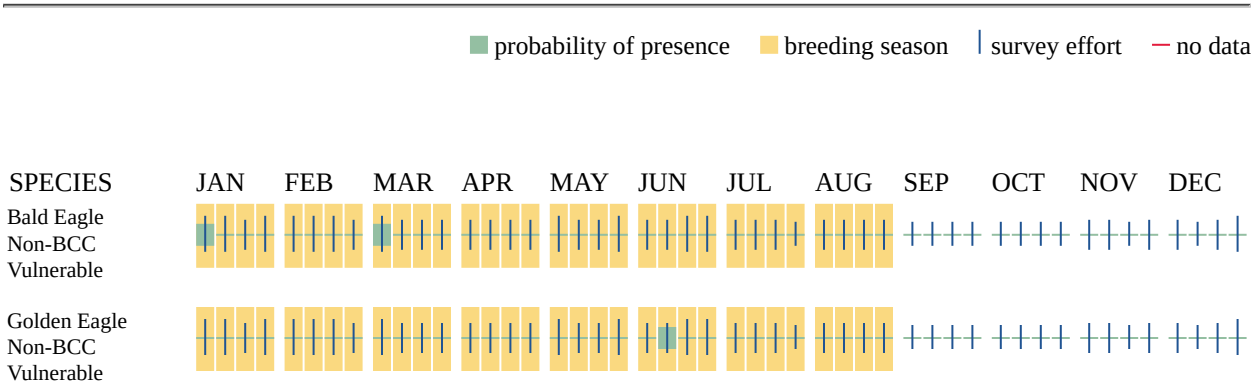
**Breeding Season (■)**

Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

**Survey Effort** (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

**No Data** (–)
A week is marked as having no data if there were no survey events for that week.

---




Additional information can be found using the following links:

- Eagle Managment https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

# MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

| NAME | BREEDING SEASON |
|---|---|
| Bald Eagle *Haliaeetus leucocephalus*<br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.<br>https://ecos.fws.gov/ecp/species/1626 | Breeds Jan 1 to Aug 31 |
| Belding's Savannah Sparrow *Passerculus sandwichensis beldingi*<br>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA<br>https://ecos.fws.gov/ecp/species/8 | Breeds Apr 1 to Aug 15 |
| Bullock's Oriole *Icterus bullockii*<br>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA<br>https://ecos.fws.gov/ecp/species/9458 | Breeds Mar 21 to Jul 25 |
| California Gull *Larus californicus*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/10955 | Breeds Mar 1 to Jul 31 |
| Clark's Grebe *Aechmophorus clarkii*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/10575 | Breeds Jun 1 to Aug 31 |
| Common Yellowthroat *Geothlypis trichas sinuosa*<br>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA<br>https://ecos.fws.gov/ecp/species/2084 | Breeds May 20 to Jul 31 |
| Golden Eagle *Aquila chrysaetos*<br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.<br>https://ecos.fws.gov/ecp/species/1680 | Breeds Jan 1 to Aug 31 |
| Long-eared Owl *asio otus*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/3631 | Breeds Mar 1 to Jul 15 |
| Marbled Godwit *Limosa fedoa*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/9481 | Breeds elsewhere |

| NAME | BREEDING SEASON |
|---|---|
| Nuttall's Woodpecker *Picoides nuttallii*<br>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA<br>https://ecos.fws.gov/ecp/species/9410 | Breeds Apr 1 to Jul 20 |
| Oak Titmouse *Baeolophus inornatus*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/9656 | Breeds Mar 15 to Jul 15 |
| Olive-sided Flycatcher *Contopus cooperi*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/3914 | Breeds May 20 to Aug 31 |
| Short-billed Dowitcher *Limnodromus griseus*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/9480 | Breeds elsewhere |
| Tricolored Blackbird *Agelaius tricolor*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/3910 | Breeds Mar 15 to Aug 10 |
| Western Grebe *aechmophorus occidentalis*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/6743 | Breeds Jun 1 to Aug 31 |
| Willet *Tringa semipalmata*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/10669 | Breeds elsewhere |
| Wrentit *Chamaea fasciata*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/10668 | Breeds Mar 15 to Aug 10 |
| Yellow-billed Magpie *Pica nuttalli*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/9726 | Breeds Apr 1 to Jul 31 |

## PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read the supplemental

information and specifically the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

**Probability of Presence** (■)

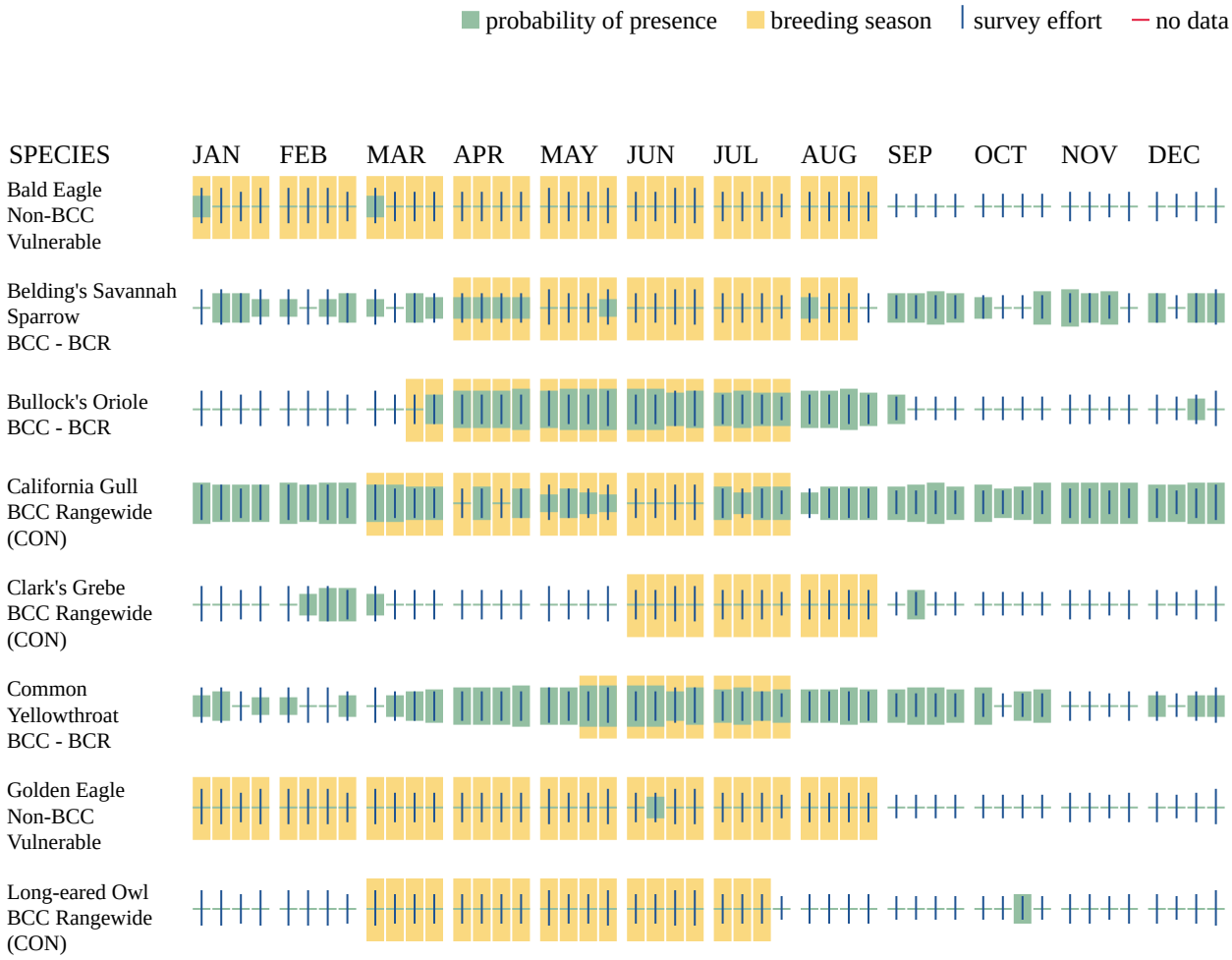
Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

**Breeding Season** (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

**Survey Effort** (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

**No Data** (–)
A week is marked as having no data if there were no survey events for that week.

---






Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

# WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER FORESTED/SHRUB WETLAND

- PFOC
- PSSC

RIVERINE

- R2UBH
- R4SBC
- R2UBHx
- R5UBF
- R5UBFx

FRESHWATER EMERGENT WETLAND

- PEM1F

## IPAC USER CONTACT INFORMATION

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## LEAD AGENCY CONTACT INFORMATION

Lead Agency: County of Sacramento

# APPENDIX EN-1

## ENERGY ESTIMATES SUMMARY REPORT

# Energy Estimates Summary Report

## Upper Westside

Last Updated September 19, 2021



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# 1. INTRODUCTION

The Upper Westside Project is a master planned community located in the Natomas Basin of Sacramento County. The project will span approximately 2,000 acres and accommodate approximately 9,356 dwelling units (DUs) and 3,000,000 square feet of commercial space. The Upper Westside plan seeks to create a one-of-a-kind community equipped with an Urban Town Center, Urban Farm, Greenbelt, the Westside Canal, and many other features that will contribute to this goal. The plan will incorporate sustainability and energy efficiency into several areas of the development including buildings and transportation.

The objective of this analysis is to estimate annual operational energy loads for the Upper Westside community to support Sacramento County in development of the Draft Environmental Impact Report (DEIR) and the project approval process. Assumptions align with those in the Specific Plan and reflect the relevant California Building Standards Codes, (California Code of Regulations (CCR)), Title 24, Part 6 Energy Efficiency Standards for energy performance and Title 24, Part 11 California Green Building Standards (CALGreen) for green building), and current or anticipated future state and local requirements. Energy use estimates are based on project information provided by the Client (including building types, conditioned floor areas, facility infrastructure, etc.), and goals agreed upon by the Client Team.

Given the preliminary conceptual level of design of the project, the data provided in this report are estimates only and provide quantities for use in high-level greenhouse gas emissions estimates and other sustainability analyses. They specifically should not be used for any engineering or architectural design, equipment sizing, or related uses that require more detailed engineering analysis.

# 2. METHODOLOGY

Analysis is based on the preliminary land use plan dated November 2020 and assumptions agreed upon by the Client Team, unless otherwise noted. See Table 1 for a summary of proposed land use types.

## BUILDINGS

Annual operational community energy consumption is estimated for all buildings including single-family, multifamily, mixed use commercial buildings, and educational facilities. Estimates are based on the best available information for energy use intensity based on building type for the Sacramento area and factor in current and expect code requirements and project specific factors. The primary data source applied in this study are simulation results from California's compliance software tools using Title 24, Part 6 prototype building energy models. The Consultant team also referenced data from previous studies to supplement prototype data where necessary. No energy modeling of the proposed buildings in the Upper Westside community was conducted. Limited modeling of prototype buildings was conducted to develop energy use intensity (EUI) estimates.

Estimates are provided for the proposed project and compared to a business-as-usual base case.

### BUILDING END-USES

Table 2 and Table 3 present assumptions applied in this analysis for the residential and commercial building end-uses: Space heating, space cooling, lighting, water heating, appliances, plug loads, and process loads. Base case energy use reflects mixed-fuel buildings constructed to today's 2019 Title 24 Building Standards Code, assuming natural gas appliances for space heating, water heating, cooking and clothes drying. Solar photovoltaics (PV) are not included except for low-rise residential buildings (all single-family and multifamily 3-stories and fewer) where PV is required under the 2019 code. The 2019 code was selected as the base case since it was the code in effect at the time the project Notice of Preparation of a Draft Environmental Impact Report was issued.[1]

Proposed project energy use reflects the construction of all-electric buildings, with few exceptions for process gas uses in commercial buildings, built to the proposed 2022 Title 24. Policy at state and local levels across California is increasingly moving towards electrification as a primary means to meet climate action plans and achieve deep reductions in greenhouse gas (GHG) emissions. Eliminating fossil fuel consumption throughout most of Upper Westside is consistent with anticipated local future policy including Sacramento County's Draft Climate Action Plan (Ascent Environmental, 2021) and the City of Sacramento's proposed building ordinance (Electrification of New Construction, 2021).

Anticipated 2022 Title 24 code requirements are based on the California Energy Commission's (CEC's) draft Express Terms released in February of 2021 (California Energy Commission, 2021), which are scheduled to go into effect January 1, 2023. All buildings constructed at Upper Westside must meet the minimum code requirements in effect at time of building permit application. At minimum, the project will be subject to the final adopted 2022 code requirements. This analysis does not include assumptions for code changes beyond the 2022 code even though many buildings in the community will be subject to the requirements of subsequent code cycles as a result of the project's long development schedule.

[1] The Notice of Preparation was issues 10/5/2020. https://planning.saccounty.net/PlansandProjectsIn-Progress/Documents/Notice%20of%20Preparation%20of%20an%20EIR_UpperWestside.pdf

*Table 1: Land Use Summary Table*

| Land Use Type | Description | Total DUs | Avg Square Foot / DU | Total Square Feet |
|---|---|---|---|---|
| VLDR (very low density residential) | Single-family detached (1 acre to 85' x 120') | 161 | 3,500 | 563,500 |
| LDR (low density residential) | Single-family detached (55' x 100') | 2,351 | 2,500 | 5,877,500 |
| LMDR (low/medium density residential) | Single-family detached (45' x 80') | 1,105 | 2,000 | 2,210,000 |
| MDR (medium density residential) | Single-family detached/townhome | 750 | 1,700 | 1,275,000 |
| HDR (high density residential) | Apartment or rowhome (2-3 story) | 910 | 1,200 | 1,092,000 |
| VHDR (very high density residential) | Urban stacked flats (3-4 story) | 791 | 900 | 711,900 |
| CMU (commercial mixed use) | Apartment over commercial (4-5 story) | 3,288 | 800 | 2,630,400 |
| | Mid-rise office | | | 1,040,213 |
| | Specialized (medical school/labs) | | | 208,043 |
| | Specialized (medical offices) | | | 41,609 |
| | Hotel | | | 312,032 |
| | Entertainment (theater/gym/clubs) | | | 124,826 |
| | Grocery | | | 15,000 |
| | Restaurant (small-med restaurant) | | | 89,021 |
| | Retail (small-medium retail) | | | 145,630 |
| | Institutional/religious | | | 104,021 |
| EHC (employment highway commercial) | Mid-rise office | | | 532,610 |
| | Hotel | | | 133,153 |
| | Restaurant (small restaurant) | | | 43,768 |
| | Supermarket | | | 45,000 |
| | Retail (small retail) | | | 44,384 |
| | Entertainment (theater/gym/clubs) | | | 44,384 |
| | Institutional/religious | | | 44,384 |
| S (schools) | (3) K-8 schools (800 students each) | | | 183,600 |
| | High school (1,500 students) | | | 142,500 |
| | Community college (1,200-2,400 students) | | | 35,000 |

*Table 2: Residential Building Energy Use Assumptions*

| Land Use Type | Description | Base Case | | | Proposed Project | | |
|---|---|---|---|---|---|---|---|
| | | Title 24 Code | Fuel Type | Solar PV | Title 24 Code | Fuel Type | Solar PV |
| Single-Family Residential | | | | | | | |
| VLDR | Single-family detached | 2019 | Mixed Fuel | Offset all end-uses except heating, water heating, cooking, clothes drying[1] | 2022 | All-electric | Same as base case |
| LDR | Single-family detached | | | | | | |
| LMDR | Single-family detached | | | | | | |
| MDR | Single-family detached/ townhome | | | | | | |
| Multifamily Residential | | | | | | | |
| HDR | Apartment or rowhome | 2019 | Mixed Fuel | Offset all end-uses except heating, water heating, cooking, clothes drying[1] | 2022 | All-electric | Same as base case |
| VHDR | Urban stacked flats [3] | | | None | | | 2.21 W/Sq.Ft[2] |
| CMU | Apartment over commercial | | | None | | | 2.21 W/Sq.Ft[2] |

[1]Based on 2019 Title 24, Part 6 code requirements which are not proposed to change for the 2022 Title 24 code.

[2]Based on proposed 2022 Title 24, Part 6 code requirements.

[3]For the purposes of the solar PV system the VHDR land use type is considered to be four-stories or greater.

*Table 3: Commercial Building Energy Use Assumptions*

| Land Use Type | Description | Base Case | | | Proposed Project | | |
|---|---|---|---|---|---|---|---|
| | | Title 24 Code | Fuel Type | Solar PV | Title 24 Code | Fuel Type | Solar PV[1] |
| CMU | Mid-rise office | 2019 | Mixed Fuel | None | 2022 | all-electric | 3.13 W/Sq.Ft |
| | Specialized (medical school/labs) | | | | | mixed fuel gas for lab services only | 0.44 W/Sq.Ft |
| | Specialized (medical offices) | | | | | all-electric | 0.44 W/Sq.Ft |
| | Hotel | | | | | all-electric | 0.44 W/Sq.Ft |
| | Entertainment | | | | | all-electric | 0.44 W/Sq.Ft |
| | Grocery | | | | | all-electric | 2.91 W/Sq.Ft |
| | Restaurant | | | | | mixed fuel gas for cooking equipment only | 0.44 W/Sq.Ft |
| | Retail | | | | | all-electric | 2.91 W/Sq.Ft |
| | Institutional/religious | | | | | all-electric | 0.44 W/Sq.Ft |
| EHC | Mid-rise office | | | | | all-electric | 3.13 W/Sq.Ft |
| | Hotel | | | | | all-electric | 0.44 W/Sq.Ft |
| | Restaurant | | | | | mixed fuel gas for cooking equipment only | 0.44 W/Sq.Ft |
| | Supermarket | | | | | all-electric | 2.91 W/Sq.Ft |
| | Retail | | | | | all-electric | 4.62 W/Sq.Ft |
| | Entertainment | | | | | all-electric | 0.44 W/Sq.Ft |
| | Institutional/religious | | | | | all-electric | 0.44 W/Sq.Ft |
| S | K-8 school | | | | | all-electric | 1.78 W/Sq.Ft. |
| | High school | | | | | all-electric | 1.78 W/Sq.Ft. |
| | Community college | | | | | all-electric | 1.78 W/Sq.Ft. |

[1]Based on proposed 2022 Title 24, Part 6 code requirements.

Energy use estimates are based on the CEC's residential and commercial building prototypes simulated in the latest research versions of the statewide compliance software: CBECC-Res 2022.0.1[2] for single-family and multifamily buildings and CBECC-Com 2022.0.1[3] for commercial buildings. Energy use estimates are also based on the latest weather files created for the 2022 software which capture changing climate conditions. The proposed land-use types at Upper Westside were matched to the most representative CEC prototype and energy use was calculated based on EUI of the prototype buildings. Where a representative prototype was not available for a few of the commercial land use types, slight changes were made to existing prototypes to better reflect the proposed land use. Table 23 in the Appendix lists which software and prototypes were used to estimate energy use for each land use type and what revisions were made.

EUIs for the residential buildings were based on the prototypes for both mixed-fuel and all-electric designs. Since the commercial prototypes assume mixed-fuel designs only, EUIs for all-electric and mostly electric designs were based on reach code studies conducted for the 2019 Title 24 code cycle which evaluated all-electric commercial prototypes ((Statewide Reach Code Team, 2019), (Statewide Reach Code Team, 2021)).

Multifamily buildings are being unified as part of the 2022 code cycle with an alignment between low-rise (three-stories and fewer) and high-rise (four-stories and greater) multifamily buildings. As a result, the energy use estimates in this analysis are based on the same assumptions regardless of building height. Multifamily energy use estimates are based on CBECC-Res algorithms and load assumptions, which are expected to be used for all multifamily buildings in 2022 as they generally are better reflective of residential load profiles. The one exception is for the PV systems as the 2022 code maintains a differentiation between the two building types for the PV requirement.

There are various proposed changes to energy requirements for commercial occupancies in the 2022 Express Terms (California Energy Commission, 2021). These proposed changes are not yet incorporated into the CEC's building prototypes. Savings for these measures relative to the 2019 code were estimated based on per square foot electricity and gas savings reported in the Codes and Standards Enhancement (CASE) reports developed by the Statewide CASE Team.[4]

### SWIMMING POOLS

The VLDR and LDR building types are anticipated to have swimming pools on some of the lots. It is estimated that 25 percent of the VLDR and 10 percent of the LDR will have an average 20,000 gallon pool. This analysis assumes that the pools are not heated and are used 7 months out of the year, roughly April through October.

Additionally, it's assumed there is a 150,000 gallon community pool and 4,000 gallon spa to serve residents at the multifamily buildings and a 500,000 Olympic size pool at the high school. These are expected to operate year-round and therefore will be heated in the winter. The energy use for community pool and spa are assigned to the HDR land use even though they may serve multiple land uses.

Pumping energy use is based on Title 24 and Title 20 requirements and assumes a variable speed motor which allows for filtration rates to be reduced during unoccupied times. Heating energy use assumes a minimum efficiency natural gas heater and no use of a pool cover. See Table 4 for a

[2] http://www.bwilcox.com/BEES/cbecc2022.html

[3] http://bees.archenergy.com/software2022.html

[4] https://title24stakeholders.com/measures/building-types/nonresidential/2022/

summary of assumptions and resultant annual energy use for pumping and heating. Energy use estimates for the base case and proposed project are the same.

*Table 4: Pool and Spa Assumptions*

| Land Use Type | Type | Volume (gallons) | Heated | Annual Availability | Daily Availability | Annual Pumping kWh | Annual Heating therms |
|---|---|---|---|---|---|---|---|
| VLDR – Single-family detached | Pool | 20,000 (at 25% of lots) | No | 7 months/year | 24-hours | 5,356 | 0 |
| LDR – Single-family detached | Pool | 20,000 (at 10% of lots) | No | 7 months/year | 24-hours | 5,356 | 0 |
| HDR - apartments | Pool | 150,000 | Yes | Year-round | 18-hours | 51,796 | 43,504 |
| | Spa | 4,000 | Yes | Year-round | 18-hours | 18,737 | 4,835 |
| High school | Pool | 500,000 | Yes | Year-round | 18-hours | 172,655 | 145,012 |

## SITE LIGHTING

### SURFACE & STRUCTURED PARKING

Table 5 presents parking assumptions for all buildings excluding single-family homes with private garages. Energy use for the single-family garages is included in the building energy estimates. All parking lighting is assumed to be light emitting diode (LED) technology meeting Title 24 requirements. Hardscape lighting requirements are proposed to be updated in the 2022 Title 24 code cycle. Base case energy use for the surface parking lots is based on the 2019 hardscape code requirements while the proposed project energy use is based on the 2022 code proposals. In all cases bi-level lighting with motion sensor and photosensor controls are assumed. Annual energy use calculations are based on 4,688 annual dark hours when the photosensor control will turn the lights on and 20 percent occupancy rate. The occupancy rate is based on data from the UC Davis California Lighting Technology Center and assumes that 20 percent of the time the area is occupied, and lights are on at full capacity. The remainder of the time the area is unoccupied and light levels are reduced to 40 percent of full capacity.

The structured parking is assumed to be enclosed and therefore ventilated and illuminated. Both base case and proposed energy use for the structured parking are estimated at the same value since there are no proposed changes for structured parking in the proposed 2022 code. Bi-level lighting with motion sensor and photosensor controls are assumed. Structured parking energy use estimates are based on 0.063 Watts per square foot and a blended occupancy rate of 55 percent to account for savings from lighting controls based on case study data.

Parking area is calculated as 350 square feet per parking space. Code allowances for hardscape parking are based on total area and total perimeter. Parking lot perimeter is estimated as 0.17 of the total surface parking area.

### PARKS

This analysis assumes that there is minimal illuminated area at each of the parks and urban farmland uses and illumination is limited to low-level pathway lighting. Total pathway lighting applied in the calculations assumes 500 feet of path for each of the major eight parks for a total of 4,000 feet and 500 feet in total for the urban farm. All lighting is assumed to be LED technology

meeting Title 24 requirements. Pathway lighting is subject to the Title 24 hardscape lighting requirements; however, in the Consultant Team's experience applying these requirements results in higher loads than are typical for narrow pathways. Therefore, a lighting density of 0.5 Watts per linear feet of path was used based on data from prior projects. Bi-level lighting with motion sensor and photosensor controls are assumed, and annual energy use calculations apply the same hours of operation, and light level reduction assumptions, as the surface parking lighting. Energy use estimates for the base case and proposed project are the same for parks and the urban farm land uses.

### PUBLIC ROADWAYS

Based on the land-use plan dated November 2020, 80,000 linear feet of roadway outside of the Ag-Buffer is estimated for this analysis. Public roadways are not regulated under the Title 24, Part 6 Energy Code. A lighting density of 0.23 Watts per linear feet of path was used based on LED data from prior projects. Annual energy use calculations assume a photosensor but no other controls. Energy use estimates for the base case and proposed project are the same. No energy use is estimated for roadway within the Ag-Buffer.

*Table 5: Parking Lot Assumptions*

| Land Use Type | Description | Estimated Spaces per Unit | Total Parking Spaces | |
|---|---|---|---|---|
| | | | Structured | Surface |
| HDR | Apartment or rowhome | 1.5 spaces/DU | | 1,365 |
| VHDR | Urban stacked flats | 1 space/DU | 791 | |
| CMU | Apartment over commercial | 1 space/DU | 3,288 | |
| | Mid-rise office | 1 space/300Sq.Ft | 3,467 | |
| | Specialized (medical school/labs) | 1 space/300Sq.Ft | 693 | |
| | Specialized (medical offices) | 1 space/300Sq.Ft | 139 | |
| | Hotel | 1 space/300Sq.Ft | 1,040 | |
| | Entertainment | 1 space/100Sq.Ft | 1,248 | |
| | Grocery | 1 space/300Sq.Ft | 50 | |
| | Restaurant | 1 space/100Sq.Ft | 890 | |
| | Retail | 1 space/300Sq.Ft | 485 | |
| | Institutional/religious | 1 space/100Sq.Ft | 1,040 | |
| EHC | Mid-rise office | 1 space/300Sq.Ft | | 1,775 |
| | Hotel | 1 space/300Sq.Ft | | 444 |
| | Restaurant | 1 space/100Sq.Ft | | 438 |
| | Supermarket | 1 space/300Sq.Ft | | 150 |
| | Retail | 1 space/300Sq.Ft | | 148 |
| | Entertainment | 1 space/100Sq.Ft | | 444 |
| | Institutional/religious | 1 space/100Sq.Ft | | 444 |
| S | K-8 school | 60 spaces/school | | 180 |
| | High school | 400 spaces/school | | 400 |
| | Community college | 200 spaces/school | | 200 |

## ELECTRIC VEHICLE CHARGING

Level 2 electric vehicle (EV) charging is assumed at the single-family garages and at parking lots serving the multifamily and commercial land uses. Proposed project energy use estimates are based on one EV chargers installed per each single-family garage space and EV chargers at 20 percent of multifamily and commercial parking spaces. Base case energy use reflects chargers at only one percent of spaces.

Single-family homes EV charging estimates are based on data from the U.S. Environmental Protection Agency and Federal Highway Administration, resulting in an annual estimate of energy use per EV charger of 3,387 kWh (see Table 6). This aligns with SMUD's Integrated Resource Plan which claims that the average light-duty EV uses approximately 3 MWh per year (Sacramento Municipal Utility District, 2019).

*Table 6: Single-Family EV Charging Assumptions*

| Metric | Value | Source |
|---|---|---|
| Average EV efficiency kWh per mile | 0.3042 | EPA's fuel economy data for 2019 through 2021 model year mid-size EVs (U.S. Environmental Protection Agency, 2021). |
| Average daily miles per vehicle | 30.5 | National Household Travel Survey Best Estimate of Annual Vehicle Mileage for 2017 (Federal Highway Administration. 2021) |

The energy estimates for the public chargers at the commercial and multifamily parking lots assume three full-hours of daily charging with a Level 2 charger that draws 10 kW during operation. This results in an annual estimate of 10,950 kWh per charger. This annual use estimate is applied as an average across all the anticipated public chargers for the project. However, the use profile of the public chargers may vary widely. There is a potential for greater use at the employment highway commercial parking lots which may have fast chargers and receive highway traffic with frequent turn-over, and lower demand in the commercial core area.

EV charging technology and use profiles are changing rapidly. These estimates are based on the best available information at the time of the analysis.

## WATER SUPPLY

Annual energy consumption is estimated for the potable water supply only. All water use is assumed to be potable water. The use of recycled water or untreated irrigation water remains an option for some uses (e.g., irrigation of open space, landscape corridors, agricultural uses, and make-up water for the canal); however, these uses have not yet been determined, and are therefore not included in these water energy estimates.

The potable water energy estimates are based on the March 6, 2020 Water Infrastructure Conceptual Plan developed by Wood Rogers,[5] which is the basis of the *Upper Westside Specific Plan February 2021 Administrative Draft (UWSP)*. The Water Infrastructure Conceptual Plan estimates a total water demand, including 7.5 percent System Losses, of 3,879 acre-feet per year (AFY), or

[5] Wood Rogers, "Upper Westside – Water Infrastructure Feasibility Review Memo," March 6, 2020. Available online as of 4/15/2021 at https://planningdocuments.saccounty.net/ViewProjectDetails.aspx?ControlNum=PLNP2018-00284

1,264 million gallons per year (MGY). These estimates are based on the Sacramento County Water Agency's projection methodology and the project's proposed land uses.

The UWSP Water Infrastructure Conceptual Plan proposes a water treatment plant and 1.5 MG water storage tank site southwest of the intersection of Byrte Bend Road and San Juan Road, on the west side of the proposed 20 acre detention basin. The Water Infrastructure Conceptual Plan requires a retailer to deliver treated water to the plan area. The retailer would own, operate, and maintain the plant area transmission and distribution facilities. The retailer is anticipated to be one of the following three options:

- Option 1 - City of Sacramento - Department of Utilities
- Option 2 - Sacramento County Water Agency through an established of a water supply zone; or
- Option 3 - Creation of an independent water district or annexation to an existing water district.

In addition to who would serve as the water retailer (options 1-3 above), the UWSP outlines four different water supply alternatives for where potable water supply would come from:

1. Alternative 1: City of Sacramento
   The City has excess water rights and could convey water through its existing infrastructure system to the proposed on-site treatment and storage facility.
2. Alternative 2: NCMWC via City of Sacramento
   The Natomas Central Mutual Water Company (NCMWC) has significant water rights to the Sacramento River. The City of Sacramento could utilize the NCMWC water rights to distribute water to the project through its system. From the energy standpoint, this is the same as Alternative 1, as the same water treatment infrastructure would be used; the only difference is whose water rights are used.
3. Alternative 3: NCMWC
   Sacramento River water from NCMWC's Riverside Plant could be conveyed to a new onsite water treatment and storage facility. The system would be connected to the City of Sacramento's system for redundancy.
4. Alternative 4: Groundwater
   Deep wells could be drilled on the project site and used to feed a new onsite water treatment and storage facility. This is similar to Alternative 3 but uses ground water instead of surface water. Alternative 4 would have a higher energy use because deep groundwater pumping has a higher energy intensity than sourcing water from surface waters (e.g. Alternatives 1-3).

Per the *Water Infrastructure Conceptual Plan*, Alternative 1 is the preferred option and serves as the basis for this analysis. Alternative 2 would have the same energy use as Alternative 1. Alternative 3 would likely have lower water pumping conveyance energy use, but the scale of the added water treatment plant is smaller and may be more energy intensive due to its size. Alternative 3 needs further refinement before a meaningful energy analysis can be performed. Similarly, Alternative 4 requires further development. Alternative 4 could potentially require the greatest amount of energy due to the deep groundwater pumping; however, the exact amount of energy would depend on the depth of the wells.

## WATER SYSTEM ENERGY USE INTENSITY (EUI)

The Energy Use Intensity (EUI) of the water supply system is the total kWh of electricity used per gallon of water for extraction, diversion, conveyance, storage, treatment and distribution of potable water. Urban Water Management Plans (UWMPs) are to be prepared by California's urban water suppliers to support their long-term resource planning, and to ensure adequate water supplies are available to meet existing and future water needs. California Department of Water Resources (DWR) made reporting of local water system EUIs optional in its 2015 Urban Water Management

Plan. Urban Water Management Plans must be prepared every five years. The City of Sacramento did not report EUI data for its 2015 UWMP. However, the Sacramento County Water Agency did report its 2015 water EUI, which was 701.4 kWh/acre-foot of potable water delivered.[6] Water system EUI reporting is mandatory for the 2020 Urban Water Management Plan, for which reporting is due July 1, 2021. The Project Team corresponded with the City of Sacramento to obtain its EUI data before officially reported but was unable to get the EUI data. Sacramento's sustainability, climate, benchmarking and other public reporting data were reviewed; however, there was insufficient data to calculate water supply EUIs. A detailed literature review was conducted to identify other relevant EUI data for use in this analysis.

Stanford's Water in the West program has tabulated the most comprehensive set of water infrastructure EUI data, broken out by individual water infrastructure phases (extraction, diversion, conveyance, treatment and distribution)[7]. Using Water in the West EUI data resulted in a similar total water supply EUI as reported in the Sacramento County Water Agency's 2015 Urban Water Management Report, but with a larger range of variability.

Therefore, for this analysis, Sacramento County Water Agency's *2015 Urban Water Management Report*'s overall water system EUI of 701.4 kWh/acre-foot was used. This is the most current and representative EUI of the water supply that will eventually serve this project. The mix of surface and ground water supplies, depth to groundwater, raw water quality, distribution distances and topography, and other factors are similar. The Sacramento County Water Agency provides only a total water infrastructure EUI. Individual components of the water supply chain (extraction, treatment and distribution) are estimated from literature data and broken out for reference.

*Table 7: Water infrastructure Energy Use Intensity (EUI)*

| Water Supply Component | kWh/AF | Source Notes |
|---|---|---|
| Extraction (Mix of surface and ground water) | 276.1 | Calculated. Extraction = Total – Treatment – Distribution *In the range of benchmark data for a mix of surface and ground water* |
| Treatment | 32.5 | Stanford, Water in the West, benchmark average |
| Distribution | 392.8 | Stanford, Water in the West, benchmark average |
| Total | 701.4 | Sacramento County Water Agency 2015 Urban Water Management Plan |

## WASTEWATER

Annual energy consumption is estimated for the wastewater infrastructure. The wastewater energy estimates are based on Wood Roger's *Upper Westside Level 1/2 Sewer Study updated February 2021*, and the *Upper Westside Specific Plan February 2021 Administrative Draft (UWSP).*

[6] Sacramento County Water Agency. "2015 Urban Water Management Plan," Section 6.10, Energy Efficiency, June 2016. https://waterresources.saccounty.net/scwa/Documents/Engineering%20Reports/Sac_CWA_2015_UWMP_6-28-2016.pdf

[7] Stanford University, Water in the West program, "Water and energy Nexus: A Literature Review." 2013. https://waterinthewest.stanford.edu/sites/default/files/Water-Energy_Lit_Review_0.pdf

## SEWER SYSTEM DESCRIPTION

The project is partially within the Sacramento Area Sewer District (SacSewer); the remaining project area is planned to be annexed into the District. SacSewer's standards were used for Wood Roger's Level 1/2 Sewer Study.

Approximately 2% of the project's wastewater ("Shed G" in the *Upper Westside Level 1/2 Sewer Study*) will flow by gravity to an existing gravity trunk at the intersection of El Centro and San Juan Road. These flows go to the Sacramento Regional County Sanitation District (Regional San) New Natomas Pump Station (NNPS). The remaining 98% of the project's wastewater will drain by gravity to a new onsite pump station that will convey the wastewater to the NPPS via a force main. From the NNPS, sewage is conveyed to the Regional San's wastewater treatment plant near Elk Grove through a combination of force mains and gravity conveyance. Treated water is discharged into the Sacramento River. Regional San is constructing a new wastewater treatment plant, the "EchoWater Project,"[8] which is adjacent to the existing wastewater treatment plant. The new EchoWater Project plant is expected to be operational by 2023 and is planned to treat the project's wastewater to tertiary standards using advanced wastewater treatment processes. This will include improved ammonia and nitrate removal, among other improvements. This will be a more energy intensive process than the current wastewater treatment plant. The new plant has a permitted capacity of 181 million gallon per day (MGD) average dry weather flow (ADWF).

Table 8 summarizes the project's estimated wastewater generation from Wood Roger's *Level 1/2 Sewer Study*, *updated February 2021*. The Average Dry Weather Flows (ADWF), in MGD, are multiplied by 365 to get the estimated annual wastewater flows in million gallons per year (MGY) for the energy calculations. Additional infiltration and inflow (I/I) flows are not included in the annual wastewater estimate. The Sacramento Area Sewer District's *System Capacity Plan Update 2020* models future development groundwater infiltration (GWI) rates as zero (i.e., no additional ground water infiltration than is already included in the 310 gpd per equivalent single-family dwelling (ESD) value used to calculate the ADWF)[9]. Modeling rainfall dependent infiltration/inflow (RDI/I) is beyond the scope of this analysis. RDI/I is not expected to be a significant contributor to total annual wastewater flows. Moreover, the annual wastewater generation estimates already exceed the estimated potable water consumption. This is due to the differing methodologies the different agencies use for estimating the respective flows. Thus, the annual wastewater generation estimate is conservative and likely overestimates actual wastewater flows.

*Table 8: Wastewater Flows*

| Segment | Shed G | Pump Station | Total |
|---|---|---|---|
| $Q_{avg}$, Average Dry Weather Flow (ADWF), (MGD) | 0.09 | 4.19 | 4.28 |
| $Q_{annual}$, Annual ADWF (MGY) | 33 | 1,529 | 1,562 |

[8] https://www.regionalsan.com/echowater-project

[9] Sacramento Area Sewer District, System Capacity Plan Update 2020, Section 3.1.2, p.16. https://www.sacsewer.com/sites/main/files/file-attachments/2020_scp_final_report_20210108.pdf?1615570170

### WASTEWATER INFRASTRUCTURE ENERGY USE INDICES

System-specific wastewater infrastructure energy use indices (EUIs) are not available from the various agencies involved in the wastewater collection and treatment processes serving this project. The City of Sacramento is in the process of benchmarking its wastewater treatment energy use, which shares much of the same wastewater treatment infrastructure, and these EUIs are not currently available. The EIR and other planning documents for Regional San's new EchoWater treatment plant were reviewed for EUIs or performance data to calculate EUIs; however, these were also not available.

The best available EUI data for the wastewater treatment infrastructure serving this project is previous study data tabulated by Stanford's Water in the West Program, "Water and Energy Nexus: A Literature Review."[10] On average, wastewater collection consumes 150 kWh per million gallons (MG) for pumping. The pumping energy for the new pump station to be installed for the project is included in this system average, as well as the additional pumping energy required to get the wastewater from the NPPS to the wastewater treatment plant. Wastewater treatment is more variable, and depends upon the size of the plant, the level to which the wastewater is treated, and the treatment technology. The wastewater treatment EUI used for this analysis is based on characteristics for the Regional Sans's new EchoWater wastewater treatment plant, in terms of size (>100 MGD capacity), treatment level (tertiary) and technology (advanced wastewater treatment technology with nitrification). Wastewater treatment will consume approximately 1,588 kWh per MG per year. Wastewater treatment EUIs for this project are summarized in Table 9. These EUIs are multiplied by the annual sewer flows to get the annual wastewater energy use, which is summarized in Table 19.

*Table 9: Wastewater Infrastructure Energy Use Intensity (EUI)*

| Component | EUI (kWh/MG) |
|---|---|
| Wastewater Collection | 150 |
| Wastewater Treatment | 1,588 |
| Total | 1,738 |

## STORMWATER

Annual community energy consumption for stormwater pumping is estimated for the project's detention basins and regional stormwater pumping stations. The drainage pumping energy estimates are based on the March 6, 2020 drainage infrastructure conceptual plan developed by Wood Rogers,[11] and drainage plan preliminary design details provided by Wood Rogers on

[10] Stanford University, Water in the West program, "Water and Energy Nexus: A Literature Review," Table 5: Unit Electricity Consumption for Wastewater Treatment by Size of Plant. 2013. https://waterinthewest.stanford.edu/sites/default/files/Water-Energy_Lit_Review_0.pdf

[11] Wood Rogers, "Upper Westside – Drainage Infrastructure Conceptual Feasibility Review Memo," March 6, 2020. Available online as of 4/15/2021 at https://planningdocuments.saccounty.net/ViewProjectDetails.aspx?ControlNum=PLNP2018-00284

4/13/2021[12, 13]. These details include refined drainage watershed areas, estimated watershed imperviousness, and refined basin drainage flows.

## DRAINAGE SYSTEM DESCRIPTION

The project is divided into 83 drainage watersheds, ranging in size from 3.5 acres to 94.4 acres. Stormwater runoff from most of the watersheds drain by gravity into one of four large detention basins: watersheds SOUT01-SOUT16, ROADS1, and ROADS2 drain into the south detention basin; watersheds WEST01-WEST13 drain into the west detention basin; watersheds NORT01-NORT12 drain into the north detention basin; and watersheds EAST01-EAST15, and ROADE1-ROADE3 drain into the east detention basin. The watersheds surrounding the canal (CENT01-CENT05) drain directly into the project's central canal water feature (the "CENTRAL" basin). This canal then drains via gravity into the east detention basin. Stormwater runoff from the agricultural land uses on the west side of the project along the river (watersheds OFFS01-OFFS05, OFFW01- OFFW08, OFFN01-OFFN03) do not drain into the basins, and there is no pumping currently planned for stormwater flows for these watersheds. Most areas dedicated to school land uses drain into one of the four detention basins; however, there is a single 65.5-acre watershed (SCHOOL) that occupies most of the area planned for the high school that does not directly drain into one of the four main detention basins. This high school watershed will have a separate on-site detention basin, which will likely be pumped. This site will be required to detain flows to existing condition flow rates and will be designed at a later date. The SCHOOL watershed is just west of the east detention basin. For purposes of this analysis, it is assumed that runoff from this SCHOOL watershed will flow into a shallower detention basin located within its watershed, which will then be pumped into the adjacent east detention basin. This detention basin has not yet been designed. It is estimated that the pump lift will be four feet to estimate its pumping power.

The Upper Westside project is located in an area that has a high groundwater table. Due to the high-water table, the four detention basins will be lined to minimize groundwater seepage. Therefore, there will be minimal stormwater infiltration from the basins, and all runoff entering the basins must be pumped out of the basins. Each basin will have a pump station. The basin pump stations are planned to be staggered four-pump systems, consistent with the City of Sacramento Stormwater Standards. The lowest pump will be a 1 cubic foot per second (cfs) low-flow pump set to maintain the stormwater quality pond depth in the event of minor flows. The three remaining pumps will be equally sized and placed at varied elevations.

Water flowing into the north basin is pumped into the Reclamation District 1000 (RD1000) Natomas West Drainage Canal. The north basin's pump station will be located at the site of the existing RD1000 Riverside Pump Station, but this pump station will have to be rebuilt to accommodate the new flows and will in effect be a new pump station. Stormwater flowing into the west basin is pumped out of the basin, where it then flows via gravity to the east basin. Stormwater flowing into the south basin is pumped out of the basin, where it then drains into the project's central canal. The canal is primarily a water feature, but it also serves as a gravity stormwater conveyance from the south basin to the east basin. Water from the south basin flows through the canal via gravity and drains into the east basin. All of the flows into the east basin are pumped into

[12] Wood Rogers, "Preliminary Backbone Storm Drain Exhibit, Upper Westside Master Drainage Study," January 2021.This document shows proposed watersheds and basin locations based on refined land use plan and drainage plans. The watershed names referenced in this report are based on this document.

[13] Wood Rogers, "Table 2.1 Proposed Percent Imperviousness Table", 4/13/2021. Preliminary table showing area of each watershed and the estimates of imperviousness for each watershed based on land use.

the RD1000 Natomas West Drainage Canal. The east basin is at the site of the RD1000 San Juan Pump Station; this will also need to be rebuilt to accommodate the new flows and will effectively be a new lift station.

Stormwater discharged into the Natomas West Drainage Canal flows into the Main Natomas Drainage Canal, which ends at the RD1000 Pumping Plant 1A and 1B. Only pumping plant 1B is operational. Pumping plant 1B pumps the water into the Sacramento River. The following figure summarizes the stormwater flows and pumping.

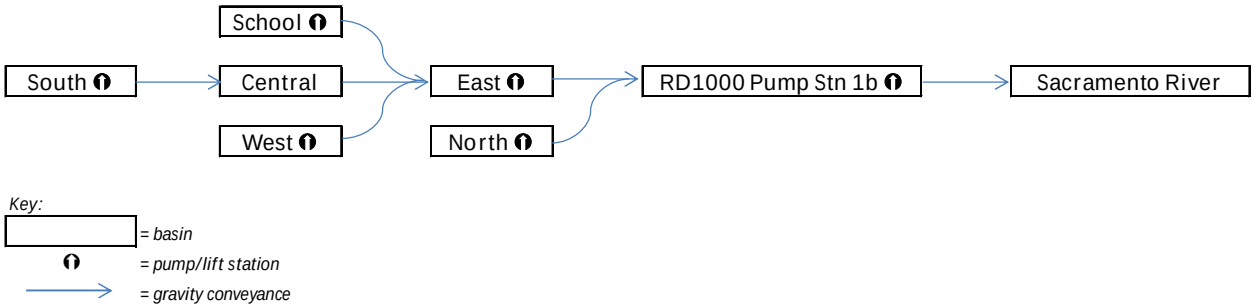



*Figure 1: Schematic of the stormwater drainage flows and pump/lift stations.*

## ANNUAL STORMWATER RUNOFF ESTIMATES

Stormwater runoff is influenced by the watershed areas feeding each detention basin and watershed imperviousness. The watershed areas and imperviousness are based on Wood Rogers' most recent (as of 4/13/2021) drainage system design.

Wood Rogers developed the conceptual drainage master plan and used peak storm events (200-year 10-day storm event, 100-year 10-day storm event, and a 10-year storm event) to size the drainage system to accommodate worst-case flows. To estimate annual pumping energy, annual stormwater generation for a typical meteorological year is required. The U.S. EPA's National Stormwater Calculator (SWC) was used to estimate annual stormwater flows. The SWC estimates the amount of stormwater runoff generated from a land parcel using long-term historical rainfall data, local soil conditions, land cover, and project-specific stormwater management design details. The SWC is designed for projects in the early phases of planning and design. The SWC uses the EPA's Storm Water Management Model (SWMM) as its computational engine. SWMM is a well-established, EPA developed model that has been used for over 40 years. The SWC accesses several national databases that provide soil, topography, rainfall, and evaporation information for a chosen site.

Table 10 identifies key data assumptions used to estimate the runoff from each watershed feeding the project's pumped detention basins. The watershed area and watershed imperviousness (the percent of the watershed area covered by roofs, roads, sidewalks, parking lots and driveways), come from the most recent (4/13/2021) drainage design data provided by Wood Rogers, aggregated to the detention-basin level. The "natural" land cover column represents the percent of the watershed area that is in a more natural, non-forested land cover with shrubs, scrub and some trees. This corresponds to the approximate area of the detention basins, landscape corridors, and wetland uses that are estimated to be in a more natural landscaped form. The "landscape" land cover column represents the watershed area covered in typical urban/suburban landscaping and grass. The SWC uses these variables to estimate runoff from different types of land cover. The Soil characteristics come from databases in the SWC. Figure 2 shows the soil type (runoff potential) for the site. The site has a uniform soil type C (moderately high runoff potential) in areas draining to the pumped detention basins. The site is fairly uniform except for an area (predominately in the

North watershed) that has a lower soil drainage characteristic. Precipitation data comes from historical Sacramento rain gauge "5 ESE" data (1970-2006); there is an average of 19.62 inches of precipitation per year. Evaporation data comes from the same weather station, but is based on 1970-2005 data, with an average evaporation rate of 0.22 inches/day. No climate change related modifications were made to the weather data used in the analysis. The last two columns show the calculated average annual runoff from each watershed, in inches and acre-feet.

*Table 10: Summary of Watershed Drainage Areas and Characteristics Used to Estimate Annual Runoff*

| Water-shed | AREA (ac) | Land Cover | | | Soil Characteristics | | | Runoff | |
|---|---|---|---|---|---|---|---|---|---|
| | | Imper-vious | Land-scape | Natural | Soil Type (Runoff Potential) | Soil Drainage (in/hr) | Slope | Avg. Annual Runoff (in) | Avg. Annual Runoff (ac-ft) |
| Central | 75.6 | 60.4% | 39.6% | 0.0% | C-Moder-ately high runoff potential | 0.5 | Flat (2% Slope | 9.94 | 63 |
| School | 65.5 | 50.0% | 50.0% | 0.0% | | 0.5 | | 8.24 | 45 |
| South | 404.1 | 53.4% | 42.1% | 4.5% | | 0.5 | | 8.79 | 296 |
| West | 342.8 | 42.9% | 51.8% | 5.3% | | 0.5 | | 7.07 | 202 |
| East | 408.6 | 55.0% | 38.4% | 6.7% | | | | 9.04 | 308 |
| North | 348.4 | 25.6% | 42.3% | 32.1% | | 0.05 | | 5.67 | 165 |

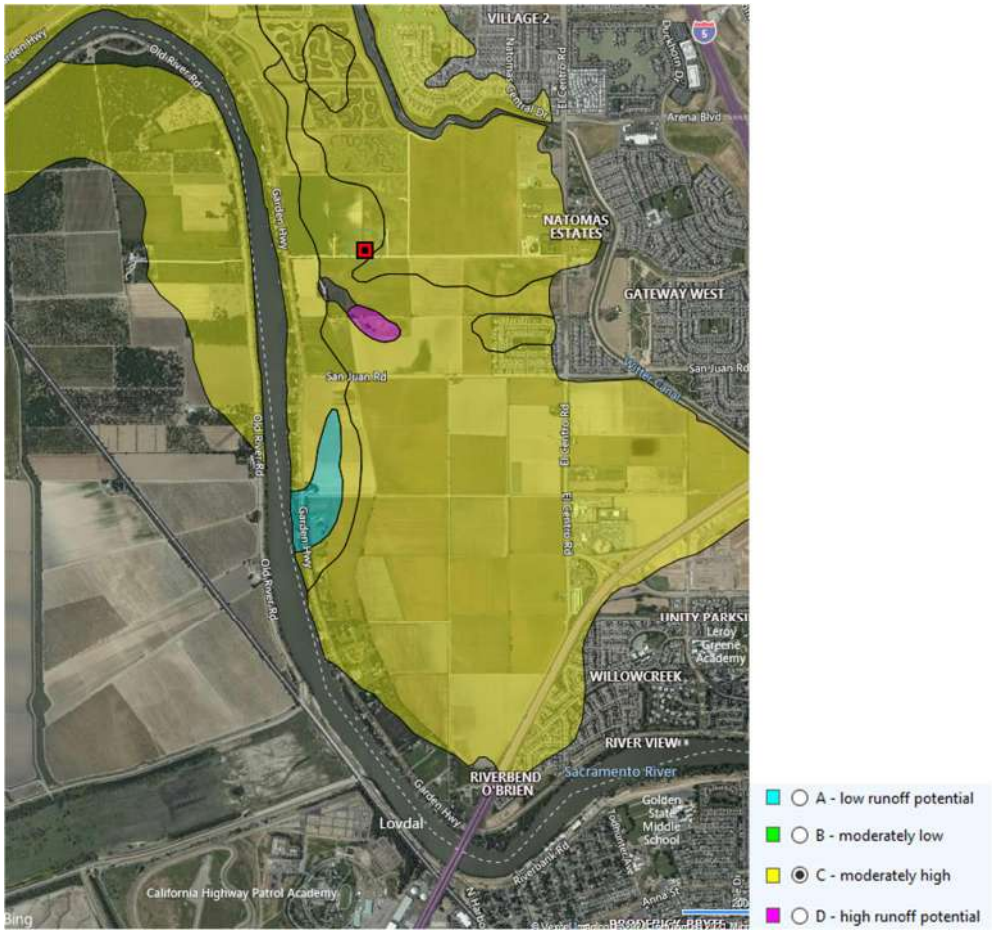



*Figure 2: Soil type (runoff potential) for the project site.*

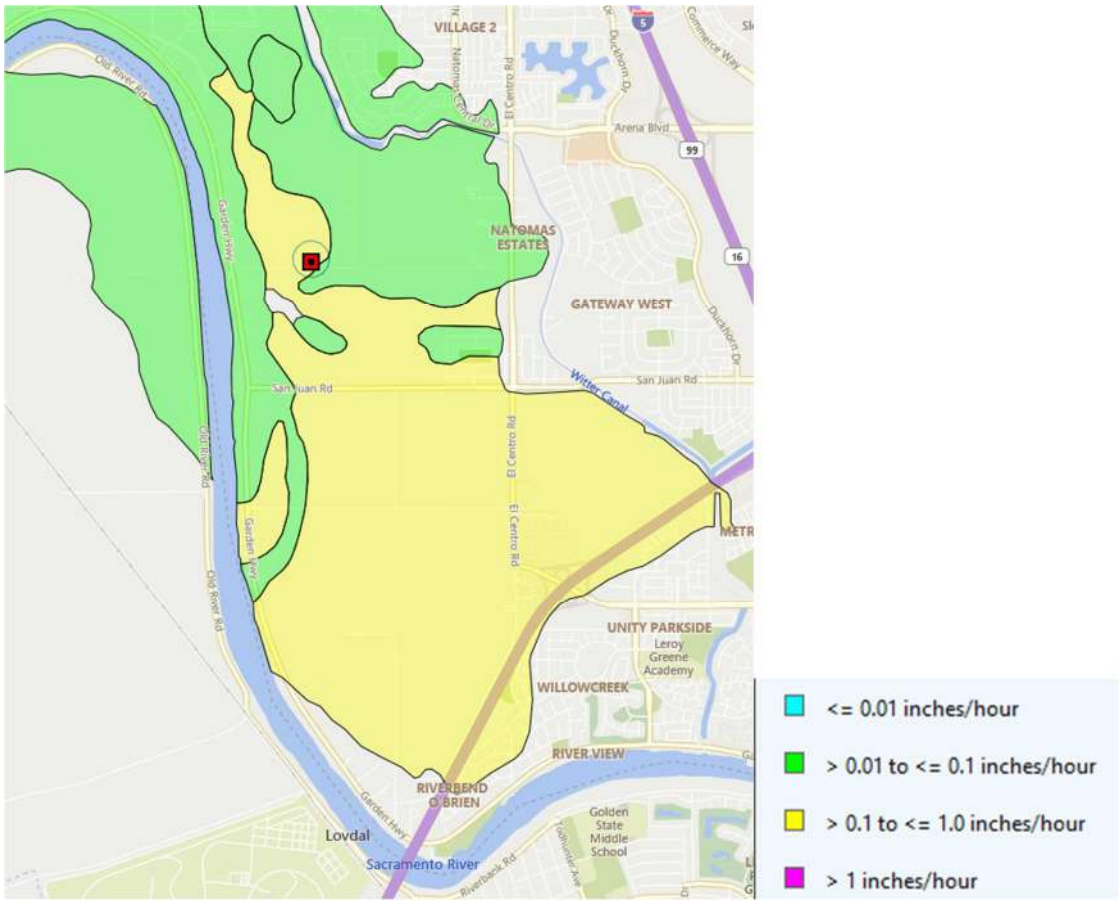



*Figure 3: Soil drainage characteristics for the project site.*

## PUMPING POWER—RD1000 PUMPING PLANT 1B

RD1000's Pumping Plant 1b consists of six 400 HP, 2,400 V vertically oriented mixed-flow pumps. Each pump has a capacity of 100 CFS. This pumping station was renovated in 2003. The pumps discharge into steel pipes that flow under the Garden Highway to the outfall structure on the Sacramento River.[14] Since rated horsepower and flow data are available, the pumping plant's energy use intensity is calculated: It is estimated that the 400 HP electric motors operate with a load factor of 1.1 at the design capacity of 100 CFS (i.e., power at rated flow = 400 HP/1.1), and that the motors have an electrical efficiency of 96%, which is a typical performance specification for this size/type/age of pump. This results in a specific power consumption of 32.0 kWh/acre-foot of water pumped. The project-related pumping power is calculated by multiplying this specific power by the total project runoff volume that enters the Natomas Drainage Canal. Pumping energy results are shown in Table 20.

[14] Reclamation District 1000, "Capital Improvement Program," Section 2: Description of Facilities, 8/2020. https://www.rd1000.org/files/8218c0ca3/CIP_Update+2020_Final_09042020.pdf

### PUMPING POWER—DETENTION BASINS

Basin pumping power is estimated from the following equation:

Annual Pumping Energy (kWh) = $V*\rho*g*h/\eta_{pump}/\eta_{motor}/$ (3,600,000 J/kWh)

where: V = annual pumped water volume [$m^3$]

$\rho$ = density of water = 997 $kg/m^3$

g = gravitational constant = 9.8 $m/s^2$

h = pump head (total static and frictional head), in m

$\eta_{motor}$ = motor efficiency, estimated at 92% average over the year

$\eta_{pump}$ = pump efficiency, estimated at 75% average over the year

33,600,000 J/kWh converts the pumping energy from Joules to kWh

The depths of the four main detention basins are all between 8-9 feet, with an estimated 9' static head (pump lift) for each basin. The SCHOOL detention basin is not yet designed, but it will not need to be as deep as the main basins. The pumping static head for this basin is conservatively estimated to be six feet. The dynamic (friction) head will be minimal since the horizontal runs are by surface gravity conveyance. Dynamic head is estimated to be 10% of the static head, rounded to the nearest foot. Pumping energy results are shown in Table 20. The South and West basins, along with the central canal (CENTRAL basin) and the school basin (SCHOOL) all drain to the East Basin, where the runoff must be pumped again into the Natomas Drainage Canal.

## GROUNDWATER PUMPING (DEWATERING)

The project site is in an area with a high groundwater table. The detention basins must be lined to minimize groundwater infiltration. However, even with the liners, there may still be some groundwater seepage into the basins, which must be pumped out. The pumping energy to remove this groundwater infiltration is estimated.

Table 11 shows the detention basin parameters used for the groundwater infiltration analysis. The existing site topography varies from an elevation of 10 to 20 feet above mean sea level (MSL), falling from west to east. The ground elevations for each basin are assumed equal to be the lowest planned street elevation (the top of the sewer system manhole rims) nearest each basin. Manhole rim elevations are taken from the Wood Rogers *Upper West Side Level 1/2 Sewer Study, Updated February 2021*. The basin depth and area data are from the Wood Rogers *3/6/2020 Drainage Infrastructure Conceptual Feasibility Study*[15].

[15] An updated drainage infrastructure plan was not available for use with this analysis, but Wood Rogers reports no planned changes in basin depths from the 3/6/2020 study.

*Table 11: Detention Basin Parameters for Groundwater Infiltration Analysis*

| Detention Basin | Ground Elevation (ft MSL) | Basin Depth (ft) | Basin Bottom Elevation (ft MSL) | Basin Area (ac) |
|---|---|---|---|---|
| N | 11.7 | 9 | 2.7 | 20 |
| W | 10.9 | 8 | 2.9 | 20 |
| E | 10.2 | 8 | 2.2 | 20 |
| S | 11.7 | 8 | 3.7 | 20 |

The groundwater level at the site is generally high with significant seasonal and annual variation. The groundwater is typically higher in the spring and lower in the fall. Wood Roger's *3/6/2020 Drainage Conceptual Drainage Design Plan* notes that "the available groundwater level data in the vicinity of project suggests groundwater has ranged between ground surface and a depth of approximately 30 feet between 1960 and 2019." This is based on California SWRCB data from nearby groundwater contamination and cleanup wells, from which the groundwater depth ranged from 10-11 feet, 6 to25 feet, ground surface to 30 feet, and 8 to 12 feet below the ground surface.

The Sacramento County Department of Water Resources maintained historical groundwater elevation contour maps for fall and spring from 1968 to 2007[16]. From 2007, the wells in the western region of the Sacramento Groundwater Authority (SGA), where the project is situated, have been read more sporadically, and the groundwater elevation contour maps have not been produced on a regular basis. SGA reports indicate that there have not been significant changes in groundwater levels from historical data, with the exception of abnormally dry periods. To estimate groundwater elevation at the project site for pumping energy estimates, the Sacramento County and SGA groundwater contour maps[17, 18] from 1998-2007, 2010, 2014, and 2016 were interpolated to get spring and fall groundwater levels at the project site. Average spring and fall groundwater elevations were then calculated. Figure 4 shows the historical groundwater elevations and the spring/fall calculated averages at the project site. The ground surface elevations at the detention basin locations and the elevations of the bottom of the detention basins are also indicated. As can be seen, the groundwater varies significantly both on a seasonal basis and over longer multi-year periods. The groundwater elevation is typically below or slightly above the bottom of the detention basins. Only on two occasions during the analysis period has the groundwater come near the ground surface; spring 1998 and fall 2006. For estimating annual pumping power, the site's typical monthly groundwater elevation is assumed to oscillate sinusoidally between the average spring elevation of 3.2 feet MSL and the average fall groundwater level of 2.8 feet MSL. The height of the groundwater above the bottom of each basin is the hydraulic head on the liner. Since each basin is situated at a slightly different ground elevation and the basins have different depths, the leakage into each basin is analyzed individually.

[16] Sacramento County Department of Water Resources. Ground Water Elevation Contour Maps, 1968-2007. https://waterresources.saccounty.net/Pages/ContourMaps.aspx Accessed 4/1/2021.

[17] Sacramento Groundwater Authority (SGA). "SGA Basin Management Report – 2016 Update." 2016 https://www.sgah2o.org/wp-content/uploads/2017/01/pub-bmreport-2015.pdf

[18] Sacramento Groundwater Authority (SGA). "SGA Basin Management Report – 2011 Update." 2011 https://www.sgah2o.org/wp-content/uploads/2016/06/pub-bmreport-2011.pdf

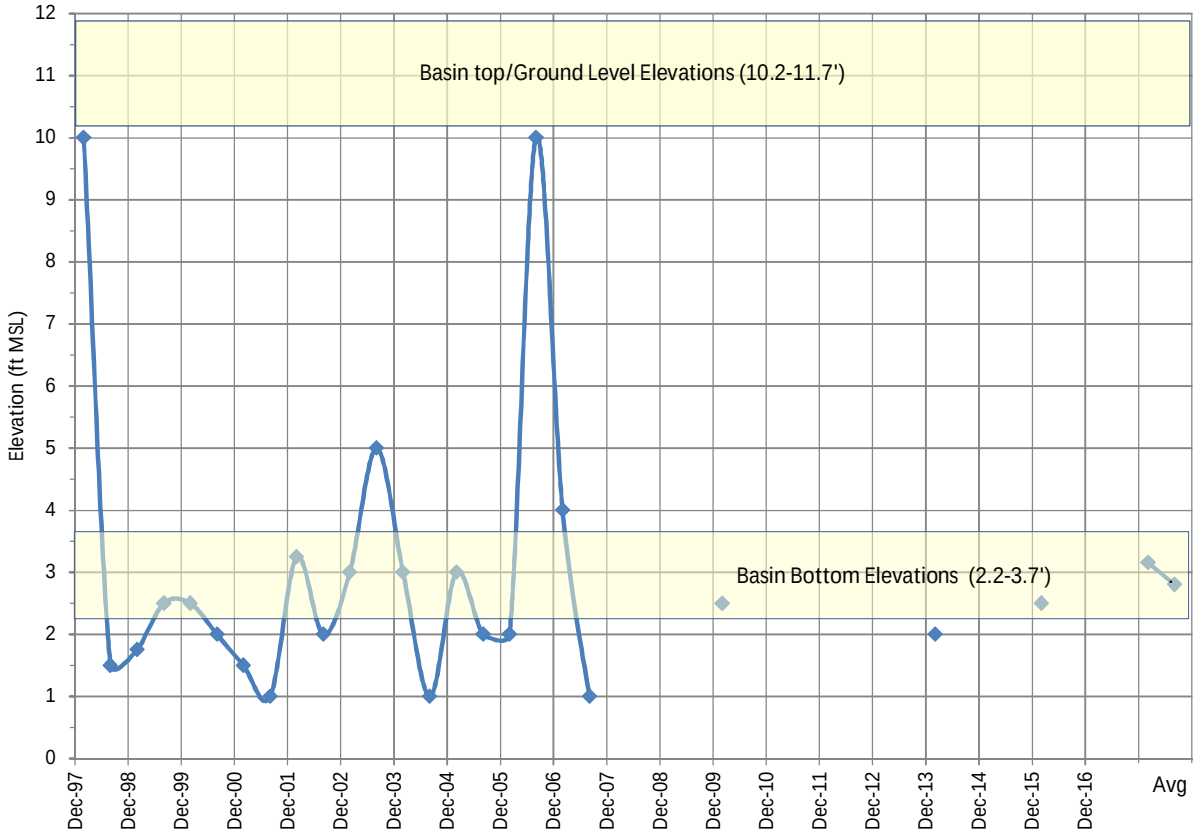



*Figure 4: Historical groundwater elevations at the project site.*

Table 12 shows the estimated monthly groundwater height above the bottom of each basin. This is the estimated hydraulic head driving groundwater infiltration through the basin liners. The average groundwater elevation is below the bottom of the south basin for all months; therefore, there will be no groundwater leakage into the south basin.

*Table 12: Groundwater Height (feet) Above Basin Bottom (Hydraulic Head)*

| Month | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South Basin | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| West Basin | 0.2 | 0.3 | 0.2 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.2 |
| East Basin | 0.9 | 1.0 | 0.9 | 0.9 | 0.8 | 0.7 | 0.6 | 0.6 | 0.6 | 0.7 | 0.8 | 0.9 |
| North Basin | 0.4 | 0.5 | 0.4 | 0.4 | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 0.4 |

Although not yet designed, it is assumed that the detention basins will be lined with a typical geotextile liner (e.g., HDPE). Giraud and Bonaparte's correlations for the leakage rate through geotextile liners vs. hydraulic head[19] are used to estimate the amount of groundwater that will leak through the basin geotextile liners. Analysis is performed for each basin and its hydraulic head with the liner in a range of conditions: no holes (permeation only), small holes (one 3.1-mm$^2$ hole

[19] Giroud, J. & R. Bonaparte. "Leakage through Liners Constructed with Geomembranes," Elsevier Science Publishers, Journal of Geotextiles and Geomembranes, Vol. 8, pp 27-67, 1989.

per acre), and large holes (one 1-cm$^2$ hole per acre)[20]. Large holes result in significant leakage. The no-hole condition (leakage is through water permeation through the membrane only) results in very minimal groundwater infiltration and no significant pumping power. The "small holes" condition is the most likely leakage scenario which is used for the final tabulated pumping power summary.

Additionally, analysis is made for both the "average" groundwater elevations and a "worst-case" scenario where groundwater levels are close to the surface. Fall 2006 and spring 2007 groundwater elevations (10' and 4' MSL, respectively) are used for the worst-case analysis, and result a situation where the groundwater is always above the bottom of the basins. The "best-case" conditions result in zero groundwater infiltration and occur when the groundwater elevations are below the basin bottoms for the entire year (i.e., 2000).

Table 13 summarizes the annual groundwater leakage into the basins for the range of liner conditions and groundwater elevations. Table 21 in the results section shows the estimated pumping energy for each of these conditions. The same methodology used for estimating stormwater pumping from the basins is used to estimate groundwater pumping from the basins. The results illustrate the significant range of possible groundwater infiltration into the basins and related pumping energy depending on the liner condition and groundwater levels. Overall, with the liner in good condition without major leaks, groundwater infiltration into the basins is expected to be small compared to the stormwater runoff entering the basins, even at high groundwater levels. Damage to the membrane (i.e., the "large holes" liner condition) is the most significant factor impacting groundwater pumping from the basins. This illustrates the importance of careful installation and protection of the detention basin liners to minimize liner damage.

*Table 13: Annual Groundwater Infiltration into the Detention Basins*

| | Groundwater Infiltration (ac-ft) | | | | | |
|---|---|---|---|---|---|---|
| | "Average" Groundwater Elevations | | | "Worst-Case" Groundwater Elevations | | |
| Basin | No Leaks | Small Leaks | Large Leaks | No Leaks | Small Leaks | Large Leaks |
| South Basin | 0 | 0 | 0 | 0 | 0 | 0 |
| West Basin | 0 | 2 | 11 | 0 | 14 | 454 |
| East Basin | 0 | 6 | 86 | 0 | 15 | 532 |
| North Basin | 0 | 4 | 31 | 0 | 14 | 476 |
| Total | 0 | 11 | 128 | 0 | 42 | 1,463 |

## CANAL AERATION

The central canal may need to be aerated for water quality. The canal has an approximate length of 2,500 feet and width of 90 feet, for an area of 5.2 acres. It will have a shallow water depth. There are a variety of ways to aerate the canal—a single large compressor station, or multiple smaller pumps. For shallow pond aeration, a series of smaller aeration pumps is often used. Performance

[20] Giroud and Bonapart analyzed membranes with a range of damage expected in the field due to stress on the membrane, poor installation, etc. Two hole sizes were analyzed (3.1 mm$^2$ and 1 cm$^2$), each at a frequency of 1 hole per acre.

specifications of several systems were reviewed, and average performance data was used to estimate aeration energy needs for the canal.

For the canal, a typical smaller-scale aeration pump used for this application can serve ½ an acre. This will necessitate approximately 11 pumps. Typical pumps have a power consumption of 126.5 W, and will operate continuously, for 1108 kWh/year/pump. For 11 pumps, this totals 12,190 kWh/year.

# 3. RESULTS

Table 14 summarizes annual energy use for each evaluated category. Table 15 through Table 22 present results from this analysis for each category of project energy use evaluated.

Estimated building energy use in Table 15 compares site gas and electricity use (including swimming pools) by building type. Shifting to all-electric or mostly-electric buildings significantly reduces on-site natural gas use by 81 percent but increases total building electricity use by 10 percent. When total energy is converted to GHG emissions, total emissions are reduced substantially in the proposed design.

Site lighting energy use presented in Table 16 shows a small difference between the base case and proposed estimates for surface parking lot lighting due to the change in code requirements between the 2019 and 2022 code and no difference for the other site lighting applications.

Table 17 presents EV charging energy use. This analysis covers estimated vehicle operational use for EVs only and not transportation energy holistically across the community. As a result, the proposed energy estimates are significantly higher than the base case. The project is proposing EV infrastructure above minimum code requirements and there is an anticipated market shift from gasoline to electric vehicles over the build-out of the project. Once total transportation energy is accounted for, total emissions are reduced substantially for the proposed design.

Table 18 summarizes the energy consumption related to the project's water supply system. All water use is assumed to be potable water, per discussion in the assumptions section. Energy use estimates for each component of the water supply system (extraction, treatment, and distribution) are provided.

Table 19 summarizes the annual energy consumption for the project's wastewater collection and treatment. Breakouts are provided for both the "Shed G" section of the project which drains to existing sewer infrastructure, and for rest of the project which will drain to a new wastewater pump station and force main.

Table 20 summarizes the annual energy consumption for stormwater pumping. Due to the project site's high groundwater tables, all runoff flowing into the project's detention basins must be pumped into the West Natomas Drainage Canal. Natomas Drainage Canal flows are then pumped into the Sacramento River. Pumping energy for both of these are estimated.

Table 21 summarizes the annual energy consumption estimated for aerating the project's central canal water feature to maintain water quality. Due to the project site's high groundwater table, the detention basins must be lined. However, even with the lining, some water will still leak into the basins. This water must be pumped out. Table 22 summarizes the range of water pumping energy that will required to remove groundwater leaking into the project's four detention basins. As with the stormwater pumping, both the basin pumping power and the Natomas Drainage Canal pumping power is included in these estimates. This category of energy use has a large range of potential variability, depending on groundwater depth and liner condition. In some years, the groundwater is always below the basin bottom and there will be no groundwater leakage. In other years, the groundwater is always above the basin bottom and there will be leakage year-round. This is the "worst case" groundwater level. In typical years, the groundwater level is above the basin bottom for some months and then below the basin bottom for the remaining months. This is the "average" groundwater level condition. The other major factor impacting groundwater leakage into the basins is the liner condition. Leakage rates are shown for the liner in new condition (i.e., no leaks), small leaks (presumed typical condition), and large leaks (significant liner damage). The liner condition has the largest impact on groundwater leakage. Damage to the liner can result in significant leakage, particularly during high groundwater levels. For comparison purposes, the "typical" leakage rate is that which occurs for "average" groundwater levels and small leaks.

*Table 14: Summary of Total Annual Estimated Energy Use by Category*

| Category | Base Case | | Proposed | |
|---|---|---|---|---|
| | Gas (therms) | Electricity (MWh) | Gas (therms) | Electricity (MWh) |
| Buildings | 3,168,566 | 47,985.3 | 588,173 | 52,842.1 |
| Site Lighting | 0 | 3,807.6 | 0 | 3,741.1 |
| EV Charging | 0 | 1,751.2 | 0 | 58,690.8 |
| Water Supply | 0 | 2,720.7 | 0 | 2,720.7 |
| Wastewater | 0 | 2,480.8 | 0 | 2,480.8 |
| Stormwater | 0 | 114.8 | 0 | 114.8 |
| Canal Aeration | 0 | 12.2 | 0 | 12.2 |
| Groundwater Pumping | 0 | 0.630 | 0 | 0.630 |
| Total | 3,168,566 | 58,873.2 | 588,173 | 120,603.1 |

*Table 15: Estimated Building Annual Energy Use Results*

| Land Use | | Base Case | | | | Proposed | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Gas (therms) | Gross Electricity (MWh) | PV Production (MWh) | Net Electricity (MWh) | Gas (therms) | Gross Electricity (MWh) | PV Production (MWh) | Net Electricity (MWh) |
| VLDR | Single-family detached | 69,679 | 1,194.1 | -978.5 | 215.6 | 0 | 1,972.0 | -978.5 | 993.4 |
| LDR | Single-family detached | 755,661 | 14,105.8 | -12,846.5 | 1,259.2 | 0 | 22,869.6 | -12,846.5 | 10,023.1 |
| LMDR | Single-family detached | 324,452 | 5,095.4 | -5,095.4 | 0.0 | 0 | 8,906.0 | -5,095.4 | 3,810.5 |
| MDR | Single-family detached/ townhome | 191,768 | 3,326.0 | -3,326.0 | 0.0 | 0 | 5,630.5 | -3,326.0 | 2,304.4 |
| HDR | Apartment or rowhome | 222,900 | 3,797.1 | -3,726.6 | 70.5 | 48,339 | 5,978.3 | -3,726.6 | 2,251.7 |
| VHDR | Urban stacked flats | 120,870 | 2,728.4 | 0.0 | 2,728.4 | 0 | 4,329.9 | -2,519.4 | 1,810.5 |
| CMU | Apartment over commercial | 461,033 | 11,093.0 | 0.0 | 11,093.0 | 0 | 17,347.5 | -9,308.9 | 8,038.7 |
| | Mid-rise office | 68,975 | 8,967.7 | 0.0 | 8,967.7 | 0 | 8,866.6 | -5,213.7 | 3,652.9 |
| | Specialized (medical school/labs) | 80,773 | 2,453.3 | 0.0 | 2,453.3 | 18,918 | 2,363.6 | -146.6 | 2,217.0 |
| | Specialized (medical offices) | 2,759 | 358.7 | 0.0 | 358.7 | 0 | 354.7 | -29.3 | 325.4 |
| | Hotel | 64,908 | 1,508.5 | 0.0 | 1,508.5 | 0 | 2,206.3 | -219.9 | 1,986.5 |
| | Entertainment | 19,609 | 1,000.3 | 0.0 | 1,000.3 | 0 | 1,002.2 | -88.0 | 914.2 |
| | Grocery | 1,473 | 765.4 | 0.0 | 765.4 | 0 | 762.4 | -69.9 | 692.5 |
| | Restaurant | 323,206 | 2,223.6 | 0.0 | 2,223.6 | 245,405 | 3,246.3 | -62.7 | 3,183.6 |
| | Retail | 9,509 | 1,506.8 | 0.0 | 1,506.8 | 0 | 1,441.5 | -678.6 | 762.9 |
| | Institutional/religious | 6,667 | 1,084.1 | 0.0 | 1,084.1 | 0 | 1,053.2 | -73.3 | 979.9 |
| EHC | Mid-rise office | 35,316 | 4,591.6 | 0.0 | 4,591.6 | 0 | 4,539.9 | -2,669.5 | 1,870.3 |
| | Hotel | 27,698 | 643.7 | 0.0 | 643.7 | 0 | 941.5 | -93.8 | 847.7 |
| | Restaurant | 165,939 | 1,232.4 | 0.0 | 1,232.4 | 130,499 | 1,698.9 | -30.8 | 1,668.1 |
| | Supermarket | 4,600 | 2,429.7 | 0.0 | 2,429.7 | 0 | 2,409.7 | -209.7 | 2,200.0 |
| | Retail | 2,936 | 535.9 | 0.0 | 535.9 | 0 | 514.2 | -328.4 | 185.9 |
| | Entertainment | 6,972 | 355.7 | 0.0 | 355.7 | 0 | 356.3 | -31.3 | 325.1 |
| | Institutional/religious | 2,845 | 462.6 | 0.0 | 462.6 | 0 | 449.4 | -31.3 | 418.1 |
| S | K-8 school | 27,492 | 1,431.6 | 0.0 | 1,431.6 | 0 | 1,320.1 | -523.3 | 796.8 |
| | High school | 165,495 | 890.6 | 0.0 | 890.6 | 145,012 | 908.4 | -406.2 | 502.2 |
| | Community college | 5,031 | 176.3 | 0.0 | 176.3 | 0 | 180.7 | -99.8 | 80.9 |

*Table 16: Estimated Site Lighting Annual Energy Use Results*

| Land Use | | Base Case Electricity (MWh) | Proposed Electricity (MWh) |
|---|---|---|---|
| HDR | Apartment or rowhome | 79.4 | 64.6 |
| VHDR | Urban stacked flats | 190.9 | 190.9 |
| CMU | Apartment over commercial | 793.7 | 793.7 |
| | Mid-rise office | 1,004.4 | 1,004.4 |
| | Specialized (medical school/labs) | 200.9 | 200.9 |
| | Specialized (medical offices) | 40.2 | 40.2 |
| | Hotel | 301.3 | 301.3 |
| | Entertainment | 301.3 | 301.3 |
| | Grocery | 14.5 | 14.5 |
| | Restaurant | 214.9 | 214.9 |
| | Retail | 140.6 | 140.6 |
| | Institutional/religious | 251.1 | 251.1 |
| EHC | Mid-rise office | 103.0 | 83.8 |
| | Hotel | 26.4 | 21.4 |
| | Restaurant | 26.0 | 21.1 |
| | Supermarket | 9.5 | 7.6 |
| | Retail | 9.4 | 7.5 |
| | Entertainment | 26.4 | 21.4 |
| | Institutional/religious | 26.4 | 21.4 |
| S | K-8 school | 11.2 | 9.0 |
| | High school | 23.9 | 19.4 |
| | Community college | 12.4 | 10.0 |
| Parks & urban farm | | 5.5 | 5.5 |
| Major roads (outside ag buffer) | | 84.7 | 84.7 |

*Table 17: Estimated Electric Vehicle Charging Annual Energy Use Results*

| Land Use | | Base Case Electricity (MWh) | Proposed Electricity (MWh) |
|---|---|---|---|
| VLDR | Single-family detached | 10.9 | 1,090.7 |
| LDR | Single-family detached | 159.3 | 15,926.4 |
| LMDR | Single-family detached | 74.9 | 7,485.6 |
| MDR | Single-family detached/ townhome | 50.8 | 5,080.7 |
| HDR | Apartment or rowhome | 95.5 | 1,910.3 |
| VHDR | Urban stacked flats | 55.3 | 1,107.0 |
| CMU | Apartment over commercial | 230.1 | 4,601.5 |
| | Mid-rise office | 291.2 | 5,823.0 |
| | Specialized (medical school/labs) | 58.2 | 1,164.6 |
| | Specialized (medical offices) | 11.6 | 232.9 |
| | Hotel | 87.3 | 1,746.7 |
| | Entertainment | 87.3 | 1,746.9 |
| | Grocery | 4.2 | 84.0 |
| | Restaurant | 62.3 | 1,245.8 |
| | Retail | 40.8 | 815.2 |
| | Institutional/religious | 72.8 | 1,455.7 |
| EHC | Mid-rise office | 149.1 | 2,981.5 |
| | Hotel | 37.3 | 745.4 |
| | Restaurant | 30.6 | 612.5 |
| | Supermarket | 12.6 | 251.9 |
| | Retail | 12.4 | 248.5 |
| | Entertainment | 31.1 | 621.1 |
| | Institutional/religious | 31.1 | 621.1 |
| S | K-8 school | 12.6 | 251.9 |
| | High school | 28.0 | 559.8 |
| | Community college | 14.0 | 279.9 |

*Table 18: Estimated Water Supply Infrastructure Annual Energy Use Results*

| Land Use Type | Description | Total Demand Including 7.5% System Losses (AFY) | Water Infrastructure Energy Use (kWh/yr) | | | |
|---|---|---|---|---|---|---|
| | | | Extraction | Treatment | Distribution | Total |
| VLDR | SFD (1 acre to 85' x 120') | 368 | 101,605 | 11,955 | 144,555 | 258,115 |
| LDR | SFD (55' x 100') | 999 | 275,823 | 32,455 | 392,421 | 700,699 |
| LMDR | SFD (45' x 80') | 320 | 88,352 | 10,396 | 125,700 | 224,448 |
| MDR | SFD/Townhome | 152 | 41,967 | 4,938 | 59,708 | 106,613 |
| HDR | Apartment or rowhome | 145 | 40,034 | 4,711 | 56,958 | 101,703 |
| VHDR | Urban stacked flats | 89 | 24,573 | 2,891 | 34,960 | 62,425 |
| CMU | Apartment over commercial | 170 | 46,937 | 5,523 | 66,778 | 119,238 |
| CC | Civic/Commercial (FS) | 1 | 276 | 32 | 393 | 701 |
| E/HC | Mid-rise office | 111 | 30,647 | 3,606 | 43,602 | 77,855 |
| S | K-8 (800 students) | 443 | 122,312 | 14,392 | 174,016 | 310,720 |
| OS | Open Space | 0 | 0 | 0 | 0 | 0 |
| AG | Ag-Cropland | 162 | 44,728 | 5,263 | 63,636 | 113,627 |
| AR | Ag-Residential | 124 | 34,236 | 4,028 | 48,709 | 86,974 |
| UF | Urban farm | 103 | 28,438 | 3,346 | 40,460 | 72,244 |
| P | Parks | 220 | 60,742 | 7,147 | 86,419 | 154,308 |
| W | Water (basins/Canal) | 279 | 77,032 | 9,064 | 109,595 | 195,691 |
| LC | Landscape Corridor | 168 | 46,385 | 5,458 | 65,993 | 117,835 |
| Roads | Major Roads | 25 | 6,902 | 812 | 9,820 | 17,535 |
| Total | | 3,879 | 1,070,989 | 126,018 | 1,523,723 | 2,720,731 |

*Table 19: Estimated Wastewater Infrastructure Annual Energy Use Results*

| Segment | Shed G | Pump Station | Total |
|---|---|---|---|
| Average Dry Weather Flow (ADWF) (MGD) | 0.09 | 4.19 | 4.28 |
| Annual Wastewater Generation (MGY) | 33 | 1,529 | 1,562 |
| Wastewater Collection Energy Use (kWh/yr) | 4,928 | 229,403 | 234,330 |
| Wastewater Treatment Energy Use (kWh/yr) | 52,166 | 2,428,608 | 2,480,774 |
| Total Wastewater Infrastructure Energy Use (kWh/yr) | 52,166 | 2,428,608 | 2,480,774 |

*Table 20: Estimated Stormwater Pumping Annual Energy Use Results*

| Basin/ Pump Station | Runoff from watersheds (acre-ft) | Pumped Volumes (ac/ft) | Pumped Volumes (m^3) | Pump Static Head (ft) | Pump Friction Head (ft) | Pump Total Head (Ft) | Pump Total Head (m) | Pumping Energy Intensity (kWH/ac-ft) | Annual Pumping Energy (kWh) |
|---|---|---|---|---|---|---|---|---|---|
| Central Canal | 63 | no pumping | | | | | | | |
| High School Site | 45 | 45 | 55,478 | 6 | 1 | 7 | 2 | n/a | 1,528 |
| South Basin | 296 | 296 | 365,114 | 9 | 1 | 10 | 3 | n/a | 14,361 |
| West Basin | 202 | 202 | 249,121 | 9 | 1 | 10 | 3 | n/a | 9,799 |
| East Basin | 308 | 913 | 1,126,636 | 9 | 1 | 10 | 3 | n/a | 44,315 |
| North Basin | 165 | 165 | 203,054 | 9 | 1 | 10 | 3 | n/a | 7,987 |
| RD1000 Pump Station 1b | n/a | 1,078 | 1,329,691 | n/a | n/a | n/a | n/a | 32 | 36,859 |
| Total | 1,078 | 2,699 | 3,329,094 | | | | | | 114,849 |

*Table 21: Estimated Annual Canal Aeration Energy Use*

| Category | Annual Energy Use (kWh) |
|---|---|
| Canal Aeration | 12,190 |

*Table 22: Estimated Annual Groundwater Pumping Energy Use Results for Varying Liner Conditions and Groundwater Elevations*

| | Pumping Energy (kWh) | | |
|---|---|---|---|
| Groundwater Elevation | No Leaks | Small Leaks | Large Leaks |
| Average Groundwater Levels | 0 | 630 | 6,775 |
| Worst-Case Groundwater Levels | 11 | 4,608 | 95,202 |

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# 5. APPENDIX – SUPPLEMENTARY DETAILS

*Table 23: Building Model Prototype Applications by Land Use Type*

| Land Use Type | Description | Software | CEC Prototype[1] | Revised Prototype / Notes (if applicable) |
|---|---|---|---|---|
| VLDR | Single-family detached | CBECC-Res | 2-story single-family | |
| LDR | Single-family detached | | 2-story single-family | |
| LMDR | Single-family detached | | 1-story single-family | |
| MDR | Single-family detached/townhome | | 1-story single-family | |
| HDR | Apartment or rowhome | | 8-unit MF prototype | |
| VHDR | Urban stacked flats | | 8-unit MF prototype | |
| CMU | Apt over ground floor commercial | | 8-unit MF prototype | |
| CMU | Mid-rise office | CBECC-Com | Medium Office | |
| | Specialized (medical school/labs) | | Medium Office Lab | |
| | Specialized (medical offices) | | Medium Office | |
| | Hotel | | Small Hotel | |
| | Entertainment | | Small Retail (revised) | Applied a mix of gym, theater, and locker room occupancy |
| | Grocery | | Small Retail (revised) | Applied grocery sales occupancy |
| | Restaurant | | Small Restaurant & Medium Restaurant | Medium Restaurant prototype from reach code work (Statewide Reach Code Team, 2021) |
| | Retail | | Medium Retail & Small Retail | |
| | Institutional/religious | | Medium Office (revised) | Applied a mix of conference, worship area, and civic meeting place occupancy to 1st floor, leave floors 2-5 as office |
| E/HC | Mid-rise office | | Medium Office | |
| | Hotel | | Small Hotel | |
| | Restaurant | | Small Restaurant | |
| | Supermarket | | Medium Retail (revised) | Applied grocery sales occupancy |
| | Retail | | Small Retail | |
| | Entertainment | | Small Retail (revised) | Applied a mix of gym, theater, and locker room occupancy |
| | Institutional/religious | | Medium Office (revised) | Applied a mix of conference, worship area, and civic meeting place occupancy to 1st floor, leave floors 2-5 as office |
| S | K-8 school | | Primary School | |
| | High school | | Secondary School | |
| | Community college | | Secondary School | |

[1]Red highlights indicate where changes were made to the CEC prototype or a different prototype was applied.

# APPENDIX HAZ-1

## PHASE I ENVIRONMENTAL SITE ASSESSMENT



# UPPER WEST SIDE DEVELOPMENT
SACRAMENTO COUNTY, CALIFORNIA

# PHASE I ENVIRONMENTAL SITE ASSESSMENT

SUBMITTED TO
Mr. Bob Thomas
Upper West Side LLC
455 Capitol Mall, Suite 801
Sacramento, CA 95814

PREPARED BY
ENGEO Incorporated

February 1, 2021

PROJECT NO.
18171.000.001

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ENGEO
Expect Excellence

Project No.
**18171.000.001**

February 1, 2021

Mr. Bob Thomas
Upper West Side LLC
455 Capitol Mall, Suite 801
Sacramento, CA 95814

Subject: Upper West Side Development
El Centro Road
Sacramento County, California

**PHASE I ENVIRONMENTAL SITE ASSESSMENT**

Dear Mr. Thomas:

ENGEO is pleased to present our phase I environmental site assessment of the subject property (Property), located in Sacramento County, California. The attached report includes a description of the site assessment activities, along with ENGEO's findings, opinions, and conclusions regarding the Property.

ENGEO has the specific qualifications based on education, training, and experience to assess the nature, history, and setting of the Property, and has developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312 and the American Standard Testing Method (ASTM) Practice E1527-13. We declare that, to the best of our professional knowledge and belief, the responsible charge for this study meets the definition of Environmental Professional as defined in Section 312.10 of 40 CFR Part 312 and ASTM E1527-13.

We are pleased to be of service to you on this project. If you have any questions concerning the contents of our report, please contact us.

Sincerely,

ENGEO Incorporated

Travis Chatters, PE

Shawn Munger, CHG

tc/sm/jf

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# EXECUTIVE SUMMARY

ENGEO conducted a phase I environmental site assessment for the property located at west of Interstate 80 in Sacramento County, California (Property). The Property is approximately 2,000 acres in area and consists of 141 parcels.

The subject parcels are bounded by Garden Highway to the west, Interstate 80 to the south and southeast, and the Sacramento West Drainage Canal to the north and east. Further east of the canal are several residential subdivisions. El Centro Road trends north-south through the eastern portion of the site; other roads within the site boundary include Bryte Bend Road, San Juan Road, Farm Road, and Radio Road. The parcels consist predominantly of undeveloped agricultural and fallow land. High voltage power lines cross the southern portion of the Property, entering through the eastern border and exit through the southern tip of the Property. Several large acreage/agricultural residences are located along the southwestern border and northeastern corner of the Property. One of these residences located in the northeastern corner is used for farm equipment, automobile, and scrap metal storage.

The West El Camino Avenue exit off of Interstate 80 is at the southern border of the Property and consists of multiple commercial properties which include several hotels, fast food and dine-in restaurants, a self-storage facility, a 49er Travel Plaza, several commercial buildings, and a large-scale machine shop. The 49er Travel Plaza is a truck stop facility, which includes fuel stations, convenience stores, an automotive repair shop, and car wash.

Active grading was taking place at the former Johnson Ranch (APN 225-0010-058) located in the northwestern corner of the Property. The work was part of the Natomas Flood Plain Reach B.

The proposed site plan consists of a mixed-use development plan including low to high density residential units, mixed-use commercial units, employment/highway commercial units, schools, parks, water and landscape corridors, urban farms/greenbelts, open space, and agricultural sites with and without private residences.

This assessment included a review of local, state, tribal, and federal environmental record sources, standard historical sources, aerial photographs, fire insurance maps and physical setting sources. A reconnaissance of the Property was conducted to review site use and current conditions to check for the storage, use, production or disposal of hazardous or potentially hazardous materials and interviews with persons knowledgeable about current and past site use.

The site reconnaissance and records review did not find documentation or physical evidence of soil, soil gas, or groundwater impairments associated with the use or past use of the Property. A review of regulatory databases maintained by county, state, tribal, and federal agencies found no documentation of hazardous materials violations or discharge on the Property and did not identify contaminated facilities within the appropriate American Society for Testing and Materials (ASTM) search distances that would reasonably be expected to impact the Property.

Based on the findings of this assessment, no Recognized Environmental Conditions (RECs), four historical RECs, and no controlled RECs were identified for the Property.

The following HRECs were identified:

- **Former Johnson Ranch**: (Case Number T10000012933) located at 3800 Garden Highway and identified by APN 225-0110-058, is listed as a closed leaking underground storage tank (LUST) cleanup site as of July 31, 2020. Elevated concentrations of pesticides, lead, and arsenic were identified in historic agricultural soils in 2006 and in 2009 soil and groundwater with total petroleum hydrocarbon (TPH) and motor oil contamination associated with a former 550-gallon underground storage tank (UST) and former aboveground storage tank (AST) were identified. Approximately 260 tons of contaminated soils were removed from the Property on February 26, 2020. The case was closed without restrictions by the Sacramento County Environmental Management Department (SCEMD) on July 31, 2020.

- **Private Residence**: (Case Number T0606748466) located at 3650 El Centro Road and identified by APN 225-0190-019, is listed as a closed LUST cleanup site as of February 22, 2016. Two 5,000-gallon USTs were removed from the Property in the 1980s. Elevated concentrations of TPH-gasoline (TPHg) in soils northwest the former USTs and elevated concentrations of TPHg, TPH-diesel (TPHd), TPH-motor oil (TPH-mo), and benzene were identified in a subsurface soil investigation in June 2006. Supplementary sampling in August 2006 delineated the impacts to areas around the former USTs. Four monitoring wells were installed in March 2007 for groundwater monitoring. Removal of contaminated soils was performed from July 2008 through September 2009 followed by treatment of in-situ soils through aeration processes. Groundwater and soil vapor samples were collected following remedial activities. Additional rounds of groundwater and soil vapor sampling were conducted in June 2014 and September 2015. The case was closed without restrictions by SCEMD on February 19, 2016.

- **49er Truck Plaza Case #1**: (Case Number T0606700843) located at 2828 El Centro Road and identified by APN 225-0220-055. Gasoline and diesel spills were documented on the Property as early as 1991, causing impacts to nearby soil and groundwater with TPHg and TPHd, followed by remediation activities to remove impacted soils and groundwater. Groundwater monitoring wells were first installed on the Property in 1992. In 1998, 10 USTs containing gasoline, diesel, waste oil, and lube oil were removed from the Property and monitoring wells were installed. The wells were monitored quarterly from 2005 to 2010. The monitoring wells were destroyed under direction of the SCEMD in 2013. The case was closed without restrictions by the SCEMD on March 26, 2014.

- **The #23 Satellite Dispenser pump at the 49er Truck Plaza Case #2**: (Case Number T0606700843) was damaged in an accident causing the release of diesel fuel into the backfill and surrounding soil on the Property in February 2019. Impacted soils were removed from the Property and followed by a soil investigation performed on July 12, 2019. The case was closed without restrictions by the SCEMD on April 16, 2020.

Based on the review of regulatory databases and site reconnaissance, we present information on features of potential environmental concern that were either contained in the databases or observed on the Property. These features were not considered to be RECs. We briefly discuss each feature below.

### Residential Sites/Areas

It is conceivable that during future site demolition and initial grading that potential areas of soil impacts or buried structures such as sumps/tanks and septic systems may be encountered. In addition, it is possible that asbestos-containing materials (ACM) and lead-based paint (LBP) materials may be present within the existing structures. Soil within the area of demolished structures could also contain ACM and/or LBP.

### Former Gas/Oil Wells

An abandoned gas/oil well is located within the Property. According to the Department of Conservation, Geologic Energy Management (CalGEM), the well can be located within the Property limits, provided it is not located underneath foundations and is accessible by a truck-mounted drill rig.

### Agricultural Fields

The majority of the Property consists of agricultural land, some of which was used at a time when organochlorine pesticides (OCPs) and heavy metals were used as pest deterrents. It is possible that OCPs, lead, and arsenic may be present at these sites. It is likely that soil sampling will be required by a regulatory agency in the future.

### Irrigation and Domestic Wells

A number of irrigation wells and domestic wells exist on the Property. Any irrigation or domestic wells on the Property should be abandoned in accordance with Sacramento County regulations, if no longer intended for use.

### Transformers

Pole-mounted transformer units were observed on the Property. While there did not appear to be evidence of leakage or soil impacts, it is conceivable some units could contain PCBs in coolant fluid. These units should be properly decommissioned as part of future demolition activities, if no longer in use.

ENGEO has performed a phase I environmental site assessment in general conformance with the scope and limitations of ASTM E1527-13 and the standards and practices of the All Appropriate Inquiry ï Final Rule (40 Code of Federal Regulations Part 312).

The data gaps identified during this process, may affect the conclusions as to the presence or lack of presence of RECs at the Property. The following data gaps were identified:

- We were unable to access any of the structures within the Property. These structures may contain asbestos containing materials, lead-based paint, and other potentially hazardous substances.
- We did not receive client or key site manager questionnaires.
- We did not receive preliminary title reports for any of the parcels.

Based on the nature of the data gaps, we cannot conclusively render a conclusion as to the presence of RECs at the Property.

This assessment has revealed no evidence of RECs in connection with the Property, and the Property may be suitable for future development. ENGEO recommends the following:

- Pre-demolition surveys of the existing structures to verify to presence of asbestos containing materials, lead-based paints, or any other hazardous substances present within the structures.
- Locating the former gas/oil well present on the Property. The well seal should be confirmed prior to development.
- Collection of near surface soil samples to determine if lead, arsenic, or organochlorine pesticides are present at the Property.
- Proper abandonment of irrigation and residential wells under the appropriate agency.
- Removal and disposal of pole-mounted transformers under the appropriate oversight.
- Preparation of a soil management plan for any work that might take place within the truck stop or any other HREC location.

# 1.0 INTRODUCTION

## 1.1 PURPOSE OF PHASE I ENVIRONMENTAL SITE ASSESSMENT

This assessment was performed at the request of Upper West Side LLC for the purpose of environmental due diligence. The objective of this phase I environmental site assessment is to identify Recognized Environmental Conditions (RECs) associated with the Property. As defined in the ASTM Standard Practice E1527-13, an REC is ñthe presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.ò

## 1.2 DETAILED SCOPE OF SERVICES

The scope of services performed included the following:

- A review of previous environmental reports prepared for the Property.
- A review of publicly available and practicably reviewable standard local, state, tribal, and federal environmental record sources.
- A review of publicly available and practicably reviewable standard historical sources, aerial photographs, fire insurance maps and physical setting sources.
- A reconnaissance of the Property to review site use and current conditions. The reconnaissance was conducted to check for the storage, use, production or disposal of hazardous or potentially hazardous materials.
- Written/oral interviews with owners/occupants and public sector officials.
- Preparation of this report with our findings, opinions, and conclusions.

## 1.3 SITE LOCATION AND DESCRIPTION

ENGEO conducted a phase I environmental site assessment for the Property located west of Interstate 80 and north of the Sacramento River in Sacramento County, California (Figures 1 and 2). The approximately 2,000-acre Property consists of 144 individual parcels. Individual parcel information is presented in Appendix A.

## 1.4 CURRENT USE OF PROPERTY AND ADJOINING PROPERTIES

The subject parcels are bounded by Garden Highway to the west, Interstate 80 to the south and southeast, and the Sacramento West Drainage Canal to the north and east. Further east of the canal are several residential subdivisions. El Centro Road trends north-south through the eastern portion of the site; other roads within the site boundary include Bryte Bend Road, San Juan Road, Farm Road, and Radio Road. The parcels consist predominantly of undeveloped agricultural and fallow land. High voltage power lines cross the southern portion of the Property, entering through the eastern border and exiting through the southern tip of the Property. Several large acreage/agricultural residences are located along the southwestern border and northeastern

corner of the Property. One of these residences, located in the northeastern corner, is used for farm equipment, automobile, and scrap metal storage.

The West El Camino Avenue exit off of Interstate 80 is at the southern border of the Property and consists of multiple commercial properties which include several hotels, fast food and dine-in restaurants, a self-storage facility, a 49er Travel Plaza, several commercial buildings, and a large-scale machine shop. The 49er Travel Plaza is a truck stop facility which includes fuel stations, convenience stores, an automotive repair shop, and car wash.

The proposed plan consists of a mixed-use development including very low to very high density residential units, mixed-use commercial units, employment/highway commercial units, schools, parks, water and landscape corridors, urban farms/greenbelts, open space, and agricultural sites with and without private residences.

Surrounding areas include agricultural and residential properties.

## 1.5 SITE AND VICINITY CHARACTERISTICS

According to published topographic maps, the Property ranges in elevation from approximately 12 feet above mean sea level (msl) along the eastern border of the Property to approximately 26 feet above msl along the western border of the Property. Our review of the Preliminary Geologic Map of the Sacramento 30ôx 60ôQuadrangle (Gutierrez, 2011) indicates the surface geologic formations are mapped as Holocene alluvium that includes various mixtures of clay, silt, and sand.

Geocheck ï Physical Setting Source Summary of the Environmental Data Resources, Inc. (EDR) report (Appendix A) indicated 14 Federal United States Geological Survey (USGS), 140 State wells, and six oil/gas wells are located within 1 mile of the Property. The following readings were collected from the Federal wells with groundwater data. Eleven of the water wells are located within the Property. Known and listed wells are shown in Figure 4.

**TABLE 1.5-1: USGS Wells Depth to Groundwater Readings**

| WELL ID | DEPTH TO GROUNDWATER (FEET) | DATE OF READING |
|---|---|---|
| USGS40000189687 | 10.7 | August 13, 1982 |
| USGS40000189625 | 14.22 | May 20, 1996 |
| USGS40000189602 | 17.55 | August 16, 1982 |
| USGS40000189508 | 24.00 | August 23, 1979 |
| USGS40000189505 | 21.00 | December 20, 1978 |
| USGS40000189491 | 15.00 | January 19, 1979 |
| USGS40000189490 | 16.00 | August 16, 1982 |
| USGS40000189473 | 20.00 | December 11, 1979 |

We reviewed the Department of Water Resources On-line Water Data Library for depth to water in the vicinity of the Property. The website identified four wells within the Property and 22 wells within 1 mile of the Property. The following well reading were taken from wells within the Property.

**TABLE 1.5-2: Dept. of Water Resources Well Readings within the Property**

| WELL LOCATION | WELL TYPE | WELL ID | APPROX. GROUNDWATER ELEVATION RANGE (FEET) | | GROUND SURFACE ELEVATION (FEET) | DATE RANGE |
|---|---|---|---|---|---|---|
| | | | HIGH | LOW | | |
| Southwest portion of the site, approximately 1,000 feet east of Garden Highway | Irrigation | 386121N12 15550W001 | 1 | -129.5 | 18 | 2014 to 2016, 2020 |
| South portion of the site, just east of Garden Highway | Irrigation | 386008N12 15488W001 | 8.5 | -63.7 | 20 | 2014 to 2016, 2020 |
| Eastern portion of the site, 275 feet east of El Centro Road | Residential | 09N04E22E 001M | 15.1 | 2 | 14.5 | 1963 to 1996 |
| | | | 10.7 | 4.2 | | 1996 to 2008 |
| Approximately 1,000 feet north for the northern boundary | Irrigation | 386421N12 15583W001 | 8.8 | -79.2 | 21 | 2015 to 2016, 2020 |

We reviewed the Sacramento Groundwater Authority (SGMA) Basin Management Report, 2016 Updated for the North American Subbasin. The SGMA Data Viewer displays seasonal groundwater level contours (10-foot intervals) interpreted from select regional well data. Based on these contours, the spring and fall seasonal groundwater elevations at the site from 2011 to 2020 are estimated in the table below; elevations between the 10-foot contours were approximated.

**TABLE 1.5-3: Estimated Seasonal Groundwater Level**

| APPROXIMATE GROUNDWATER ELEVATION RANGE (FEET) | | YEAR |
|---|---|---|
| SPRING | FALL | |
| -3 to 6 | - | 2011 |
| 3 to 6 | - | 2012 |
| -2 to 3 | -4 to 0 | 2013 |
| -3 to 1 | 1 to -6 | 2014 |
| 0 to 2 | 0 | 2015 |
| -50 to 0 | 0 | 2016 |
| 10 to 12 | 0 | 2017 |
| 6 to 11 | 0 | 2018 |
| 6 to 12 | 0 | 2019 |
| 0 to 3 | - | 2020 |

The site-specific depth to groundwater and direction of groundwater flow was not determined as part of this assessment. Fluctuations in groundwater levels may occur seasonally and over a period of years due to variations in precipitation, temperature, irrigation and other factors.

We reviewed the Department of Conservation, Geologic Energy Management (CalGEM), formerly the Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR),

website and map database to determine if any historic oil and/or gas wells were located within the Property. One well was identified within the Property and five wells were mapped within 1 mile of the Property.

The oil/gas well was located within the Property at the parcel located at 3709 El Centro Road (APN 225-0110-054). The well (API 0406720111) was a dry hole and was not put into production. The well was abandoned in December 1976 under the California Department of Conservation Division of Oil and Gas oversight. Appropriate setbacks should be observed during future construction.

# 2.0 PREVIOUS ENVIRONMENTAL REPORTS

Brusca Associates Inc.; Phase I Environmental Site Assessment, El Centro Road Natomas Property, APNs 274-0010-043, -049, -050, -069, and -079, and 225-0210-005, -018, and -037, Vicinity of El Centro Road, Natomas, Sacramento County, California; July 25, 2018; Brusca Project No. 301-001.

Brusca Associates Inc. (Brusca) completed a phase I environmental site assessment of parcels 247-0010-043, -049, -050, -069, and -079, 225-0210-005, -018, and -037 within the greater Upper West Side Property. The assessment indicated that the parcels had never been significantly developed and had historically been used for agriculture. The assessment did identify the presence of two wells within the studied parcels. The assessment did not reveal evidence of any RECs, and no further studies were recommended.

Brusca Associates Inc.; Phase I Environmental Site Assessment, El Centro Road Bastio Parcels, APNs 274-0010-055 and -056, Vicinity of El Centro Road, Natomas, Sacramento County, California; August 30, 2018; Brusca Project No. 301-001.

Brusca Associates Inc. (Brusca) completed a phase I environmental site assessment of parcels 274-0010-055, and -056 within the greater Upper West Side Property. The assessment indicated that the parcels had never been significantly developed, and had historically been used for agriculture. The assessment did identify the presence of two wells within the studied parcels. The assessment did not reveal evidence of any RECs, and no further studies were recommended.

# 3.0 RECORDS REVIEW

## 3.1 PROPERTY RECORDS

### 3.1.1 Title Report/Ownership

The Title Report lists recorded land title detail, ownership fees, leases, land contracts, easements, liens, deficiencies, and other encumbrances attached to or recorded against a subject property. Laws and regulations pertaining to land trusts vary from state to state and the detail of information presented in a Title Report can vary greatly by jurisdiction. As a result, ENGEO utilizes a Title Report, when provided to us, as a supplement to other historical record sources.

We did not receive preliminary title reports for any of the parcels in the Property.

## 3.2 HISTORICAL RECORD SOURCES

The purpose of the historical record review is to develop a history of the previous uses or occupancies of the Property and surrounding area in order to identify those uses or occupancies that are likely to have led to RECs on the Property.

### 3.2.1 Historical Topographic Maps/Aerial Photographs/Sanborn Maps

Historical USGS topographic maps, aerial photographs, and Sanborn Fire insurance maps were reviewed to determine if discernible changes pertaining to the Property had been recorded. EDR provided the following maps and photographs, presented in Appendices D, E, and G.

**TABLE 3.2.1-1: Historical Review Summary**

| HISTORIC MAP/PHOTOGRAPH | YEARS |
|---|---|
| Topographic Maps | 1907, 1915, 1916, 1948, 1949, 1950, 1951, 1954, 1967, 1975, 1980, 1992, 2012 |
| Aerial Photographs | 1937, 1947, 1957, 1964, 1972, 1984, 1993, 2005, 2009, 2012, 2016 |
| Sanborn Maps | N/A |

The 1907, 1915, and 1916 topographic maps depict the site as largely undeveloped, with a large intermittent pond, identified as Bush Lake, occupying a large portion of the central and eastern site. Bush Lake was mapped intersecting the perennial Fishermans Lake to the north. A river-front road was mapped flanking the Sacramento River, and a few unimproved roads cross the site. The earliest aerial photographs viewed (1937) do not show the Bush Lake feature, however, the Natomas Main Canal and East and West Drainage Canals were visible. The site was almost entirely covered with agricultural fields with irrigation and drainage canals in the 1937 photograph. Subsequent aerial photographs through 1964 show similar site conditions. Topographic maps from 1948 through 1954 depict several roads, canals, and structures across the site.

Some of the agricultural parcels also included residences and associated agricultural structures. The majority of the agricultural use appears to have been irrigated row crops. Orchards and rice fields were observed within the northern portion of the Property, north of what is now identified as Radio Road. Over the years additional residences have been built along Garden Highway, located along the southwest boundary, and east and west of El Centro Road, in the northern portion of the Property.

Radio towers in the northern portion of the site are first shown in the 1949 photo, and a television tower is mapped in 1954 in the southwestern site.

Sometime prior to 1967 Interstate 80 was constructed along the southern boundary of the Property. Around this time, a truck stop and commercial structure was constructed north of the El Camino Avenue exit. The truck stop and commercial structure are currently the 49er Truck Stop and Pape Machinery site, respectively. In 1993, additional commercial structures were constructed east of the Pape Machinery site and the area to the south of El Camino Road began development. By 2011, development to the south appeared complete and included a gas station, fast-food and dine-in restaurants, hotels, and a self-storage facility. A driving range was constructed east of El Centro Road sometime prior to 1984, which is still present on the Property at the time of this report.

### 3.2.2 City Directory

City Directories, published since the 18th century for major towns and cities, list the name of the resident or business associated with each address. A city directory search conducted by EDR is located in Appendix G.

## 3.3 ENVIRONMENTAL RECORD SOURCES

EDR performed a search of federal, tribal, state, and local databases regarding the Property and nearby properties. Details regarding the databases searched by EDR are provided in Appendix A. A list of the facilities documented by EDR within the approximate minimum search distance of the Property is provided below.

### 3.3.1 Environmental Records

#### 3.3.1.1 Subject Property

The Property is listed on the following Environmental Record source databases.

**TABLE 3.3.1.1-1**

| FACILITY | STREET | DATABASES |
|---|---|---|
| Former Johnson Ranch | 3800 Garden Highway | CERS, CPS-SLIC, Sacramento Co. CS |
| KCTC Sac-American Tower | 3802 Garden Highway | Sacramento Co. ML |
| Bastiao Farms Corp. | 3845 El Centro Road | RCRA NonGen/NLR, HAZNET, HWTS, AST, CERS HAZ WASTE, SWEEPS UST, CERS, CA FID UST, FINDS, ECHO, Sacramento Co. ML, HIST UST |
| Narinder Thandi | 3920 El Centro Road | NPDES, FINDS, ECHO |
| Dhillons Ranch | 3751 El Centro Road | Sacramento Co. ML |
| Perry Farms | 3705 El Centro Road | AST, CERS HAZ WASTE, SWEEPS UST, CA FID UST, CERS, CHMIRS, RCRA NonGen/NLR, FINDS, ECHO, Sacramento Co. ML, HWTS |
| Verizon Wireless | 3705 El Centro Road | FINDS, Sacramento Co. ML |
| Wilbert Rosa | 3705 El Centro Road | Sacramento Co. ML, HIST UST, CERS |
| Gary Alvernaz Trust | 3650 El Centro Road | RGA LUST, HAZNET, HWTS, LUST, Sacramento Co. ML |
| Bayer Crop Science | 3650 El Centro Road | HAZNET, HWTS |
| Peterson Pacific Corp. | 3650 El Centro Road | Sacramento Co. ML |
| Jody's Water Truck | 3650 El Centro Road | Sacramento Co. ML |
| Private Residence | Private Residence | LUST |
| Jimico | 2929 El Centro Road | Sacramento Co. ML |
| Pape Machinery, Inc. | 2850 El Centro Road | ECHO, RCRA NonGen/NLR, AST, Sacramento Co. ML, FINDS |

| FACILITY | STREET | DATABASES |
|---|---|---|
| Empire Equipment LP | 2850 El Centro Road | HAZNET, HWTS, RCRA-SQG, CERS HAZ WASTE, CERS TANKS, FINDS, ECHO, CERS |
| Weaver Equipment Company | 2850 El Centro Road | Sacramento Co. ML, HAZNET, HWTS |
| 49er Auto Truck Plaza | 2848 El Centro Road | EDR Hist Auto |
| Sacramento Building | 2840 El Centro Road | HAZNET, HWTS |
| T-Mobile West Crop. | 2840 El Centro Road | Sacramento Co. ML, ERNS |
| 49er Truck Stop & Auto #62 | 2828 El Centro Road | FINDS, ECHO, HIST UST, RGA LUST, HAZNET, HWTS, CIWQS, Sacramento Co. ML, UST, |
| Unocal 76 | 2828 El Centro Road | HAZNET, HWTS |
| CRST International | 2828 El Centro Road | HAZNET, HWTS |
| Jimico | 2828 El Centro Road | Sacramento Co. ML |
| Seventy Six Auto Truck Stop | 2828 El Centro Road | EDR Hist Auto |

#### 3.3.1.2 Other Properties

The following databases include facilities listed within the appropriate ASTM search distances of the Property on Environmental Records sources.

**TABLE 3.3.1.2-1**

| DATABASE | NUMBER OF FACILITIES |
|---|---|
| Sacramento Co. ML | 5 |
| CERS | 2 |
| CERS HAZ WASTE | 1 |
| CERS TANKS | 1 |
| ENVIROSTOR | 3 |
| SCH | 3 |
| SWEEPS UST | 1 |
| CA FID UST | 1 |
| HIST UST | 1 |
| AST | 2 |
| RCRA NonGen/NLR | 2 |

Based on the distances to the identified database sites, regional topographic gradient, and the EDR findings, it is unlikely that the above-stated database sites pose an environmental risk to the Property. There are 121 Properties listed on the ñOrphan Summaryò list, and all appear to be located beyond the ASTM recommended radius search criteria. The complete Orphan List summary is included in Appendix A.

## 3.4 REGULATORY AGENCY FILES AND RECORDS

The following agencies were contacted pertaining to possible past development and/or activity at the Property.

**TABLE 3.4-1: Regulatory Agency Records**

| NAME OF AGENCY | RECORDS REVIEWED |
|---|---|
| Sacramento Metropolitan Fire Department | We contacted the Sacramento Metropolitan Fire Department for regarding files for the Property. The Department was unable to fulfil our request due to COVID-19 restrictions. |
| Sacramento Environmental Management Department | We contacted the Sacramento Environmental Management Department for regarding files for the Property. The provided files included well installation and destruction, septic, hazardous waste, underground storage tank, liquid waste disposal, and well drillerôs permits. Other documents included liquid and hazardous waste plans, pipeline leak detection notifications, fuel release notifications, laboratory results, well driller logs and reports, inspection records, and percolation and infiltration testing results. A complete list of records found per parcel is included in Appendix H. |
| Sacramento County Assessorôs Office | The Sacramento County Assessorôs Office online database was used to confirm the Assessorôs Parcel Number for the Property. |
| California State Water Resources Control Board | The California State Water Resources Control Boardôs online database, GeoTracker, was reviewed for files relating to the Property. The following cases were identified on the Property. A detailed description of the cases are provided below.<br>• 3800 Garden Highway - Former Johnson Ranch<br>• 3650 El Centro Road ï Private residence<br>• 2828 El Centro Road ï 49er Truck Plaza (Case #1)<br>• 2828 El Centro Road ï 49er Truck Plaza (Case #2) |
| Department of Toxic Substances Control | The Department of Toxic Substances Controlôs online database, EnviroStor, was reviewed for files pertaining to the Property. No sites were listed within the Property on the EnviroStor site. |

Additional details about the Geotracker identified sites located within the Property that could present a potential environmental concern are presented below.

**Former Johnson Ranch**: (Case Number T10000012933) located at 3800 Garden Highway and identified by APN 225-0110-058, is listed as a closed leaking underground storage tank (LUST) cleanup site as of July 31, 2020. Elevated concentrations of pesticides, lead, and arsenic were identified in historic agricultural soils in 2006 and in 2009 soil and groundwater with total petroleum hydrocarbon (TPH) and motor oil contamination associated with a former 550-gallon underground storage tank (UST) and former aboveground storage tank (AST) were identified. Approximately 260 tons of contaminated soils were removed from the Property on February 26, 2020. The case was closed without restrictions by the Sacramento County Environmental Management Department (SCEMD) on July 31, 2020.

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September 2009 followed by treatment of in-situ soils through aeration processes. Groundwater and soil vapor samples were collected following remedial activities. Additional rounds of groundwater and soil vapor sampling were conducted in June 2014 and September 2015. The case was closed without restrictions by SCEMD on February 19, 2016.

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**The #23 Satellite Dispenser pump at the 49er Truck Plaza Case #2**: (Case Number T0606700843) was damaged in an accident causing the release of diesel fuel into the backfill and surrounding soil on the Property in February 2019. Impacted soils were removed from the Property and followed by a soil investigation performed on July 12, 2019. The case was closed without restrictions by the SCEMD on April 16, 2020.

## 3.5 INDOOR AIR QUALITY

An evaluation of indoor air quality, mold, or radon was not included as part of the contracted scope of services. The California Department of Public Health has conducted studies of radon risks throughout the state, sorted by zip code. Results of the studies indicate that 67 tests were conducted within the Property zip codes and spanned both Sacramento and Yolo Counties. Some tests conducted within Sacramento County encountered radon levels which exceeded the current EPA action level of 4 picocuries per liter {pCi/L}[1]). These elevated levels were identified in basement levels, and found approximately 50% of the tests were below 4 pCi/L, and the remaining 50% were above. Radon levels detected in the first floor of these areas were below 4 pCi/L. Sacramento and Yolo Counties are mapped as Zone 3, having low potential for radon exposure.

In accordance with ASTM E2600-15 (Tier 1) (*Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions*); there is one potential petroleum hydrocarbon sources for vapor intrusion within 1/10 mile of the Property, as discussed in the paragraph below, and no volatile organic compound (VOCs) sources (active SLIC cases) within 1/3 mile of the Property.

One oil/gas well was located within the Property at the parcel located at 3709 El Centro Road (APN 225-0110-054). The well (API 0406720111) was a dry hole and was not put into production. The well was abandoned in December 1976 under the California Department of Conservation Division of Oil and Gas oversight. Appropriate setbacks should be observed during future construction.

[1] California Department of Public Health ï Radon Programï (https://www.cdph.ca.gov/Programs/CEH/DRSEM/CDPH%20Document%20Library/EMB/Radon/Radon%20Test%20Results.pdf).

# 4.0 SITE RECONNAISSANCE

## 4.1 METHODOLOGY

ENGEO conducted a reconnaissance of the Property on January 8 and 11, 2021. The reconnaissance was performed by Travis Chatters, a Project Engineer of ENGEO. The Property was viewed for hazardous materials storage, superficial staining or discoloration, debris, stressed vegetation, or other conditions that may be indicative of potential sources of soil or groundwater contamination. The Property was also checked for evidence of fill/ventilation pipes, ground subsidence, or other evidence of existing or preexisting underground storage tanks. Photographs taken during the site reconnaissance are presented in Appendix B.

We did not have permission to access the majority of the parcels; therefore, interior observations were limited. Some parcels which we were unable to access we performed a windshield survey of the parcel, which consists of observations made from the nearest adjacent public road.

## 4.2 EXTERIOR OBSERVATIONS

The following table summarizes our observations during the reconnaissance:

**TABLE 4.2-1: Exterior Site Observations**

| FEATURE TYPE | OBSERVATIONS |
|---|---|
| Structures | Numerous structures were observed during the site reconnaissance. These included:<br>• Residences ï single-family and mobile<br>• Barns, sheds, and auxiliary structures<br>• Gas Stations<br>• Hotels<br>• Commercial offices<br>• Convenience stores<br>• Fast-food and dine-in restaurants<br>• Self-storage facilities<br>• Semi-truck repair facilities<br>• Communication antenna facilities<br>• Large scale equipment storage and repair facilities<br>• Power lines<br>• Communication Antennas |
| Hazardous Substances and Petroleum Products in Connection with Identified Uses | No hazardous substances or petroleum products were observed within the Property during the site reconnaissance. However, we were unable to access the interior of the majority of the facilities to confirm. Given the use of some of the properties, it is likely that petroleum products, or other chemicals, are stored on select parcels. |
| Storage Tanks (underground and above-ground) | No above-ground storage tanks or evidence of existing underground storage tanks was observed during the site reconnaissance. |
| Odors | No odors indicative of hazardous materials or petroleum material impacts were noted at the time of the reconnaissance. |
| Pools of Potentially Hazardous Liquid | No pools of potentially hazardous liquid were observed within the Property at the time of our reconnaissance. |

| FEATURE TYPE | OBSERVATIONS |
|---|---|
| Drums | Drums were observed on the Property at the time of the reconnaissance, however, due to limited access we were unable to confirm the contents of the drum. |
| Polychlorinated Biphenyls (PCBs) Containing Equipment | Several pole-mounted transformers, potentially containing PCBS, were observed during the site reconnaissance. No staining or stressed vegetation was observed below the transformers. |
| Pits, Ponds, and Lagoons | No pits, ponds or lagoons were observed within the Property at the time of our reconnaissance. Several drainage and irrigation canals exist on the Property. |
| Stained Soil/Pavement | No stained soil was observed within the Property at the time of our reconnaissance. Stained pavement was observed within the commercial area located north and south of the El Camino Avenue exit. |
| Stressed Vegetation | No signs of stressed vegetation were observed on the Property at the time of our reconnaissance. |
| Solid Waste/Debris | Clandestine dumping of solid waste (garbage) was observed at various locations within the subject property. |
| Stockpiles/Fill Material | No stockpiles or fill material was observed on the Property during the reconnaissance. |
| Wastewater | Municipal sewer lines were observed parallel to El Centro Road heading north to San Juan Road where they head east. Additionally, large sewer interceptor appurtenances/vaults exist along the southern portion of the Property adjacent to the I-80 freeway. |
| Wells | Several well pumps were observed within the Property during our site reconnaissance. Based on data provided by Sacramento County we understand that numerous wells exist throughout the Property. |
| Septic Systems | No septic systems were observed within the Property during our site reconnaissance. However, based on data provided by Sacramento County we understand that numerous septic throughout the Property. |

### 4.3 INTERIOR OBSERVATIONS

Numerous structures are located throughout the Property. However, at the time of this assessment we were not given permission to enter any structures.

### 4.4 ASBESTOS, LEAD, AND PCB-CONTAINING MATERIALS

An asbestos, lead, and PCB-containing building material survey was not conducted as part of this assessment. Given the age of some of the existing structures, it is conceivable that asbestos, lead, and PCB-containing materials may exist within the structures.

## 5.0 INTERVIEWS

We did not receive any questionnaires at the time of this report.

# 6.0 FINDINGS AND CONCLUSIONS

This assessment included a review of local, state, tribal, and federal environmental record sources, standard historical sources, aerial photographs, fire insurance maps and physical setting sources. A reconnaissance of the Property was completed to review site use and current conditions to check for the storage, use, production, or disposal of hazardous or potentially hazardous materials and to conduct written/oral interviews with persons knowledgeable about current and past site use.

The site reconnaissance and records review did not find documentation or physical evidence of soil, soil gas, or groundwater impairments associated with the use or past use of the Property. A review of regulatory databases maintained by county, state, tribal, and federal agencies found no documentation of hazardous materials violations or discharge on the Property and did not identify contaminated facilities within the appropriate American Society for Testing and Materials (ASTM) search distances that would reasonably be expected to impact the Property.

Based on the findings of this assessment, no RECs, four historical RECs, and no controlled RECs were identified for the Property.

The following HRECs were identified:

- **Former Johnson Ranch**: (Case Number T10000012933) located at 3800 Garden Highway and identified by APN 225-0110-058, is listed as a closed leaking underground storage tank (LUST) cleanup site as of July 31, 2020. Elevated concentrations of pesticides, lead, and arsenic were identified in historic agricultural soils in 2006 and in 2009 soil and groundwater with total petroleum hydrocarbon (TPH) and motor oil contamination associated with a former 550-gallon underground storage tank (UST) and former aboveground storage tank (AST) were identified. Approximately 260 tons of contaminated soils were removed from the Property on February 26, 2020. The case was closed without restrictions by the Sacramento County Environmental Management Department (SCEMD) on July 31, 2020.

- **Private Residence**: (Case Number T0606748466) located at 3650 El Centro Road and identified by APN 225-0190-019, is listed as a closed LUST cleanup site as of February 22, 2016. Two 5,000-gallon USTs were removed from the Property in the 1980s. Elevated concentrations of TPH-gasoline (TPHg) in soils northwest of the former USTs and elevated concentrations of TPHg, TPH-diesel (TPHd), TPH-motor oil (TPH-mo), and benzene were identified in a subsurface soil investigation in June 2006. Supplementary sampling in August 2006 delineated the impacts to areas around the former USTs. Four monitoring wells were installed in March 2007 for groundwater monitoring. Removal of contaminated soils was performed from July 2008 through September 2009 followed by treatment of in situ soils through aeration processes. Groundwater and soil vapor samples were collected following remedial activities. Additional rounds of groundwater and soil vapor sampling were conducted in June 2014 and September 2015. The case was closed without restrictions by SCEMD on February 19, 2016.

- **49er Truck Plaza Case #1**: (Case Number T0606700843) located at 2828 El Centro Road and identified by APN 225-0220-055. Gasoline and diesel spills were documented on the Property as early as 1991, causing impacts to nearby soil and groundwater with TPHg and TPHd, followed by remediation activities to remove impacted soils and groundwater. Groundwater monitoring wells were first installed on the Property in 1992. In 1998, 10 USTs

containing gasoline, diesel, waste oil, and lube oil were removed from the Property and monitoring wells were installed. The wells were monitored quarterly from 2005 to 2010. The monitoring wells were destroyed under direction of the SCEMD in 2013. The case was closed without restrictions by the SCEMD on March 26, 2014.

- **The #23 Satellite Dispenser pump at the 49er Truck Plaza Case #2**: (Case Number T0606700843) The #23 Satellite Dispenser pump was damaged in an accident causing the release of diesel fuel into the backfill and surrounding soil on the Property in February 2019. Impacted soils were removed from the Property and followed by a soil investigation performed on July 12, 2019. The case was closed without restrictions by the SCEMD on April 16, 2020.

Based on the review of regulatory databases and site reconnaissance, we present information on features of potential environmental concern that were either contained in the databases or observed on the Property. These features were not considered to be RECs. We briefly discuss each feature below.

### Residential Sites/Areas

It is conceivable that during future site demolition and initial grading, potential areas of soil impacts or buried structures such as sumps/tanks and septic systems may be encountered. In addition, it is possible that asbestos-containing materials (ACM) and lead-based paint (LBP) materials may exist within the structures. Soil within the area of demolished structures could also contain ACM and/or LBP.

### Former Gas/Oil Wells

An abandoned gas/oil well is located within the Property. According to the Department of Conservation, Geologic Energy Management (CalGEM), the well can be located within the Property limits provided it is not located underneath foundations and is accessible by a truck-mounted drill rig.

### Agricultural Fields

The majority of the Property consists of agricultural land, some of which was used at a time legacy agrichemicals were used. It is possible that pesticides, lead, and arsenic may be present at these sites. It is likely that soil sampling will be required by a regulatory agency in the future.

### Irrigation and Domestic Wells

A number of irrigation wells and domestic wells exist on the Property. Any irrigation or domestic wells on the Property should be abandoned in accordance with Sacramento County regulations, if no longer intended for use.

### Transformers

Pole-mounted transformer units were observed on the Property. While there did not appear to be evidence of leakage or soil impacts, it is conceivable some units could contain PCBs in coolant fluid. These units should be properly decommissioned as part of future demolition activities, if no longer in use.

ENGEO has performed a phase I environmental site assessment in general conformance with the scope and limitations of ASTM E1527-13 and the standards and practices of the All Appropriate Inquiry ï Final Rule (40 Code of Federal Regulations Part 312).

Based on the nature of the data gaps, we cannot conclusively render a conclusion as to the presence of a REC at the Property.
This assessment has revealed no evidence of RECs in connection with the Property, and the Property may be suitable for future development. ENGEO recommends the following:

- Pre-demolition surveys of the existing structures to verify to presence of asbestos containing materials, lead-based paints, or any other hazardous substances present within the structures.
- Locating the former gas/oil well present on the Property. The well seal should be confirmed prior to development.
- Collection of near surface soil samples to determine if lead, arsenic, or organochlorine pesticides are present at the Property.
- Proper abandonment of irrigation and residential wells under the appropriate agency.
- Removal and disposal of pole-mounted transformers under the appropriate oversight.
- Preparation of a soil management plan for any work that might take place within the truck stop or any other HREC location.

# 7.0 LIMITATIONS

## 7.1 SIGNIFICANT ASSUMPTIONS OR DEVIATIONS FROM ASTM STANDARD PRACTICE

There were no significant deviations from ASTM Standard 1527-13.

## 7.2 OPINIONS AND DATA GAPS

It is our opinion that the findings of this study are based on a sufficient level of information obtained during our contracted scope of services to render a conclusion as to whether additional appropriate investigation is required to identify the presence or likely presence of a REC. The data gaps identified during this process may affect the conclusions as to the presence or lack of presence of RECs at the Property. The following data gaps were identified.

- We were unable to access any of the structures within the Property. These structures may contain asbestos containing materials, lead-based paint, and other potentially hazardous substances.
- We did not receive client or key site manager questionnaires.
- We did not receive preliminary title reports for any of the parcels.

## 7.3 LIMITATIONS AND EXCEPTIONS OF ASSESSMENT

The professional staff at ENGEO strives to perform its services in a proper and professional manner with reasonable care and competence but is not infallible. The recommendations and conclusions presented in this report were based on the findings of our study, which were developed solely from the contracted services. The findings of the report are based in part on contracted database research, out-of-house reports, and personal communications. The opinions formed by ENGEO are based on the assumed accuracy of the relied upon data in conjunction with our relevant professional experience related to such data interpretation. ENGEO assumes no liability for the validity of the materials relied upon in the preparation of this report.

This document must not be subject to unauthorized reuse; that is, reuse without written authorization of ENGEO. Such authorization is essential because it requires ENGEO to evaluate the document's applicability given new circumstances, not the least of which is passage of time. The findings from a phase I environmental site assessment are valid for one year after completion of the report. Updates of portions of the assessment may be necessary after a period of 180 days after completion.

This phase I environmental site assessment is not intended to represent a complete soil, soil gas, or groundwater characterization, nor define the depth or extent of soil, soil gas, or groundwater contamination. It is intended to provide an evaluation of potential environmental concerns associated with the use of the Property. A more extensive assessment that would include a subsurface exploration with laboratory testing of soil, soil gas, and groundwater samples could provide more definitive information concerning site-specific conditions. If additional assessment activities are considered for the Property and if other entities are retained to provide such services, ENGEO cannot be held responsible for any and all claims arising from or resulting from the performance of such services by other persons or entities. ENGEO can also not be held responsible from any and all claims arising or resulting from clarifications, adjustments, modifications, discrepancies or other changes necessary to reflect changed field or other conditions.

## 7.4 SPECIAL TERMS AND CONDITIONS

ENGEO has prepared this report for the exclusive use of our client, Upper West Side LLC. It is recognized and agreed that ENGEO has assumed responsibility only for undertaking the study for the Client. The responsibility for disclosures or reports to a third party and for remedial or mitigative action shall be solely that of the Client.

Laboratory testing of soil, soil gas, or groundwater samples was not within the scope of the contracted services. The assessment did not include an asbestos survey, an evaluation of lead-based paint, an inspection of light ballasts for polychlorinated biphenyls (PCBs), or a mold survey. A radon evaluation was not performed.

This report is based upon field and other conditions discovered at the time of preparation of ENGEO's assessment. Visual observations referenced in this report are intended only to represent conditions at the time of the reconnaissance. ENGEO would not be aware of site contamination, such as dumping and/or accidental spillage, that occurred subsequent to the reconnaissance conducted by ENGEO personnel.

# SELECTED REFERENCES

Brusca Associates Inc.; Phase I Environmental Site Assessment, El Centro Road Bastio Parcels, APNs 274-0010-055 and -056, Vicinity of El Centro Road, Natomas, Sacramento County, California; August 30, 2018; Brusca Project No. 301-001.

Brusca Associates Inc.; Phase I Environmental Site Assessment, El Centro Road Natomas Property, APNs 274-0010-043, -049, -050, -069, and -079, and 225-0210-005, -018, and -037, Vicinity of El Centro Road, Natomas, Sacramento County, California; July 25, 2018; Brusca Project No. 301-001.

California Department of Water Resources (http://www.water.ca.gov/waterdatalibrary/)

California Department of Public Health ï Radon Programï (https://www.cdph.ca.gov/Programs/CEH/DRSEM/CDPH%20Document%20Library/EMB/Radon/Radon%20Test%20Results.pdf).

California Geologic Energy Management Division (CalGEM) (https://www.conservation.ca.gov/calgem)

CalGEM Well Finder (https://maps.conservation.ca.gov/doggr/wellfinder/#openModal/-118.94276/37.12009/6)

Gutierrez, C.I., 2011, Preliminary Geologic map of the Sacramento 30' x 60' quadrangle, California: California Geological Survey, Preliminary Geologic Maps, scale 1:100,000.



## FIGURES


FIGURE 1: Vicinity Map
FIGURE 2: Site Plan
FIGURE 3: Topographic Map
FIGURE 4: Well Locations
FIGURE 5: Commercial Site
FIGURE 6: Driving Range
FIGURE 7: 3705 El Centro Road
FIGURE 8: 3709 El Centro Road
FIGURE 9: 3802 Garden Highway
FIGURE 10: Former Johnson Ranch ï 3800 Garden Highway
FIGURE 11: Vault and Tower
FIGURE 12: 3650 El Centro Road




BASEMAP SOURCE: ESRI MAPPING SERVICE 2020

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# VICINITY MAP

UPPER WEST SIDE

SACRAMENTO COUNTY, CALIFORNIA

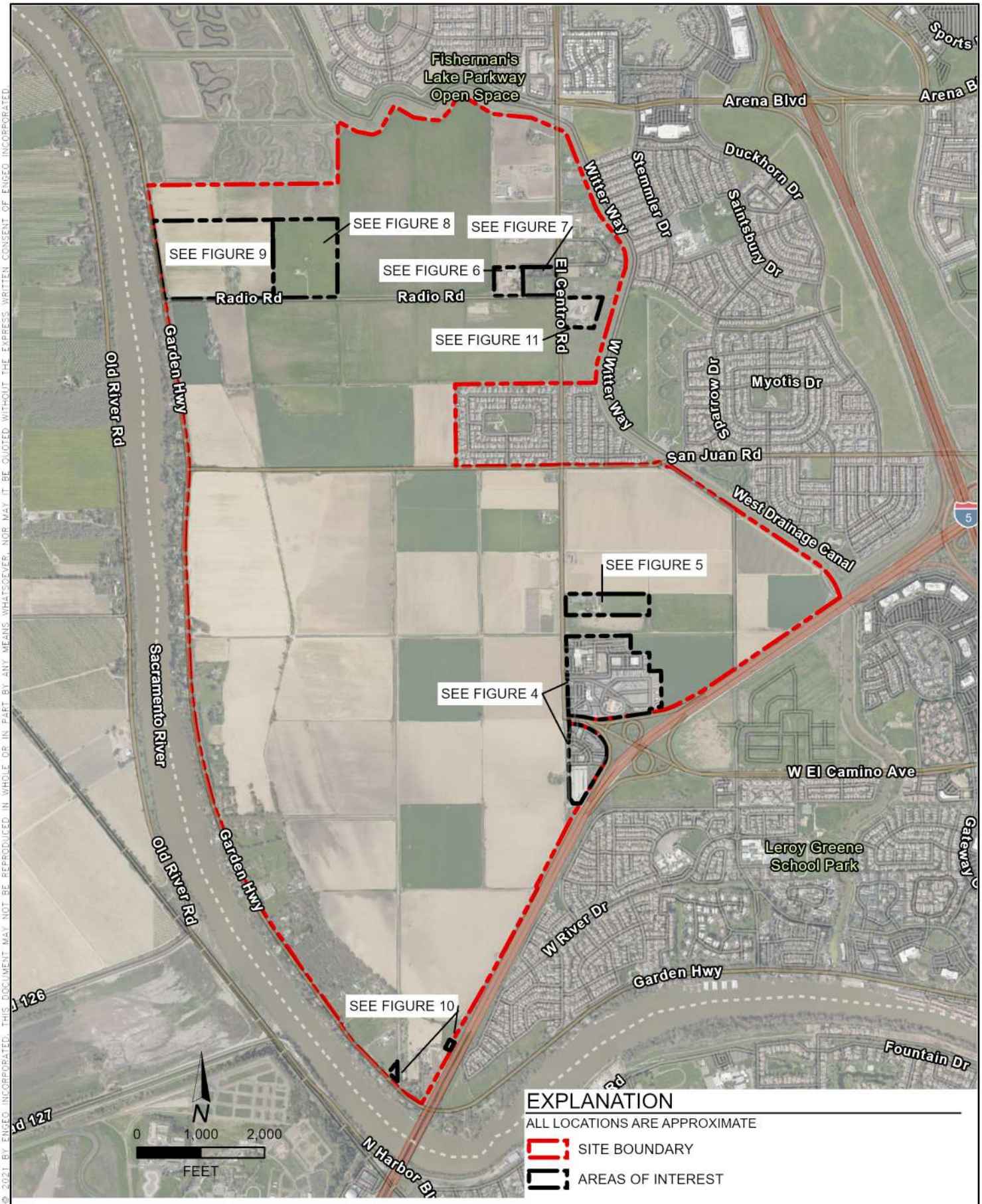
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FIGURE NO. 1

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LAYOUT: VICINITY USER: MTORRES

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BASEMAP SOURCE: ESRI MAPPING SERVICE 2019

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# SITE PLAN

UPPER WEST SIDE

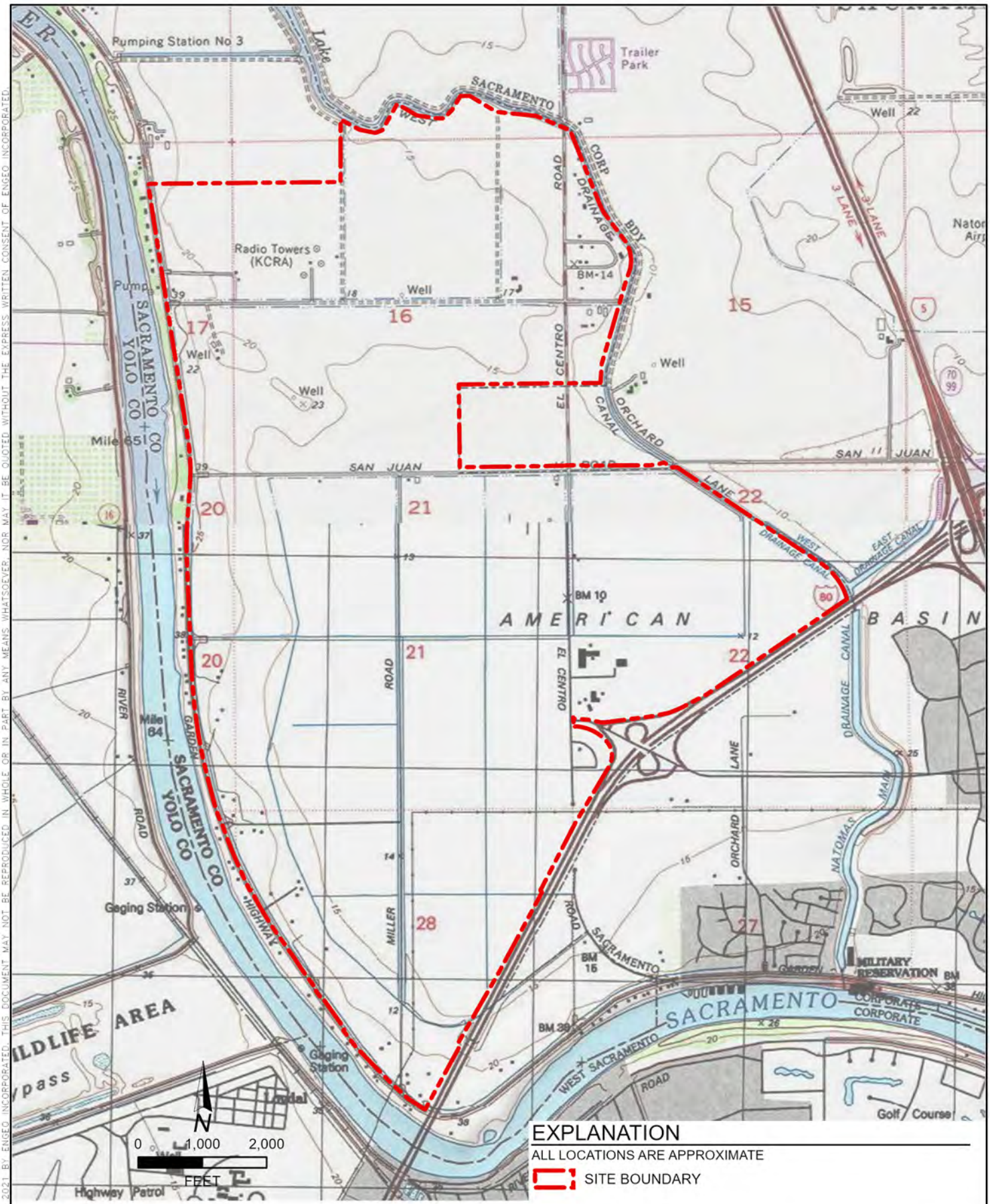
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FIGURE NO. 2

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LAYOUT: SITE BOUNDARY USER: MTORRES

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## EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

SITE BOUNDARY

BASEMAP SOURCE: USGS TOPOGRAPHY 1992

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# TOPOGRAPHIC MAP

UPPER WEST SIDE

SACRAMENTO COUNTY, CALIFORNIA

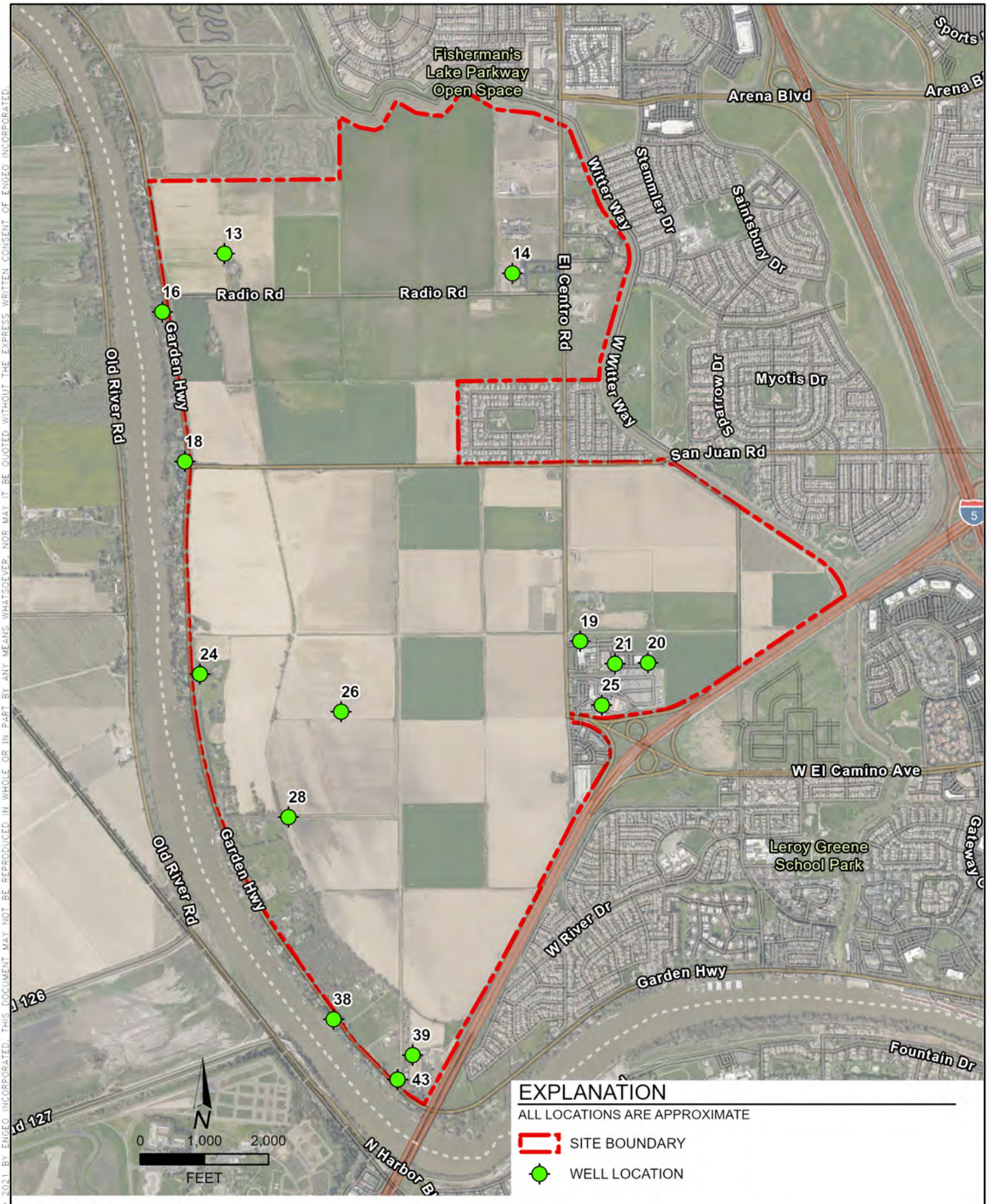
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FIGURE NO. 3

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## EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

- SITE BOUNDARY
- WELL LOCATION

BASEMAP SOURCE: EDR DATAMAP

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# KNOWN WELL LOCATIONS

UPPER WEST SIDE

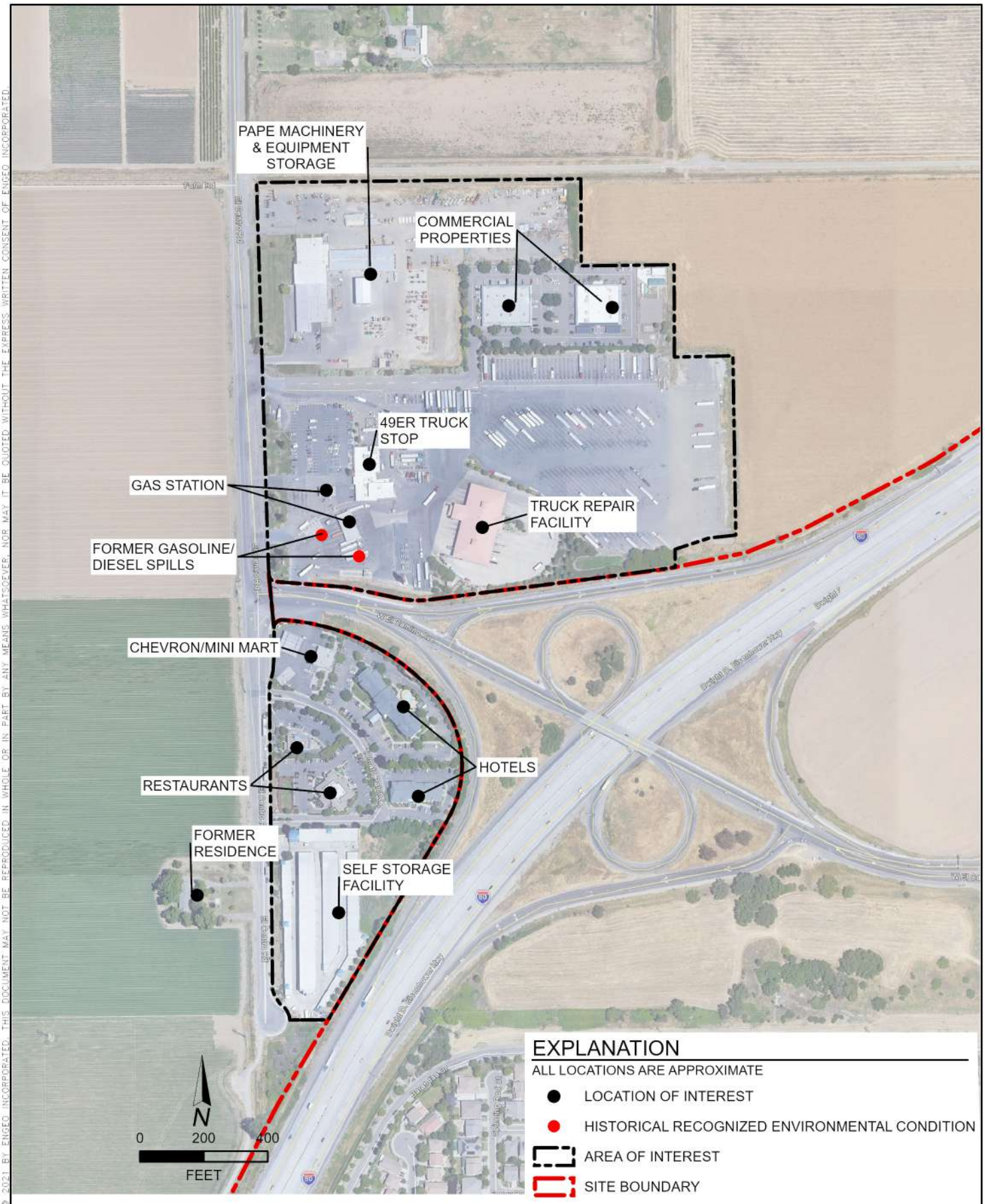
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FIGURE NO. 4

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LAYOUT: OIL WELL USER: MTORRES

ORIGINAL FIGURE PRINTED IN COLOR




## EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

- LOCATION OF INTEREST
- HISTORICAL RECOGNIZED ENVIRONMENTAL CONDITION
- AREA OF INTEREST
- SITE BOUNDARY

BASEMAP SOURCE: GOOGLE EARTH MAPPING SERVICE 2019

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# COMMERCIAL SITE

UPPER WEST SIDE

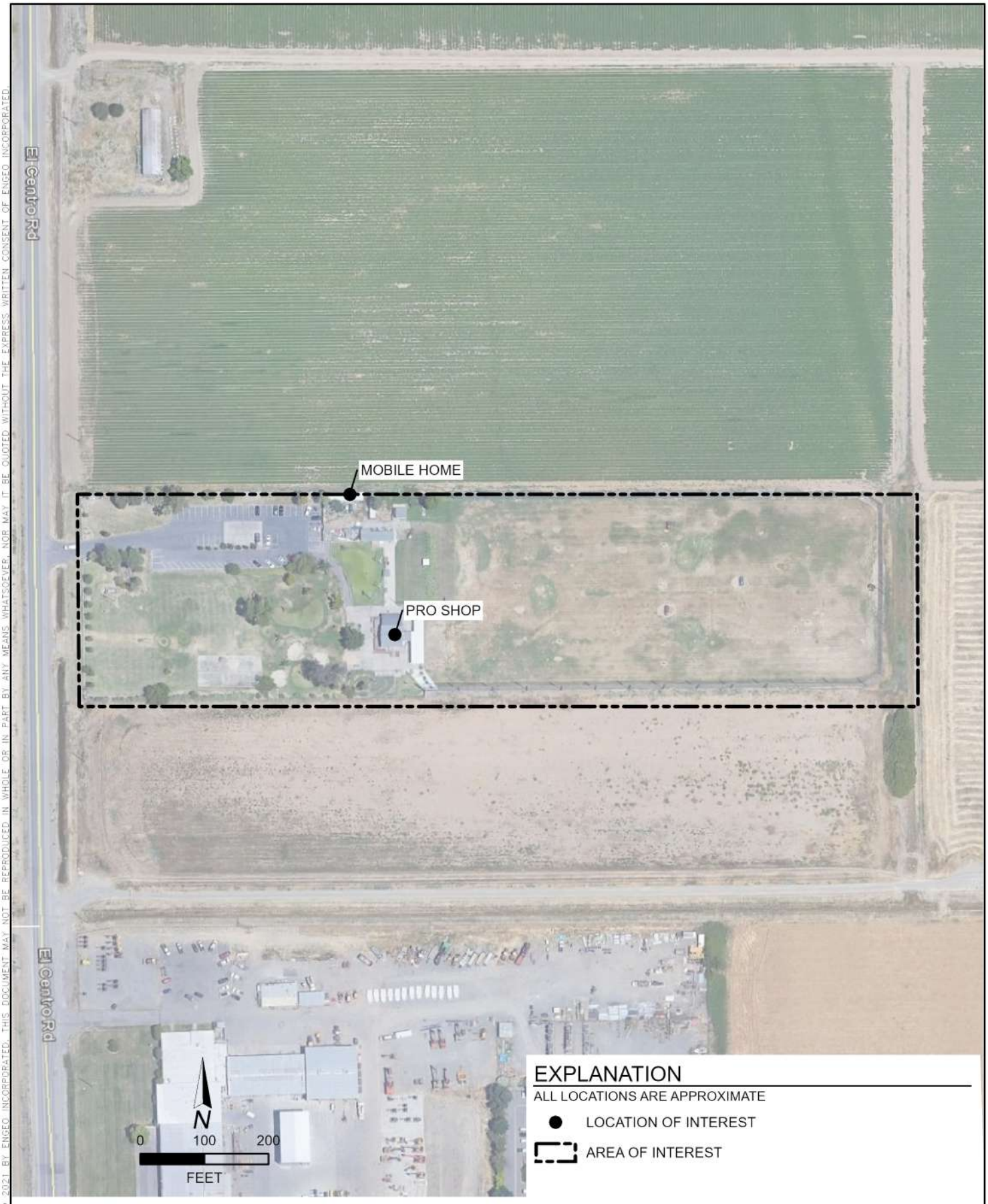
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FIGURE NO. 5

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LAYOUT: REC USER: MTORRES

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## EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

- LOCATION OF INTEREST
- AREA OF INTEREST

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# DRIVING RANGE

UPPER WEST SIDE

SACRAMENTO COUNTY, CALIFORNIA

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FIGURE NO. 6

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LAYOUT: REC USER: MTORRES

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## EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

- LOCATION OF INTEREST
- AREA OF INTEREST

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3705 EL CENTRO ROAD
UPPER WEST SIDE
SACRAMENTO COUNTY, CALIFORNIA

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FIGURE NO. 7

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LAYOUT: REC USER: MTORRES

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## EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

- LOCATION OF INTEREST
- AREA OF INTEREST

BASEMAP SOURCE: GOOGLE EARTH MAPPING SERVICE 2019

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# 3709 EL CENTRO ROAD

UPPER WEST SIDE

SACRAMENTO COUNTY, CALIFORNIA

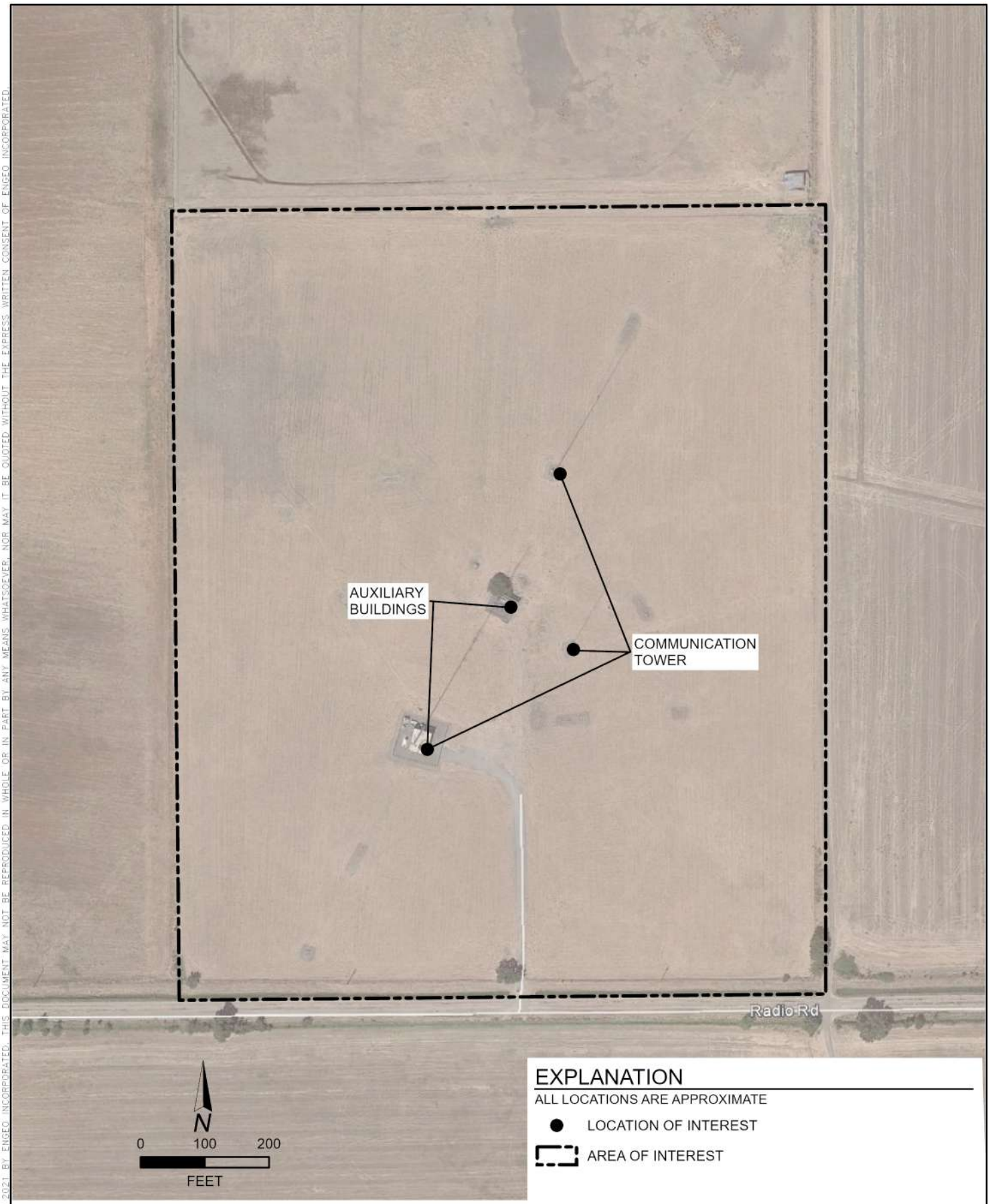
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FIGURE NO. 8

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LAYOUT: REC USER: MTORRES

ORIGINAL FIGURE PRINTED IN COLOR




## EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

- LOCATION OF INTEREST
- AREA OF INTEREST

BASEMAP SOURCE: GOOGLE EARTH MAPPING SERVICE 2019

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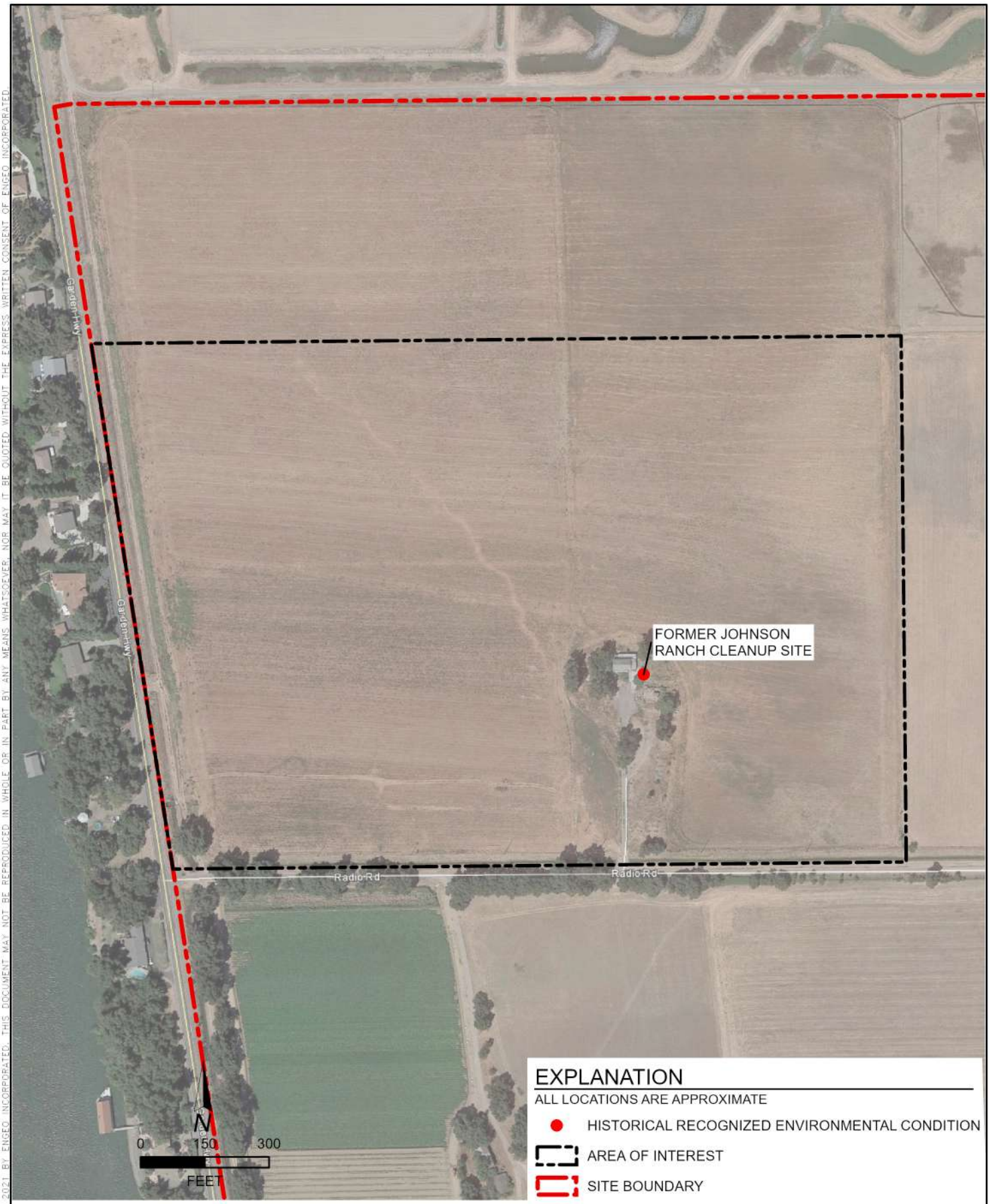
3802 GARDEN HIGHWAY
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SACRAMENTO COUNTY, CALIFORNIA

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FIGURE NO. 9

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LAYOUT: REC USER: MTORRES

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## EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

- HISTORICAL RECOGNIZED ENVIRONMENTAL CONDITION
- AREA OF INTEREST
- SITE BOUNDARY

BASEMAP SOURCE: GOOGLE EARTH MAPPING SERVICE 2019

ENGEO
Expect Excellence

# FORMER JOHNSON RANCH - 3800 GARDEN HIGHWAY

UPPER WEST SIDE

SACRAMENTO COUNTY, CALIFORNIA

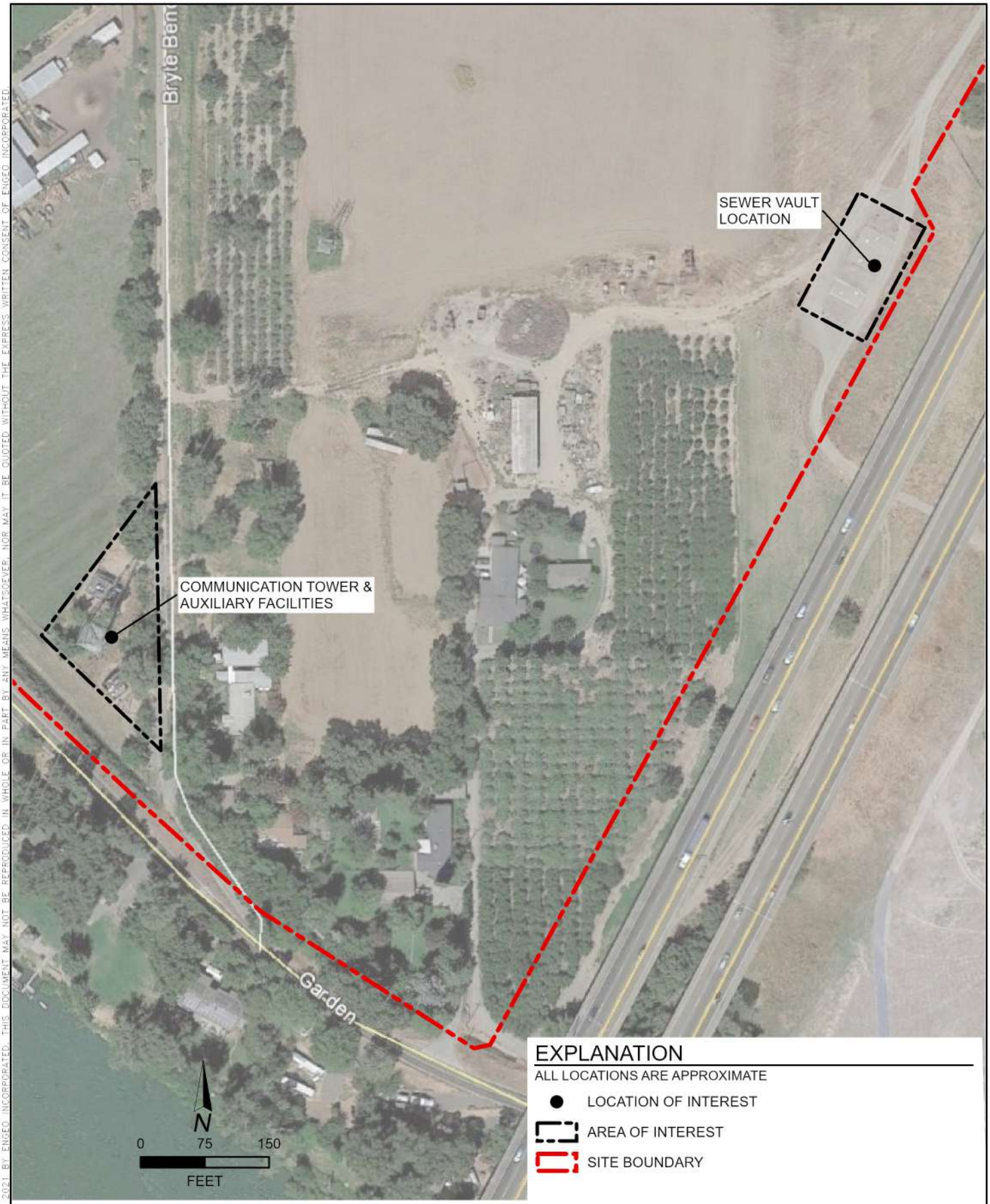
| | |
|---|---|
| PROJECT NO. : | 18171000001 |
| SCALE: | AS SHOWN |
| DRAWN BY: MAT | CHECKED BY: TMC |

FIGURE NO.
10

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PATH: G:\DRAFTING\PROJECTS_18000 TO 19999\18171\18171000001\ENVIRONMENTAL\ESA-0121\18171-UWS-ESAV2.APRX
LAYOUT: REC USER: MTORRES

ORIGINAL FIGURE PRINTED IN COLOR




BASEMAP SOURCE: GOOGLE EARTH MAPPING SERVICE 2019

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# VAULT AND TOWER

UPPER WEST SIDE

SACRAMENTO COUNTY, CALIFORNIA

| | |
|---|---|
| PROJECT NO. : | 18171000001 |
| SCALE: | AS SHOWN |
| DRAWN BY: MAT | CHECKED BY: TMC |

FIGURE NO. 11

PATH: G:\DRAFTING\PROJECTS_18000 TO 19999\18171\18171000001\ENVIRONMENTAL\ESA-0121\18171-UWS-ESAV2.APRX
LAYOUT: REC USER: MTORRES

ORIGINAL FIGURE PRINTED IN COLOR




## EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

- HISTORICAL RECOGNIZED ENVIRONMENTAL CONDITION
- AREA OF INTEREST
- SITE BOUNDARY

BASEMAP SOURCE: GOOGLE EARTH MAPPING SERVICE 2019

ENGEO Expect Excellence

3650 EL CENTRO ROAD
UPPER WEST SIDE
SACRAMENTO COUNTY, CALIFORNIA

| | |
|---|---|
| PROJECT NO. : | 18171000001 |
| SCALE: | AS SHOWN |
| DRAWN BY: MAT | CHECKED BY: TMC |

FIGURE NO. 12

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PATH: G:\DRAFTING\PROJECTS_18000 TO 19999\18171\18171000001\ENVIRONMENTAL\ESA-0121\18171-UWS-ESAV2.APRX
LAYOUT: REC USER: MTORRES

ORIGINAL FIGURE PRINTED IN COLOR



# APPENDIX A

## PROPERTY SUMMARY TABLE

| APN | Address | Acres | Owner | Land Use |
|---|---|---|---|---|
| 225-0010-071 | El Centro Road | 34.01 | Banga Jaspals/Harpreet K | Agricultural |
| 225-0110-019 | Garden Highway | 37.56 | Sacramento Area Flood Control Agency | Agricultural |
| 225-0110-020 | Garden Highway | 1.44 | Sacramento Area Flood Control Agency | Agricultural |
| 225-0110-024 | 3802 Garden Highway | 27.9 | American Tower Systems LP | Agricultural |
| 225-0110-025 | El Centro Road | 39.78 | Bollinger Properties LLC | Agricultural |
| 225-0110-026 | El Centro Road | 39.74 | Bollinger Properties LLC | Agricultural |
| 225-0110-027 | El Centro Road | 39.37 | Bollinger Properties LLC | Agricultural |
| 225-0110-028 | El Centro Road | 40.6 | Bollinger Properties LLC | Agricultural |
| 225-0110-032 | 3705 El Centro Road | 5 | Joe Perry Trust | Agricultural |
| 225-0110-033 | 3709 El Centro Road | 0.19 | Willoughby Jena M | Ag Residential |
| 225-0110-037 | 3955 El Centro Road | 10.35 | The Bermudez Family Trust | Agricultural |
| 225-0110-038 | 3845 El Centro Road | 20.69 | The Dennis J Bastiao Family Trust | Agricultural |
| 225-0110-052 | 3809 El Centro Road | 11.84 | Amarji S and Gurdip K Dhillion and Balbir S and Baji | Agricultural |
| 225-0110-053 | 3757 El Centro Road | 11.87 | Surjit S and Harjit K Dhillon | Agricultural |
| 225-0110-054 | 3709 El Centro Road | 5.24 | Willoughby Jena M | Ag Residential |
| 225-0110-058 | 3800 Garden Highway | 51.47 | Lisa A. Messick Living Trust | Agricultural |
| 225-0121-001 | 3934 El Centro Road | 2.87 | Santamaria Jorge I J/Ron Selge | Ag Residential |
| 225-0121-002 | 3930 El Centro Road | 1.87 | Thandi Narnder S/Tashi | Ag Residential |
| 225-0121-003 | El Centro Road | 2.24 | Natomas Congregation of Jehovahs Witnesss | Agricultural |
| 225-0121-004 | 3850 El Centro Road | 2.58 | Smith Craig S | Ag Residential |
| 225-0121-005 | 3830 El Centro Road | 2.95 | Samra Gurdal/Dault | Ag Residential |
| 225-0122-001 | 3670 El Centro Road | 5.49 | Cal Penn Builders Incorperated/ICH Incorperated | Ag Residential |
| 225-0122-002 | El Centro Road | 0.73 | Cal Penn Builders Incorperated/ICH Incorperated | Agricultural |
| 225-0131-001 | 3360 Leona Circle | 1.01 | Not listed | Ag Residential |
| 225-0131-002 | 3340 Leona Circle | 1.02 | Not listed | Ag Residential |
| 225-0131-003 | 3320 Leona Circle | 1.29 | Not listed | Ag Residential |
| 225-0131-004 | 3300 Leona Circle | 1.2 | Not listed | Ag Residential |
| 225-0131-005 | 3280 Leona Circle | 1.35 | Not listed | Ag Residential |
| 225-0131-006 | 3260 Leona Circle | 1.42 | Not listed | Ag Residential |
| 225-0131-007 | 3240 Leona Circle | 1.04 | Not listed | Ag Residential |
| 225-0131-008 | 3220 Leona Circle | 1.03 | Not listed | Ag Residential |
| 225-0131-009 | 3200 Leona Circle | 1.02 | Not listed | Ag Residential |
| 225-0132-002 | 3337 Leona Circle | 0.97 | Not listed | Ag Residential |
| 225-0132-003 | 3237 Leona Circle | 1.06 | Not listed | Ag Residential |
| 225-0132-004 | 3217 Leona Circle | 1 | Not listed | Ag Residential |
| 225-0132-005 | 3201 Leona Circle | 0.99 | Not listed | Ag Residential |
| 225-0132-008 | 3357 Leona Circle | 1.01 | Not listed | Ag Residential |
| 225-0190-008 | 3540 Garden Highway | 20.71 | Saiko Amioka Kawamura Trust | Agricultural |
| 225-0190-011 | San Juan Road | 50.25 | Natomas Basin Conservancy | Agricultural |
| 225-0190-014 | El Centro Road | 87.94 | Natomas Unified School District | Agricultural |
| 225-0190-015 | El Centro Road | 1.98 | Willoughby Jena M | Agricultural |
| 225-0190-019 | 3650 El Centro Road | 5.41 | Singh Harvinder/Amarjit Kaur | Ag Residential |
| 225-0190-020 | El Centro Road | 14.05 | Mosini LLC | Agricultural |
| 225-0190-021 | San Juan Road | 50 | Bollinger Properties LLC/Peter P Bollinger Investme | Agricultural |
| 225-0190-022 | San Juan Road | 104 | Los Rios Community College District | Agricultural |
| 225-0210-001 | 3291 El Centro Road | 8.4 | SHBS Natomas Land Investments LLC | Agricultural |
| 225-0210-002 | 3281 El Centro Road | 8.6 | SHBS Natomas Land Investments LLC | Agricultural |
| 225-0210-003 | El Centro Road | 0.65 | SHBS Natomas Land Investments LLC | Agricultural |
| 225-0210-004 | 3201 El Centro Road | 18.48 | Manuel Costa Family Trust "A" | Ag Residential |
| 225-0210-005 | El Centro Road | 37.12 | Joe Perry et al | Commercial/Agricultural |
| 225-0210-006 | El Centro Road | 37.11 | Weaver Group LLC | Agricultural |
| 225-0210-007 | 2651 El Centro Road | 37.5 | John Arrillagas Survivors Trust/et al | Ag Residential |
| 225-0210-008 | El Centro Road | 40.39 | JDL&M Natomas Property Trust | Agricultural |
| 225-0210-009 | El Centro Road | 40.21 | J&D Natonmas Property Trust | Agricultural |
| 225-0210-010 | El Centro Road | 40.41 | Jaspals and Harpreet K Banga | Agricultural |
| 225-0210-016 | Garden Highway | 28.06 | 610 South Main State LLC | Agricultural |
| 225-0210-017 | Garden Highway | 26.76 | 610 South Main State LLC | Agricultural |
| 225-0210-020 | Garden Highway | 2.8 | Maloney | Agricultural |
| 225-0210-021 | 2596 Garden Highway | 1 | Wang Revocable Trust | Agricultural |
| 225-0210-022 | 2598 Garden Highway | 1.23 | Cody Andrew Jackson | Agricultural |
| 225-0210-023 | 2604 Garden Highway | 0.6 | Chistopher | Agricultural |

| APN | Address | Acres | Owner | Land Use |
|---|---|---|---|---|
| 225-0210-024 | 2700 Garden Highway | 23.91 | Marston Revocable Trust | Agricultural |
| 225-0210-025 | 2870 Garden Highway | 32.26 | Reburiano Trust | Agricultural |
| 225-0210-026 | 3000 Garden Highway | 19.24 | Kiyoshi K Tamano Family Living Trust/et al | Agricultural |
| 225-0210-027 | Garden Highway | 19.97 | Setsuo/Karen C Masaki 1992 Trust/et al | Agricultural |
| 225-0210-028 | Garden Highway | 24.64 | Setsuo/Karen C Masaki 1992 Trust/et al | Agricultural |
| 225-0210-029 | Garden Highway | 20.87 | Setsuo/Karen C Masaki 1992 Trust/et al | Agricultural |
| 225-0210-038 | 2600 Garden Highway | 11.63 | Reburiano Trust | Agricultural |
| 225-0210-039 | 3790 San Juan Road | 39.18 | Gurmukh S/Rajinder K Gosal Living Trust/et al | Agricultural |
| 225-0210-040 | San Juan Road | 79.98 | 610 South Main State LLC | Agricultural |
| 225-0210-041 | San Juan Road | 29.54 | 611 South Main State LLC | Agricultural |
| 225-0220-014 | El Centro Road | 40.13 | Don/Sue Rosa Family 2003 Revocable Trust/ et al | Agricultural |
| 225-0220-020 | Orchard Lane | 19.96 | Quon Charitable Remainder Untrust/et al | Agricultural |
| 225-0220-021 | Orchard Lane | 19.96 | Nagn Kishore Sharma/Kantaben Kishore | Agricultural |
| 225-0220-035 | Orchard Lane | 4.71 | Ramco Enterprises | Agricultural |
| 225-0220-039 | Orchard Lane | 28.5 | FNTP Investment Company LLC | Commercial/Agricultural |
| 225-0220-048 | El Centro Road | 4.08 | Mid Valley Development LLC | Commercial |
| 225-0220-051 | 2850 El Centro Road | 10 | Mid Valley Development LLC | Commercial |
| 225-0220-054 | 2828 El Centro Road | 7.15 | FNTP Investment Company LLC | Commercial |
| 225-0220-055 | 2828 El Centro Road | 7.6 | FNTP Investment Company LLC | Commercial |
| 225-0220-056 | El Centro Road | 2.98 | FNTP Investment Company LLC | Commercial |
| 225-0220-057 | 2828 El Centro Road | 1.12 | FNTP Investment Company LLC | Commercial |
| 225-0220-060 | El Centro Road | 9.92 | Joan Arrillagas Survivors Trust/et al | Agricultural |
| 225-0220-061 | El Centro Road | 9.92 | Saeed Faraz | Agricultural |
| 225-0220-062 | 3060 El Centro Road | 9.92 | Ckeema Sukhvinder Singh/Bhupinder Kaur | Ag Residential |
| 225-0220-075 | 2836 El Centro Road | 2 | Intel Brotherhood of Electrical Workers Local 340 | Commercial |
| 225-0220-076 | Orchard Lane | 3.64 | Reclamation District No. 1000 | Agricultural |
| 225-0220-077 | Orchard Lane | 29.79 | Don/Sue Rosa Family 2003 Revocable Trust/ et al | Agricultural |
| 225-0220-078 | Orchard Lane | 2.82 | Reclamation District No. 1000 | Agricultural |
| 225-0220-079 | Orchard Lane | 14.79 | Don/Sue Rosa Family 2003 Revocable Trust/ et al | Agricultural |
| 225-0220-103 | 2840 El Centro Road | 2.03 | Building Trade Association | Commercial |
| 225-0220-113 | El Centro Road | 9.92 | New Natomas Properties LLC | Agricultural |
| 225-0220-114 | Orchard Lane | 0.08 | Don/Sue Rosa Family 2003 Revocable Trust/ et al | Agricultural |
| 225-0220-115 | Orchard Lane | 29.42 | Ramco Enterprises | Agricultural |
| 225-0220-116 | Orchard Lane | 1.58 | City of Sacramento | Agricultural |
| 225-1020-003 | 2700 El Centro Road | 1.68 | WCBO Parcel 3 LLC | Commercial |
| 225-1020-004 | 2714 El Centro Road | 0.86 | Tony and Ivy Chi Family Revocable Trust | Commercial |
| 225-1020-005 | 2738 El Centro Road | 1.07 | El Centro Investments Incorperated | Commercial |
| 225-1020-008 | 2654 El Centro Road | 1.01 | Sona Hospitality Inc | Commercial |
| 225-1020-009 | El Centro Road | 0.76 | Welcam-80 Venture | Commercial |
| 225-1020-010 | 2640 El Centro Road | 3.78 | Natomas Self Storage LLC | Commercial |
| 225-1020-011 | Tomato Patch Lane | 1.24 | Welcam-80 Venture | Commercial |
| 225-1020-012 | 2730 El Centro Road | 2.52 | 2003 Natomas Investmetns/Suites LP | Commercial |
| 274-0010-043 | Garden Highway | 43.61 | Joe Perry Trust/et al | Agricultural |
| 274-0010-049 | Garden Highway | 29.98 | Joe Perry Trust/et al | Agricultural |
| 274-0010-050 | Garden Highway | 30.91 | Joe Perry Trust/et al | Agricultural |
| 274-0010-055 | El Centro Road | 4.4 | Cynthia A. Reynoso | Agricultural |
| 274-0010-056 | El Centro Road | 31.64 | Cynthia A. Reynoso | Agricultural |
| 274-0010-057 | El Centro Road | 4.9 | PG&E | Agricultural |
| 274-0010-069 | Garden Highway | 28.48 | Joe Perry Trust/et al | Agricultural |
| 274-0010-079 | Miller Road | 15.07 | Joe Perry Trust/ et al | Agricultural |
| 274-0010-081 | Garden Highway | 0.47 | Reclamation District No. 1000 | Agricultural |
| 274-0210-018 | Garden Highway | 40.05 | Joe Perry Trust/et al | Agricultural |
| 274-0210-037 | Garden Highway | 28.96 | Joe Perry Trust/et al | Agricultural |
| 274-0220-053 | Garden Highway | 3.32 | City of Sacramento | Ag Residential |
| 274-0220-054 | 2178 Garden Highway | 8.09 | John Perry Separate Property Trust | Ag Residential |
| 274-0220-058 | Garden Highway | 0.27 | City of Sacramento | Ag Residential |
| 274-0220-059 | Garden Highway | 0.23 | John Perry Separate Property Trust | Ag Residential |
| 274-0250-002 | 2490 Garden Highway | 1 | Shannon Jasmine | Ag Residential |
| 274-0250-003 | 2486 Garden Highway | 1.07 | Edward J Shepard Family Living Trust | Ag Residential |
| 274-0250-004 | 2482 Garden Highway | 1.07 | Edward J Shepard Family Living Trust | Ag Residential |
| 274-0250-005 | Garden Highway | 0.99 | Edward J Shepard Family Living Trust | Ag Residential |

| APN | Address | Acres | Owner | Land Use |
|---|---|---|---|---|
| 274-0250-006 | 2480 Garden Highway | 6.28 | Central Cal Enducational Television | Ag Residential |
| 274-0250-010 | 2448 Garden Highway | 2.83 | Boyle | Ag Residential |
| 274-0250-011 | 2460 Garden Highway | 2.16 | Holsworth | Ag Residential |
| 274-0250-012 | Garden Highway | 3.62 | Dick | Ag Residential |
| 274-0250-013 | 2425 Garden Hw | 1.55 | Dick | Ag Residential |
| 274-0250-014 | Garden Highway | 1.85 | Dick | Ag Residential |
| 274-0250-015 | Garden Highway | 3.87 | Cetti | Ag Residential |
| 274-0250-039 | 2590 Garden Highway | 10.04 | Wicks | Agricultural |
| 274-0250-040 | Garden Highway | 9.92 | Lopez | Agricultural |
| 274-0260-001 | 2350 Garden Hw | 6.5 | Cetti | Ag Residential |
| 274-0260-005 | Garden Highway | 2.62 | Unknown | Ag Residential |
| 274-0260-006 | Garden Highway | 4.03 | PG&E | Ag Residential |
| 274-0260-007 | 2206 Garden Highway | 2.61 | Rusher | Ag Residential |
| 274-0260-008 | 2020 Garden Highway | 0.49 | Portion of Jana | Ag Residential |
| 274-0260-030 | Garden Highway | 0.09 | Portion of Sacramento County | Ag Residential |
| 274-0260-032 | 2196 Garden Highway | 0.49 | Unknown | Ag Residential |
| 274-0260-037 | 2250 Garden Highway | 5.63 | Raposa | Ag Residential |
| 274-0260-038 | Garden Highway | 4.44 | Raposa | Ag Residential |
| 274-0260-039 | Garden Highway | 5.57 | Raposa | Ag Residential |
| 274-0260-042 | 2184 Garden Highway | 1.16 | Portion of Moore | Ag Residential |
| 274-0260-043 | 2306 Garden Hw | 2 | Truong | Ag Residential |
| 274-0260-044 | 2300 Garden Hw | 2 | Unknown | Ag Residential |
| 274-0260-045 | 2320 Garden Hw | 2.31 | Hutton | Ag Residential |
| 274-0260-046 | Garden Highway | 2.54 | Hutton | Ag Residential |
| 274-0690-003 | Garden Highway | 0.08 | Flaherty | Ag Residential |
| 274-0690-004 | Garden Highway | 0.08 | Flaherty | Ag Residential |



# APPENDIX B

## SITE PHOTOGRAPHS



49ER TRUCK STOP & GAS STATION



PAPE MACHINERY AND COMMERICAL PROPERTY ENTRANCE



SELF STORAGE FACILITY



WATER MAIN OUTSIDE OF 49ER TRUCK STOP



SEWER LINE PARALLEL TO EL CENTRO ROAD



SITE DEBRIS AT THE SOUTHERN END OF EL CENTRO RAOD

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SITE PHOTOGRAPHS

UPPER WEST SIDE

SACRAMENTO COUNTY, CALIFORNIA

| | |
|---|---|
| PROJECT NUMBER: **18171000001** | FIGURE NO. **B1** |
| SCALE: **NO SCALE** | |
| DRAWN BY: **MAT** | CHECKED BY: **TMC** |

ORIGINAL FIGURE PRINTED IN COLOR



UTILITIES ALONG NORTHERN EL CENTRO ROAD



WELL PUMP LOCATED ON THE EAST SIDE OF EL CENTRO ROAD



UTILITY VAULT ALONG WESTERN SIDE OF EL CENTRO ROAD



UTILITY VALUT ALONG WESTERN SIDE OF EL CENTRO ROAD



FORMER RESIDENCE ALONG WESTERN SIDE OF THE SOUTHERN PORTION OF EL CENTRO ROAD



VINEYARDS ALONG WESTERN SIDE OF EL CENTRO ROAD

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SITE PHOTOGRAPHS

UPPER WEST SIDE

SACRAMENTO COUNTY, CALIFORNIA

| | |
|---|---|
| PROJECT NUMBER: **18171000001** | FIGURE NO. B2 |
| SCALE: **NO SCALE** | |
| DRAWN BY: **MAT** | CHECKED BY: **TMC** |

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TYPICAL AGRICULTURAL LAND CONDITIONS



TYPICAL AGRICULTURAL LAND CONDITIONS



TYPICAL AGRUCLTURAL LAND



TYPICAL FALLOW LAND CONDITIONS



DRAINAGE CANAL



DRAINAGE CANAL

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SITE PHOTOGRAPHS

UPPER WEST SIDE

SACRAMENTO COUNTY, CALIFORNIA

| | | |
|---|---|---|
| PROJECT NUMBER: **18171000001** | | FIGURE NO. B3 |
| SCALE: **NO SCALE** | | |
| DRAWN BY: **MAT** | CHECKED BY: **TMC** | |

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POLE-MOUNTED TRANSFORMER



POLE-MOUNTED TRANSFORMER AND WELL



HIGH-VOLTAGE POWER LINES



COMMUNICATION TOWER AND FARMING EQUIPMENT - 3705 EL CENTRO ROAD



COMMUNICATION TOWER - 3082 GARDEN HIGHWAY



COMMUNICATION TOWER - SOUTHERN PORTION OF THE PROPERTY

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SITE PHOTOGRAPHS

UPPER WEST SIDE

SACRAMENTO COUNTY, CALIFORNIA

| | | |
|---|---|---|
| PROJECT NUMBER: **18171000001** | | FIGURE NO. B4 |
| SCALE: **NO SCALE** | | |
| DRAWN BY: **MAT** | CHECKED BY: **TMC** | |

ORIGINAL FIGURE PRINTED IN COLOR




POLE-MOUNTED TRANSFORMER




GRADING AT 3800 GARDEN HIGHWAY




GRADING AT 3800 GARDEN HIGHWAY




GRADING AT 3800 GARDEN HIGHWAY




FARMING EQUIPMENT IN SOUTHERN PORTION OF THE PROPERTY




FARMING AND MISCELLANEOUS DEBRIS

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SITE PHOTOGRAPHS

UPPER WEST SIDE

SACRAMENTO COUNTY, CALIFORNIA

| | |
|---|---|
| PROJECT NUMBER: **18171000001** | FIGURE NO. **B5** |
| SCALE: **NO SCALE** | |
| DRAWN BY: **MAT** | CHECKED BY: **TMC** |

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FARMING EQUIPMENT




CLANDESTINE WASTE DISPOSAL




CLANDESTINE WASTE DISPOSAL




CLANDESTINE WASTE DISPOSAL

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SITE PHOTOGRAPHS

UPPER WEST SIDE

SACRAMENTO COUNTY, CALIFORNIA

| | | |
|---|---|---|
| PROJECT NUMBER: **18171000001** | | FIGURE NO. B6 |
| SCALE: **NO SCALE** | | |
| DRAWN BY: **MAT** | CHECKED BY: **TMC** | |

ORIGINAL FIGURE PRINTED IN COLOR



# APPENDIX C

## ENVIRONMENTAL DATA RESOURCES, INC.

## DatamapÊ Area Study

**Upper West Side**
Upper West Side
Sacramento, CA  95833

Inquiry Number: 6304972.4s
December 17, 2020

# EDR Area / Corridor Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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| Map Findings Summary | 6 |
| Focus Maps | 11 |
| Map Findings | 36 |
| Orphan Summary | OR-1 |
| Government Records Searched/Data Currency Tracking | GR-1 |


***Thank you for your business.***
Please contact EDR at 1-800-352-0050
with any questions or comments.


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# EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

## SUBJECT PROPERTY INFORMATION

### ADDRESS

UPPER WEST SIDE
SACRAMENTO, CA 95833

### TARGET PROPERTY SEARCH RESULTS

The Target Property was identified in the following databases.

Page Numbers and Map Identifcations refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

## STANDARD ENVIRONMENTAL RECORDS

### *Federal RCRA generators list*

RCRA-SQG: RCRA - Small Quantity Generators

A review of the RCRA-SQG list, as provided by EDR, and dated 06/15/2020 has revealed that there is 1 RCRA-SQG site within the requested target property.

| Site | Address | Map ID / Focus Map(s) | Page |
|---|---|---|---|
| ***EMPIRE EQUIPMENT CO***<br>EPA ID:: CAD983596651 | ***2850 EL CENTRO RD*** | ***E36 / 8*** | ***93*** |

### *Federal ERNS list*

ERNS: Emergency Response Notification System

A review of the ERNS list, as provided by EDR, and dated 06/15/2020 has revealed that there are 2 ERNS sites within the requested target property.

| Site | Address | Map ID / Focus Map(s) | Page |
|---|---|---|---|
| Not reported<br>NRC Report #: 610563<br>Incident Date Time: 2002-05-24 19:30:00 | 2828 EL CENTRO RD | 43 / 8 | 142 |
| Not reported | 2828 EL CENTRO RD | F65 / 8 | 218 |

# EXECUTIVE SUMMARY

NRC Report #: 890489
Incident Date Time: 2008-11-18 17:30:00

***State and tribal leaking storage tank lists***

LUST: Geotracker's Leaking Underground Fuel Tank Report

A review of the LUST list, as provided by EDR, has revealed that there are 3 LUST sites within the requested target property.

| Site | Address | Map ID / Focus Map(s) | Page |
|---|---|---|---|
| ***GARY ALVERNAZ TRUST*** | ***3650 EL CENTRO*** | ***D24 / 5*** | ***67*** |
| Database: LUST REG 5, Date of Government Version: 07/01/2008<br>Status: Leak being confirmed | | | |
| PRIVATE RESIDENCE | PRIVATE RESIDENCE | 28 / 5 | 71 |
| Database: LUST, Date of Government Version: 09/08/2020<br>Status: Completed - Case Closed<br>Global Id: T0606748466 | | | |
| ***49ER TRUCK STOP*** | ***2828 EL CENTRO RD*** | ***F67 / 8*** | ***221*** |
| Database: LUST REG 5, Date of Government Version: 07/01/2008<br>Database: LUST, Date of Government Version: 09/08/2020<br>Status: Completed - Case Closed<br>Status: Pollution Characterization<br>Global Id: T10000012881<br>Global Id: T0606700843 | | | |

CPS-SLIC: Statewide SLIC Cases

A review of the CPS-SLIC list, as provided by EDR, has revealed that there are 2 CPS-SLIC sites within the requested target property.

| Site | Address | Map ID / Focus Map(s) | Page |
|---|---|---|---|
| ***FORMER JOHNSON RANCH*** | ***3800 GARDEN HIGHWAY*** | ***B10 / 4*** | ***47*** |
| Database: CPS-SLIC, Date of Government Version: 09/08/2020<br>Facility Status: Completed - Case Closed<br>Global Id: T10000012933 | | | |
| ***49ER TRUCK STOP*** | ***2828 EL CENTRO RD*** | ***F67 / 8*** | ***221*** |
| Database: SLIC REG 5, Date of Government Version: 04/01/2005 | | | |

***State and tribal registered storage tank lists***

UST: Active UST Facilities

A review of the UST list, as provided by EDR, has revealed that there are 2 UST sites within the requested target property.

| Site | Address | Map ID / Focus Map(s) | Page |
|---|---|---|---|
| SACRAMENTO 49ER TRAV | 2828 EL CENTRO RD | F56 / 8 | 203 |
| Database: UST, Date of Government Version: 09/08/2020 | | | |

Facility Id: FA0002616

MANNA'S CHEVRON 2738 EL CENTRO RD G72 / 8 291
Database: UST, Date of Government Version: 09/08/2020
Facility Id: FA0008829

AST: Aboveground Petroleum Storage Tank Facilities

A review of the AST list, as provided by EDR, has revealed that there are 5 AST sites within the requested target property.

| Site | Address | Map ID / Focus Map(s) | Page |
|---|---|---|---|
| ***BASTIAO FARMS, INC.*** | ***3845 EL CENTRO RD*** | ***A3 / 5*** | ***39*** |
| Database: AST, Date of Government Version: 07/06/2016 | | | |
| ***FARM*** | ***3705 EL CENTRO RD*** | ***C12 / 5*** | ***48*** |
| Database: AST, Date of Government Version: 07/06/2016 | | | |
| PAPE MACHINARY INC | 2850 EL CENTRO RD. | E33 / 8 | 91 |
| Database: AST, Date of Government Version: 07/06/2016 | | | |
| PAP MACHINERY, INC. | 2850 EL CENTRO RD | E34 / 8 | 91 |
| Database: AST, Date of Government Version: 07/06/2016 | | | |
| ***49ER TRUCK STOP*** | ***2828 EL CENTRO RD*** | ***F67 / 8*** | ***221*** |
| Database: AST, Date of Government Version: 07/06/2016 | | | |

**ADDITIONAL ENVIRONMENTAL RECORDS**

***Local Lists of Hazardous waste / Contaminated Sites***

CERS HAZ WASTE: CERS HAZ WASTE

A review of the CERS HAZ WASTE list, as provided by EDR, and dated 07/20/2020 has revealed that there are 5 CERS HAZ WASTE sites within the requested target property.

| Site | Address | Map ID / Focus Map(s) | Page |
|---|---|---|---|
| ***BASTIAO FARMS, INC.*** | ***3845 EL CENTRO RD*** | ***A3 / 5*** | ***39*** |
| ***FARM*** | ***3705 EL CENTRO RD*** | ***C12 / 5*** | ***48*** |
| ***EMPIRE EQUIPMENT CO*** | ***2850 EL CENTRO RD*** | ***E36 / 8*** | ***93*** |
| ***49ER TRUCK STOP*** | ***2828 EL CENTRO RD*** | ***F67 / 8*** | ***221*** |
| ***EL CENTRO CHEVRON*** | ***2738 EL CENTRO RD*** | ***G71 / 8*** | ***265*** |

***Local Lists of Registered Storage Tanks***

SWEEPS UST: SWEEPS UST Listing

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 3 SWEEPS UST sites within the requested target property.

| Site | Address | Map ID / Focus Map(s) | Page |
|---|---|---|---|
| ***BASTIAO FARMS, INC.*** | ***3845 EL CENTRO RD*** | ***A3 / 5*** | ***39*** |

Status: A
Tank Status: A
Comp Number: 15581

| | | | |
|---|---|---|---|
| ***FARM*** | ***3705 EL CENTRO RD*** | ***C12 / 5*** | ***48*** |
| Comp Number: 1188 | | | |
| ***FORTY-NINER AUTO/TRU*** | ***2828 EL CENTRO RD*** | ***F61 / 8*** | ***209*** |
| Status: A<br>Tank Status: A<br>Comp Number: 10674 | | | |

HIST UST: Hazardous Substance Storage Container Database

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 5 HIST UST sites within the requested target property.

| Site | Address | Map ID / Focus Map(s) | Page |
|---|---|---|---|
| BASTIAO FARMS INC<br>Facility Id: 00000015581 | 3845 EL CENTRO ROAD | A6 / 5 | 45 |
| WILHERT ROSA<br>Facility Id: 00000001188 | 3705 EL CENTRO RD | C19 / 5 | 59 |
| FORTY-NINER AUTO #62<br>Facility Id: 00000050568 | 2828 EL CENTRO RD | F45 / 8 | 142 |
| FORTY-NINER AUTO/TRU<br>Facility Id: 00000010674 | 2828 EL CENTRO RD | F59 / 8 | 206 |
| ***49ER TRUCK STOP*** | ***2828 EL CENTRO RD*** | ***F67 / 8*** | ***221*** |

CERS TANKS: California Environmental Reporting System (CERS) Tanks

A review of the CERS TANKS list, as provided by EDR, and dated 07/20/2020 has revealed that there are 3 CERS TANKS sites within the requested target property.

| Site | Address | Map ID / Focus Map(s) | Page |
|---|---|---|---|
| ***EMPIRE EQUIPMENT CO*** | ***2850 EL CENTRO RD*** | ***E36 / 8*** | ***93*** |
| ***49ER TRUCK STOP*** | ***2828 EL CENTRO RD*** | ***F67 / 8*** | ***221*** |
| ***EL CENTRO CHEVRON*** | ***2738 EL CENTRO RD*** | ***G71 / 8*** | ***265*** |

CA FID UST: Facility Inventory Database

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there are 3 CA FID UST sites within the requested target property.

| Site | Address | Map ID / Focus Map(s) | Page |
|---|---|---|---|
| ***BASTIAO FARMS, INC.***<br>Facility Id: 34006917<br>Status: A | ***3845 EL CENTRO RD*** | ***A3 / 5*** | ***39*** |
| ***FARM***<br>Facility Id: 34006626<br>Status: I | ***3705 EL CENTRO RD*** | ***C12 / 5*** | ***48*** |
| ***FORTY-NINER AUTO/TRU*** | ***2828 EL CENTRO RD*** | ***F61 / 8*** | ***209*** |

# EXECUTIVE SUMMARY

Facility Id: 34000884
Status: A

***Records of Emergency Release Reports***

CHMIRS: California Hazardous Material Incident Report System

A review of the CHMIRS list, as provided by EDR, and dated 06/30/2020 has revealed that there are 6 CHMIRS sites within the requested target property.

| Site | Address | Map ID / Focus Map(s) | Page |
|---|---|---|---|
| Not reported<br>OES Incident Number: 0-1613 | 3705 EL CENTRO ROAD | C13 / 5 | 53 |
| Not reported<br>OES Incident Number: 118908<br>Date Completed: 30-AUG-91 | 2828 EL CENTRO ROAD | F62 / 8 | 212 |
| Not reported<br>OES Incident Number: 2-3247<br>OES Incident Number: 1-4527 | 2828 EL CENTRO RD. | F63 / 8 | 213 |
| ***49ER TRUCK STOP***<br>OES Incident Number: 4-6810<br>OES Incident Number: 905555<br>OES Incident Number: 010099<br>Date Completed: 07-APR-89<br>Date Completed: 22-FEB-90 | ***2828 EL CENTRO RD*** | ***F67 / 8*** | ***221*** |
| Not reported<br>OES Incident Number: 06355 | UNOCAL TRUCK STOP 28 | F69 / 8 | 263 |
| Not reported<br>OES Incident Number: 08-2914 | 2738 EL CENTRO ROAD | G75 / 8 | 297 |

***Other Ascertainable Records***

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 06/15/2020 has revealed that there are 7 RCRA NonGen / NLR sites within the requested target property.

| Site | Address | Map ID / Focus Map(s) | Page |
|---|---|---|---|
| BASTIAO FARMS CORPOR<br>EPA ID:: CAL000181858 | 3845 EL CENTRO RD | A1 / 5 | 35 |
| PERRY FARMS<br>EPA ID:: CAL000360845 | 3705 EL CENTRO RD | C14 / 5 | 54 |
| PAP MACHINERY, INC.<br>EPA ID:: CAL000291926 | 2850 EL CENTRO RD | E32 / 8 | 88 |
| SACRAMENTO 49ER TRAV<br>EPA ID:: CAC002972008 | 2828 EL CENTRO RD. | F64 / 8 | 216 |
| SACRAMENTO 49ER AUTO | 2828 EL CENTRO ROAD | F66 / 8 | 218 |

| | | | |
|---|---|---|---|
| EPA ID:: CAL000077839 | | | |
| SACRAMENTO 49ER TRAV<br>EPA ID:: CAC002997486 | 2828 EL CENTRO RD. | F68 / 8 | 261 |
| EL CENTRO INVESTMENT<br>EPA ID:: CAL000308075 | 2738 EL CENTRO RD | G78 / 8 | 301 |

FINDS: Facility Index System/Facility Registry System

A review of the FINDS list, as provided by EDR, and dated 09/04/2020 has revealed that there are 11 FINDS sites within the requested target property.

| Site | Address | Map ID / Focus Map(s) | Page |
|---|---|---|---|
| ***BASTIAO FARMS CORPOR***<br>Registry ID:: 110065463233 | ***3845 EL CENTRO RD*** | ***A4 / 5*** | ***43*** |
| ***NARINDER THANDI***<br>Registry ID:: 110070086207 | ***3930 EL CENTRO ROAD*** | ***A8 / 5*** | ***46*** |
| VERIZON WIRELESS:RAD<br>Registry ID:: 110066080984 | 3705 EL CENTRO ROAD | C15 / 5 | 57 |
| ***PERRY FARMS***<br>Registry ID:: 110065466301 | ***3705 EL CENTRO RD*** | ***C16 / 5*** | ***57*** |
| ***EMPIRE EQUIPMENT CO***<br>Registry ID:: 110002854242 | ***2850 EL CENTRO RD*** | ***E36 / 8*** | ***93*** |
| PAP MACHINERY, INC.<br>Registry ID:: 110055885911 | 2850 EL CENTRO RD | E37 / 8 | 137 |
| ***SACRAMENTO 49ER AUTO***<br>Registry ID:: 110065422037 | ***2828 EL CENTRO RD*** | ***F44 / 8*** | ***142*** |
| SACRAMENTO 49ER AUTO<br>Registry ID:: 110066600529 | 2828 EL CENTRO RD | F49 / 8 | 149 |
| EL CENTRO CHEVRON<br>Registry ID:: 110066533228 | 2738 EL CENTRO RD | G73 / 8 | 292 |
| ***EL CENTRO INVESTMENT***<br>Registry ID:: 110070469622 | ***2738 EL CENTRO RD*** | ***G76 / 8*** | ***298*** |
| VERIZON WIRELESS REE<br>Registry ID:: 110055695421 | 2196 GARDEN HWY | I87 / 8 | 312 |

ECHO: Enforcement & Compliance History Information

A review of the ECHO list, as provided by EDR, and dated 06/27/2020 has revealed that there are 7 ECHO sites within the requested target property.

| Site | Address | Map ID / Focus Map(s) | Page |
|---|---|---|---|
| ***BASTIAO FARMS CORPOR***<br>Registry ID: 110065463233 | ***3845 EL CENTRO RD*** | ***A4 / 5*** | ***43*** |
| ***NARINDER THANDI***<br>Registry ID: 110070086207 | ***3930 EL CENTRO ROAD*** | ***A8 / 5*** | ***46*** |
| ***PERRY FARMS*** | ***3705 EL CENTRO RD*** | ***C16 / 5*** | ***57*** |

| | | | |
|---|---|---|---|
| Registry ID: 110065466301 | | | |
| PAP MACHINERY, INC. | 2850 EL CENTRO RD | E30 / 8 | 74 |
| ***EMPIRE EQUIPMENT CO*** | ***2850 EL CENTRO RD*** | ***E36 / 8*** | ***93*** |
| Registry ID: 110002854242 | | | |
| ***SACRAMENTO 49ER AUTO*** | ***2828 EL CENTRO RD*** | ***F44 / 8*** | ***142*** |
| Registry ID: 110066600529 | | | |
| ***EL CENTRO INVESTMENT*** | ***2738 EL CENTRO RD*** | ***G76 / 8*** | ***298*** |
| Registry ID: 110070469622 | | | |

Cortese: "Cortese" Hazardous Waste & Substances Sites List

A review of the Cortese list, as provided by EDR, and dated 06/22/2020 has revealed that there is 1 Cortese site within the requested target property.

| Site | Address | Map ID / Focus Map(s) | Page |
|---|---|---|---|
| ***49ER TRUCK STOP*** | ***2828 EL CENTRO RD*** | ***F67 / 8*** | ***221*** |
| Cleanup Status: COMPLETED - CASE CLOSED | | | |

HAZNET: Facility and Manifest Data

A review of the HAZNET list, as provided by EDR, and dated 12/31/2019 has revealed that there are 14 HAZNET sites within the requested target property.

| Site | Address | Map ID / Focus Map(s) | Page |
|---|---|---|---|
| ***BASTIAO FARMS CORPOR*** | ***3845 EL CENTRO RD*** | ***A2 / 5*** | ***37*** |
| GEPAID: CAC001398648 | | | |
| ***GARY ALVERNAZ ENT*** | ***3650 EL CENTRO RD*** | ***D23 / 5*** | ***63*** |
| GEPAID: CAL000101003 | | | |
| ***BAYER CROP SCIENCE*** | ***3650 EL CENTRO RD*** | ***D25 / 5*** | ***68*** |
| GEPAID: CAC002597374 | | | |
| ***EMPIRE EQUIPMENT LP*** | ***2850 EL CENTRO RD*** | ***E31 / 8*** | ***75*** |
| GEPAID: CAD983596651 | | | |
| ***EMPIRE EQUIPMENT CO*** | ***2850 EL CENTRO RD*** | ***E36 / 8*** | ***93*** |
| GEPAID: CAL000291926 | | | |
| ***WEAVER EQUIPMENT CO*** | ***2850 EL CENTRO ROAD*** | ***E39 / 8*** | ***138*** |
| GEPAID: CAL000005986 | | | |
| ***SACRAMENTO BUILDING*** | ***2840 EL CENTRO RD*** | ***E41 / 8*** | ***139*** |
| GEPAID: CAC002684898 | | | |
| ***SACRAMENTO FORTY-NIN*** | ***2828 EL CENTRO ROAD*** | ***F47 / 8*** | ***144*** |
| GEPAID: CAC000737760 | | | |
| ***1X UNOCAL 76*** | ***2828 EL CENTRO RD*** | ***F48 / 8*** | ***146*** |
| GEPAID: CAC000622368 | | | |
| ***SACRAMENTO 49ER AUTO*** | ***2828 EL CENTRO ROAD*** | ***F50 / 8*** | ***149*** |
| GEPAID: CAL000077839 | | | |
| ***CRST INTERNATIONAL*** | ***2828 EL CENTRO RD*** | ***F51 / 8*** | ***200*** |
| GEPAID: CAC002619140 | | | |
| ***SACRAMENTO 49ER TRAV*** | ***2828 EL CENTRO RD.*** | ***F60 / 8*** | ***207*** |

GEPAID: CAC002997486

| | | | |
|---|---|---|---|
| ***EL CENTRO INVESTMENT*** | ***2738 EL CENTRO RD*** | ***G74 / 8*** | ***292*** |
| GEPAID: CAL000308075 | | | |
| ***M & P INV INC DBA MA*** | ***2738 EL CENTRO RD*** | ***G77 / 8*** | ***299*** |
| GEPAID: CAL000146680 | | | |

HIST CORTESE: Hazardous Waste & Substance Site List

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there is 1 HIST CORTESE site within the requested target property.

| Site | Address | Map ID / Focus Map(s) | Page |
|---|---|---|---|
| ***49ER TRUCK STOP*** | ***2828 EL CENTRO RD*** | ***F67 / 8*** | ***221*** |
| Reg Id: 341013 | | | |

NPDES: NPDES Permits Listing

A review of the NPDES list, as provided by EDR, and dated 08/10/2020 has revealed that there are 2 NPDES sites within the requested target property.

| Site | Address | Map ID / Focus Map(s) | Page |
|---|---|---|---|
| NARINDER THANDI | 3930 EL CENTRO ROAD | A7 / 5 | 45 |
| ***FAIRFIELD INN & SUIT*** | ***2730 EL CENTRO RD*** | ***79 / 8*** | ***303*** |

CIWQS: California Integrated Water Quality System

A review of the CIWQS list, as provided by EDR, and dated 08/31/2020 has revealed that there are 4 CIWQS sites within the requested target property.

| Site | Address | Map ID / Focus Map(s) | Page |
|---|---|---|---|
| FORTY NINER TRAVEL P | 2828 EL CENTRO RD | F52 / 8 | 201 |
| ***FAIRFIELD INN & SUIT*** | ***2730 EL CENTRO RD*** | ***79 / 8*** | ***303*** |
| BLACK BEAR DINER SAC | 2700 EL CENTRO RD | 80 / 8 | 306 |
| 2600 EL CENTRO RD | 2600 EL CENTRO RD | 84 / 8 | 308 |

CERS: CERS

A review of the CERS list, as provided by EDR, and dated 07/20/2020 has revealed that there are 8 CERS sites within the requested target property.

| Site | Address | Map ID / Focus Map(s) | Page |
|---|---|---|---|
| ***BASTIAO FARMS, INC.*** | ***3845 EL CENTRO RD*** | ***A3 / 5*** | ***39*** |
| FORMER JOHNSON RANCH | 3800 GARDEN HIGHWAY | B9 / 4 | 46 |
| ***FARM*** | ***3705 EL CENTRO RD*** | ***C12 / 5*** | ***48*** |
| VERIZON WIRELESS RAD | 3705 EL CENTRO ROAD | C21 / 5 | 61 |
| ***EMPIRE EQUIPMENT CO*** | ***2850 EL CENTRO RD*** | ***E36 / 8*** | ***93*** |
| ***49ER TRUCK STOP*** | ***2828 EL CENTRO RD*** | ***F67 / 8*** | ***221*** |
| ***EL CENTRO CHEVRON*** | ***2738 EL CENTRO RD*** | ***G71 / 8*** | ***265*** |
| ***VERIZON WIRELESS REE*** | ***2196 GARDEN HWY*** | ***I86 / 8*** | ***309*** |

# EXECUTIVE SUMMARY

HWTS: Hazardous Waste Tracking System

A review of the HWTS list, as provided by EDR, and dated 10/13/2020 has revealed that there are 19 HWTS sites within the requested target property.

| Site | Address | Map ID / Focus Map(s) | Page |
|---|---|---|---|
| ***BASTIAO FARMS CORPOR*** | ***3845 EL CENTRO RD*** | ***A2 / 5*** | ***37*** |
| ***PERRY FARMS*** | ***3705 EL CENTRO RD*** | ***C20 / 5*** | ***60*** |
| ***GARY ALVERNAZ ENT*** | ***3650 EL CENTRO RD*** | ***D23 / 5*** | ***63*** |
| ***BAYER CROP SCIENCE*** | ***3650 EL CENTRO RD*** | ***D25 / 5*** | ***68*** |
| ***EMPIRE EQUIPMENT LP*** | ***2850 EL CENTRO RD*** | ***E31 / 8*** | ***75*** |
| ***EMPIRE EQUIPMENT CO*** | ***2850 EL CENTRO RD*** | ***E36 / 8*** | ***93*** |
| ***WEAVER EQUIPMENT CO*** | ***2850 EL CENTRO ROAD*** | ***E39 / 8*** | ***138*** |
| ***SACRAMENTO BUILDING*** | ***2840 EL CENTRO RD*** | ***E41 / 8*** | ***139*** |
| ***SACRAMENTO FORTY-NIN*** | ***2828 EL CENTRO ROAD*** | ***F47 / 8*** | ***144*** |
| ***1X UNOCAL 76*** | ***2828 EL CENTRO RD*** | ***F48 / 8*** | ***146*** |
| ***SACRAMENTO 49ER AUTO*** | ***2828 EL CENTRO ROAD*** | ***F50 / 8*** | ***149*** |
| ***CRST INTERNATIONAL*** | ***2828 EL CENTRO RD*** | ***F51 / 8*** | ***200*** |
| SACRAMENTO 49ER TRAV | 2828 EL CENTRO RD. | F57 / 8 | 204 |
| ***SACRAMENTO 49ER TRAV*** | ***2828 EL CENTRO RD.*** | ***F60 / 8*** | ***207*** |
| ***EL CENTRO INVESTMENT*** | ***2738 EL CENTRO RD*** | ***G74 / 8*** | ***292*** |
| ***M & P INV INC DBA MA*** | ***2738 EL CENTRO RD*** | ***G77 / 8*** | ***299*** |
| ATLAS COPCO COMPRESS | 2640 EL CENTRO RD | H82 / 8 | 307 |
| ATLAS COPCO | 2640 EL CENTRO RD | H83 / 8 | 308 |
| SACRAMENTO AREA FLOO | 2430 GARDEN HIGHWAY | 85 / 8 | 309 |

## EDR HIGH RISK HISTORICAL RECORDS

### *EDR Exclusive Records*

EDR Hist Auto: EDR Exclusive Historical Auto Stations

A review of the EDR Hist Auto list, as provided by EDR, has revealed that there are 3 EDR Hist Auto sites within the requested target property.

| Site | Address | Map ID / Focus Map(s) | Page |
|---|---|---|---|
| 49 ER AUTO TRUCK PLA | 2848 EL CENTRO RD | E40 / 8 | 139 |
| SEVENTY-SIX AUTO-TRU | 2828 EL CENTRO RD | F58 / 8 | 205 |
| M & P INVESTMENTS IN | 2738 EL CENTRO RD | G70 / 8 | 265 |

## EDR RECOVERED GOVERNMENT ARCHIVES

### *Exclusive Recovered Govt. Archives*

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

A review of the RGA LUST list, as provided by EDR, has revealed that there are 2 RGA LUST sites within the requested target property.

# EXECUTIVE SUMMARY

| Site | Address | Map ID / Focus Map(s) | Page |
|---|---|---|---|
| GARY ALVERNAZ TRUST | 3650 EL CENTRO | D22 / 5 | 63 |
| 49ER TRUCK STOP | 2828 EL CENTRO RD | F46 / 8 | 143 |

**SURROUNDING SITES: SEARCH RESULTS**

Surrounding sites were identified in the following databases.

Page Numbers and Map Identifcations refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

**STANDARD ENVIRONMENTAL RECORDS**

***State- and tribal - equivalent NPL***

RESPONSE: State Response Sites

A review of the RESPONSE list, as provided by EDR, has revealed that there is 1 RESPONSE site within approximately1 mile of the requested target property.

| Site | Address | Direction / Distance | Map ID / Focus Map(s) | Page |
|---|---|---|---|---|
| ***SAC ENGR AREA-WEIR A*** | ***STATE OLD RIVER/NORT*** | ***SW 1/8 - 1/4 (0.182 mi.)*** | ***L100 / 8*** | ***336*** |
| Database: RESPONSE, Date of Government Version: 07/27/2020<br>Status: No Further Action<br>Facility Id: 80000391 | | | | |

***State- and tribal - equivalent CERCLIS***

ENVIROSTOR: EnviroStor Database

A review of the ENVIROSTOR list, as provided by EDR, and dated 07/27/2020 has revealed that there are 6 ENVIROSTOR sites within approximately1 mile of the requested target property.

| Site | Address | Direction / Distance | Map ID / Focus Map(s) | Page |
|---|---|---|---|---|
| ***SAC ENGR AREA-WEIR A***<br>Facility Id: 80000391<br>Status: No Further Action | ***STATE OLD RIVER/NORT*** | ***SW 1/8 - 1/4 (0.182 mi.)*** | ***L100 / 8*** | ***336*** |
| ***WITTER RANCH ELEMENT***<br>Facility Id: 34010013<br>Status: No Action Required | ***STEMMLER DRIVE/POPPY*** | ***E 1/4 - 1/2 (0.276 mi.)*** | ***111 / 5*** | ***354*** |
| ***TWO RIVERS ELEMENTAR***<br>Facility Id: 34010001<br>Status: No Further Action | ***3201 WEST RIVER DRIV*** | ***ESE 1/4 - 1/2 (0.379 mi.)*** | ***114 / 8*** | ***362*** |
| RIVERPOINT BUSINESS | BETWN I-80, REED AVE | SSW 1/2 - 1 (0.770 mi.) | 121 / 11 | 405 |

Facility Id: 57990002
Status: Refer: RWQCB

| | | | | |
|---|---|---|---|---|
| ***NATOMAS MIDDLE SCHOO*** | ***3700 DEL PASO RD*** | ***N 1/2 - 1 (0.840 mi.)*** | ***122 / 2*** | ***406*** |
| Facility Id: 34010009<br>Status: No Further Action | | | | |
| ***WESTLAKE ELEMENTARY*** | ***DEL PASO ROAD/WYNDVI*** | ***NNW 1/2 - 1 (0.930 mi.)*** | ***123 / 2*** | ***410*** |
| Facility Id: 34010019<br>Status: Inactive - Withdrawn | | | | |

***State and tribal leaking storage tank lists***

LUST: Geotracker's Leaking Underground Fuel Tank Report

A review of the LUST list, as provided by EDR, has revealed that there are 4 LUST sites within approximately 0.5 miles of the requested target property.

| Site | Address | Direction / Distance | Map ID / Focus Map(s) | Page |
|---|---|---|---|---|
| ***BRYTE SEND STORAGE*** | ***1645 RIVERBANK RD*** | ***SE 1/4 - 1/2 (0.302 mi.)*** | ***112 / 11*** | ***357*** |
| Database: LUST REG 5, Date of Government Version: 07/01/2008<br>Database: LUST, Date of Government Version: 09/08/2020<br>Status: Completed - Case Closed<br>Status: Case Closed<br>Global Id: T0611300059 | | | | |
| ***SACRAMENTO MAINTENAN*** | ***1450 RIVERBANK*** | ***ESE 1/4 - 1/2 (0.399 mi.)*** | ***115 / 11*** | ***365*** |
| Database: LUST REG 5, Date of Government Version: 07/01/2008<br>Database: LUST, Date of Government Version: 09/08/2020<br>Status: Completed - Case Closed<br>Status: Pollution Characterization<br>Global Id: T0611300022 | | | | |
| ***PG&E CALL CENTER*** | ***2740 GATEWAY OAKS DR*** | ***SE 1/4 - 1/2 (0.473 mi.)*** | ***O118 / 9*** | ***400*** |
| Database: LUST REG 5, Date of Government Version: 07/01/2008<br>Status: Case Closed | | | | |
| PG&E CALL CENTER | 2740 GATEWAY OAKS DR | SE 1/4 - 1/2 (0.473 mi.) | O119 / 9 | 402 |
| Database: LUST, Date of Government Version: 09/08/2020<br>Status: Completed - Case Closed<br>Global Id: T0606774789 | | | | |

CPS-SLIC: Statewide SLIC Cases

A review of the CPS-SLIC list, as provided by EDR, has revealed that there are 3 CPS-SLIC sites within approximately 0.5 miles of the requested target property.

| Site | Address | Direction / Distance | Map ID / Focus Map(s) | Page |
|---|---|---|---|---|
| ***BRYTE BEND WATER TRE*** | ***400 NORTH HARBOR BLV*** | ***SSW 1/4 - 1/2 (0.314 mi.)*** | ***113 / 11*** | ***359*** |
| Database: CPS-SLIC, Date of Government Version: 09/08/2020<br>Facility Status: Open - Remediation<br>Global Id: T10000004924 | | | | |
| ***RIVERPOINT OFFICE BL*** | ***700 RIVERPOINT DR*** | ***SSW 1/4 - 1/2 (0.438 mi.)*** | ***116 / 11*** | ***385*** |
| Database: CPS-SLIC, Date of Government Version: 09/08/2020 | | | | |

Facility Status: Completed - Case Closed
Global Id: SL0611367066

| | | | | |
|---|---|---|---|---|
| ***MCI COMMUNICATION SE*** | ***2820 KOVR DRIVE*** | ***S 1/4 - 1/2 (0.446 mi.)*** | ***117 / 11*** | ***390*** |

Database: SLIC REG 5, Date of Government Version: 04/01/2005

### *State and tribal registered storage tank lists*

UST: Active UST Facilities

A review of the UST list, as provided by EDR, has revealed that there is 1 UST site within approximately 0.25 miles of the requested target property.

| Site | Address | Direction / Distance | Map ID / Focus Map(s) | Page |
|---|---|---|---|---|
| LIGHTHOUSE MARINA | 136 S RIVER RD | SW 1/8 - 1/4 (0.200 mi.) | L101 / 8 | 338 |

Database: YOLO CO. UST, Date of Government Version: 06/23/2020
Current Status: 02
Facility Id: FA0000559

AST: Aboveground Petroleum Storage Tank Facilities

A review of the AST list, as provided by EDR, has revealed that there are 2 AST sites within approximately 0.25 miles of the requested target property.

| Site | Address | Direction / Distance | Map ID / Focus Map(s) | Page |
|---|---|---|---|---|
| Not reported | 21450 OLD RIVER | W 1/8 - 1/4 (0.244 mi.) | N106 / 4 | 345 |

Database: AST, Date of Government Version: 07/06/2016

| | | | | |
|---|---|---|---|---|
| LANG FARMS #1 | 21450 OLD RIVER RD | W 1/8 - 1/4 (0.244 mi.) | N108 / 4 | 348 |

Database: AST, Date of Government Version: 07/06/2016

## ADDITIONAL ENVIRONMENTAL RECORDS

### *Local Lists of Hazardous waste / Contaminated Sites*

CERS HAZ WASTE: CERS HAZ WASTE

A review of the CERS HAZ WASTE list, as provided by EDR, and dated 07/20/2020 has revealed that there is 1 CERS HAZ WASTE site within approximately 0.25 miles of the requested target property.

| Site | Address | Direction / Distance | Map ID / Focus Map(s) | Page |
|---|---|---|---|---|
| ***LANG FARMS #1*** | ***21450 OLD RIVER RD*** | ***W 1/8 - 1/4 (0.244 mi.)*** | ***N109 / 4*** | ***349*** |

# EXECUTIVE SUMMARY

***Local Lists of Registered Storage Tanks***

SWEEPS UST: SWEEPS UST Listing

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 2 SWEEPS UST sites within approximately 0.25 miles of the requested target property.

| Site | Address | Direction / Distance | Map ID / Focus Map(s) | Page |
|---|---|---|---|---|
| ***FARMING***<br>Status: A<br>Tank Status: A<br>Comp Number: 22481 | ***2350 GARDEN HWY*** | ***SW 0 - 1/8 (0.010 mi.)*** | ***J89 / 8*** | ***313*** |
| ***RESIDENT***<br>Status: A<br>Tank Status: A<br>Comp Number: 37386 | ***2700 ORCHARD LN*** | ***SE 1/8 - 1/4 (0.230 mi.)*** | ***M104 / 8*** | ***341*** |

HIST UST: Hazardous Substance Storage Container Database

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 5 HIST UST sites within approximately 0.25 miles of the requested target property.

| Site | Address | Direction / Distance | Map ID / Focus Map(s) | Page |
|---|---|---|---|---|
| FARMING<br>Facility Id: 00000022481 | 2350 GARDEN HWY | SW 0 - 1/8 (0.010 mi.) | J90 / 8 | 314 |
| ***E.D. WITTER***<br>Facility Id: 00000027692 | ***3480 WITTER WY*** | ***ESE 0 - 1/8 (0.052 mi.)*** | ***95 / 5*** | ***321*** |
| RGA BYPROODUCTS COMP<br>Facility Id: 00000066231 | 120 S RIVER ROAD | SW 1/8 - 1/4 (0.201 mi.) | 102 / 8 | 339 |
| RESIDENT<br>Facility Id: 00000037386 | 2700 ORCHARD LN | SE 1/8 - 1/4 (0.230 mi.) | M103 / 8 | 340 |
| ***RESIDENT*** | ***2700 ORCHARD LN*** | ***SE 1/8 - 1/4 (0.230 mi.)*** | ***M104 / 8*** | ***341*** |

CERS TANKS: California Environmental Reporting System (CERS) Tanks

A review of the CERS TANKS list, as provided by EDR, and dated 07/20/2020 has revealed that there is 1 CERS TANKS site within approximately 0.25 miles of the requested target property.

| Site | Address | Direction / Distance | Map ID / Focus Map(s) | Page |
|---|---|---|---|---|
| ***LANG FARMS #1*** | ***21450 OLD RIVER RD*** | ***W 1/8 - 1/4 (0.244 mi.)*** | ***N109 / 4*** | ***349*** |

CA FID UST: Facility Inventory Database

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there are 2 CA FID UST sites within approximately 0.25 miles of the requested target property.

| Site | Address | Direction / Distance | Map ID / Focus Map(s) | Page |
|---|---|---|---|---|
| ***FARMING*** | ***2350 GARDEN HWY*** | ***SW 0 - 1/8 (0.010 mi.)*** | ***J89 / 8*** | ***313*** |

Facility Id: 34006983
Status: A

| | | | | |
|---|---|---|---|---|
| ***RESIDENT*** | ***2700 ORCHARD LN*** | ***SE 1/8 - 1/4 (0.230 mi.)*** | ***M104 / 8*** | ***341*** |

Facility Id: 34007087
Status: A

***Local Land Records***

DEED: Deed Restriction Listing

A review of the DEED list, as provided by EDR, and dated 08/31/2020 has revealed that there is 1 DEED site within approximately 0.5 miles of the requested target property.

| Site | Address | Direction / Distance | Map ID / Focus Map(s) | Page |
|---|---|---|---|---|
| ***RIVERPOINT OFFICE BL*** | ***700 RIVERPOINT DR*** | ***SSW 1/4 - 1/2 (0.438 mi.)*** | ***116 / 11*** | ***385*** |
| Status: COMPLETED - CASE CLOSED<br>Envirostor ID: SL0611367066 | | | | |

***Other Ascertainable Records***

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 06/15/2020 has revealed that there are 3 RCRA NonGen / NLR sites within approximately 0.25 miles of the requested target property.

| Site | Address | Direction / Distance | Map ID / Focus Map(s) | Page |
|---|---|---|---|---|
| NEW CINGULAR WIRELES<br>EPA ID:: CAL000437385 | 2210 GARDEN HIGHWAY | SW 0 - 1/8 (0.016 mi.) | K92 / 8 | 317 |
| TAMANO FARMS<br>EPA ID:: CAC002992280 | 50980 COUNTY ROAD 12 | W 1/8 - 1/4 (0.241 mi.) | 105 / 7 | 342 |
| HAMM'S RANCH<br>EPA ID:: CAL000279777 | 21450 OLD RIVER RD | W 1/8 - 1/4 (0.244 mi.) | N107 / 4 | 346 |

FUDS: Formerly Used Defense Sites

A review of the FUDS list, as provided by EDR, and dated 08/05/2020 has revealed that there is 1 FUDS site within approximately1 mile of the requested target property.

| Site | Address | Direction / Distance | Map ID / Focus Map(s) | Page |
|---|---|---|---|---|
| SACRAMENTO DISTRICT | | SW 1/8 - 1/4 (0.176 mi.) | L98 / 8 | 335 |

# EXECUTIVE SUMMARY

Cortese: "Cortese" Hazardous Waste & Substances Sites List

A review of the Cortese list, as provided by EDR, and dated 06/22/2020 has revealed that there are 3 Cortese sites within approximately 0.5 miles of the requested target property.

| Site | Address | Direction / Distance | Map ID / Focus Map(s) | Page |
|---|---|---|---|---|
| ***BRYTE SEND STORAGE*** | ***1645 RIVERBANK RD*** | ***SE 1/4 - 1/2 (0.302 mi.)*** | ***112 / 11*** | ***357*** |
| Cleanup Status: COMPLETED - CASE CLOSED | | | | |
| ***SACRAMENTO MAINTENAN*** | ***1450 RIVERBANK*** | ***ESE 1/4 - 1/2 (0.399 mi.)*** | ***115 / 11*** | ***365*** |
| Cleanup Status: COMPLETED - CASE CLOSED | | | | |
| ***PG&E CALL CENTER*** | ***2740 GATEWAY OAKS DR*** | ***SE 1/4 - 1/2 (0.473 mi.)*** | ***O118 / 9*** | ***400*** |
| Cleanup Status: COMPLETED - CASE CLOSED | | | | |

HIST CORTESE: Hazardous Waste & Substance Site List

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there are 2 HIST CORTESE sites within approximately 0.5 miles of the requested target property.

| Site | Address | Direction / Distance | Map ID / Focus Map(s) | Page |
|---|---|---|---|---|
| ***BRYTE SEND STORAGE*** | ***1645 RIVERBANK RD*** | ***SE 1/4 - 1/2 (0.302 mi.)*** | ***112 / 11*** | ***357*** |
| Reg Id: 570087 | | | | |
| ***SACRAMENTO MAINTENAN*** | ***1450 RIVERBANK*** | ***ESE 1/4 - 1/2 (0.399 mi.)*** | ***115 / 11*** | ***365*** |
| Reg Id: 570033 | | | | |

MAPPED SITES SUMMARY

Target Property:
UPPER WEST SIDE
SACRAMENTO, CA 95833

| MAP ID / FOCUS MAP | SITE NAME | ADDRESS | DATABASE ACRONYMS | DIST (ft. & mi.) DIRECTION |
|---|---|---|---|---|
| A1 / 5 | BASTIAO FARMS CORPOR | 3845 EL CENTRO RD | RCRA NonGen / NLR | TP |
| A2 / 5 | BASTIAO FARMS CORPOR | 3845 EL CENTRO RD | HAZNET, HWTS | TP |
| A3 / 5 | BASTIAO FARMS, INC. | 3845 EL CENTRO RD | AST, CERS HAZ WASTE, SWEEPS UST, CA FID ... | TP |
| A4 / 5 | BASTIAO FARMS CORPOR | 3845 EL CENTRO RD | FINDS, ECHO | TP |
| A5 / 5 | BASTIAO FARMS | 3845 EL CENTRO RD | Sacramento Co. ML | TP |
| A6 / 5 | BASTIAO FARMS INC | 3845 EL CENTRO ROAD | HIST UST | TP |
| A7 / 5 | NARINDER THANDI | 3930 EL CENTRO ROAD | NPDES | TP |
| A8 / 5 | NARINDER THANDI | 3930 EL CENTRO ROAD | FINDS, ECHO | TP |
| B9 / 4 | FORMER JOHNSON RANCH | 3800 GARDEN HIGHWAY | CERS | TP |
| B10 / 4 | FORMER JOHNSON RANCH | 3800 GARDEN HIGHWAY | CPS-SLIC, Sacramento Co. CS | TP |
| 11 / 5 | DHILLONS RANCH | 3751 EL CENTRO RD | Sacramento Co. ML | TP |
| C12 / 5 | FARM | 3705 EL CENTRO RD | AST, CERS HAZ WASTE, SWEEPS UST, CA FID ... | TP |
| C13 / 5 | | 3705 EL CENTRO ROAD | CHMIRS | TP |
| C14 / 5 | PERRY FARMS | 3705 EL CENTRO RD | RCRA NonGen / NLR | TP |
| C15 / 5 | VERIZON WIRELESS:RAD | 3705 EL CENTRO ROAD | FINDS | TP |
| C16 / 5 | PERRY FARMS | 3705 EL CENTRO RD | FINDS, ECHO | TP |
| C17 / 5 | VERIZON WIRELESS RAD | 3705 EL CENTRO RD | Sacramento Co. ML | TP |
| C18 / 5 | WILBERT ROSA | 3705 EL CENTRO RD | Sacramento Co. ML | TP |
| C19 / 5 | WILHERT ROSA | 3705 EL CENTRO RD | HIST UST | TP |
| C20 / 5 | PERRY FARMS | 3705 EL CENTRO RD | Sacramento Co. ML, HWTS | TP |
| C21 / 5 | VERIZON WIRELESS RAD | 3705 EL CENTRO ROAD | CERS | TP |
| D22 / 5 | GARY ALVERNAZ TRUST | 3650 EL CENTRO | RGA LUST | TP |
| D23 / 5 | GARY ALVERNAZ ENT | 3650 EL CENTRO RD | HAZNET, HWTS | TP |
| D24 / 5 | GARY ALVERNAZ TRUST | 3650 EL CENTRO | LUST, Sacramento Co. CS | TP |
| D25 / 5 | BAYER CROP SCIENCE | 3650 EL CENTRO RD | HAZNET, HWTS | TP |
| D26 / 5 | PETERSON PACIFIC COR | 3650 EL CENTRO RD | Sacramento Co. ML | TP |
| D27 / 5 | JODY'S WATER TRUCK | 3650 EL CENTRO RD | Sacramento Co. ML | TP |
| 28 / 5 | PRIVATE RESIDENCE | PRIVATE RESIDENCE | LUST | TP |
| 29 / 8 | JIMICO | 2929 EL CENTRO RD | Sacramento Co. ML | TP |
| E30 / 8 | PAP MACHINERY, INC. | 2850 EL CENTRO RD | ECHO | TP |
| E31 / 8 | EMPIRE EQUIPMENT LP | 2850 EL CENTRO RD | HAZNET, HWTS | TP |
| E32 / 8 | PAP MACHINERY, INC. | 2850 EL CENTRO RD | RCRA NonGen / NLR | TP |
| E33 / 8 | PAPE MACHINARY INC | 2850 EL CENTRO RD. | AST | TP |
| E34 / 8 | PAP MACHINERY, INC. | 2850 EL CENTRO RD | AST | TP |
| E35 / 8 | PAP MACHINERY, INC. | 2850 EL CENTRO RD | Sacramento Co. ML | TP |
| E36 / 8 | EMPIRE EQUIPMENT CO | 2850 EL CENTRO RD | RCRA-SQG, CERS HAZ WASTE, CERS TANKS, FI.. | TP |
| E37 / 8 | PAP MACHINERY, INC. | 2850 EL CENTRO RD | FINDS | TP |
| E38 / 8 | WEAVER EQUIPMENT COM | 2850 EL CENTRO RD | Sacramento Co. ML | TP |
| E39 / 8 | WEAVER EQUIPMENT CO | 2850 EL CENTRO ROAD | HAZNET, HWTS | TP |

MAPPED SITES SUMMARY

Target Property:
UPPER WEST SIDE
SACRAMENTO, CA 95833

| MAP ID / FOCUS MAP | SITE NAME | ADDRESS | DATABASE ACRONYMS | DIST (ft. & mi.) DIRECTION |
|---|---|---|---|---|
| E40 / 8 | 49 ER AUTO TRUCK PLA | 2848 EL CENTRO RD | EDR Hist Auto | TP |
| E41 / 8 | SACRAMENTO BUILDING | 2840 EL CENTRO RD | HAZNET, HWTS | TP |
| E42 / 8 | T-MOBILE WEST CORP ( | 2840 EL CENTRO RD | Sacramento Co. ML | TP |
| 43 / 8 | | 2828 EL CENTRO RD | ERNS | TP |
| F44 / 8 | SACRAMENTO 49ER AUTO | 2828 EL CENTRO RD | FINDS, ECHO | TP |
| F45 / 8 | FORTY-NINER AUTO #62 | 2828 EL CENTRO RD | HIST UST | TP |
| F46 / 8 | 49ER TRUCK STOP | 2828 EL CENTRO RD | RGA LUST | TP |
| F47 / 8 | SACRAMENTO FORTY-NIN | 2828 EL CENTRO ROAD | HAZNET, HWTS | TP |
| F48 / 8 | 1X UNOCAL 76 | 2828 EL CENTRO RD | HAZNET, HWTS | TP |
| F49 / 8 | SACRAMENTO 49ER AUTO | 2828 EL CENTRO RD | FINDS | TP |
| F50 / 8 | SACRAMENTO 49ER AUTO | 2828 EL CENTRO ROAD | HAZNET, HWTS | TP |
| F51 / 8 | CRST INTERNATIONAL | 2828 EL CENTRO RD | HAZNET, HWTS | TP |
| F52 / 8 | FORTY NINER TRAVEL P | 2828 EL CENTRO RD | CIWQS | TP |
| F53 / 8 | JIMICO | 2828 EL CENTRO RD | Sacramento Co. ML | TP |
| F54 / 8 | 49ER AUTO/TRUCK PLAZ | 2828 EL CENTRO RD | Sacramento Co. ML | TP |
| F55 / 8 | SACRAMENTO 49ER TRAV | 2828 EL CENTRO RD | Sacramento Co. ML | TP |
| F56 / 8 | SACRAMENTO 49ER TRAV | 2828 EL CENTRO RD | UST | TP |
| F57 / 8 | SACRAMENTO 49ER TRAV | 2828 EL CENTRO RD. | HWTS | TP |
| F58 / 8 | SEVENTY-SIX AUTO-TRU | 2828 EL CENTRO RD | EDR Hist Auto | TP |
| F59 / 8 | FORTY-NINER AUTO/TRU | 2828 EL CENTRO RD | HIST UST | TP |
| F60 / 8 | SACRAMENTO 49ER TRAV | 2828 EL CENTRO RD. | HAZNET, HWTS | TP |
| F61 / 8 | FORTY-NINER AUTO/TRU | 2828 EL CENTRO RD | SWEEPS UST, CA FID UST | TP |
| F62 / 8 | | 2828 EL CENTRO ROAD | CHMIRS | TP |
| F63 / 8 | | 2828 EL CENTRO RD. | CHMIRS | TP |
| F64 / 8 | SACRAMENTO 49ER TRAV | 2828 EL CENTRO RD. | RCRA NonGen / NLR | TP |
| F65 / 8 | | 2828 EL CENTRO RD | ERNS | TP |
| F66 / 8 | SACRAMENTO 49ER AUTO | 2828 EL CENTRO ROAD | RCRA NonGen / NLR | TP |
| F67 / 8 | 49ER TRUCK STOP | 2828 EL CENTRO RD | LUST, CPS-SLIC, Sacramento Co. CS, AST, ... | TP |
| F68 / 8 | SACRAMENTO 49ER TRAV | 2828 EL CENTRO RD. | RCRA NonGen / NLR | TP |
| F69 / 8 | | UNOCAL TRUCK STOP 28 | CHMIRS | TP |
| G70 / 8 | M & P INVESTMENTS IN | 2738 EL CENTRO RD | EDR Hist Auto | TP |
| G71 / 8 | EL CENTRO CHEVRON | 2738 EL CENTRO RD | CERS HAZ WASTE, CERS TANKS, Sacramento C... | TP |
| G72 / 8 | MANNA'S CHEVRON | 2738 EL CENTRO RD | UST | TP |
| G73 / 8 | EL CENTRO CHEVRON | 2738 EL CENTRO RD | FINDS | TP |
| G74 / 8 | EL CENTRO INVESTMENT | 2738 EL CENTRO RD | HAZNET, HWTS | TP |
| G75 / 8 | | 2738 EL CENTRO ROAD | CHMIRS | TP |
| G76 / 8 | EL CENTRO INVESTMENT | 2738 EL CENTRO RD | FINDS, ECHO | TP |
| G77 / 8 | M & P INV INC DBA MA | 2738 EL CENTRO RD | HAZNET, HWTS | TP |
| G78 / 8 | EL CENTRO INVESTMENT | 2738 EL CENTRO RD | RCRA NonGen / NLR | TP |

MAPPED SITES SUMMARY

Target Property:
UPPER WEST SIDE
SACRAMENTO, CA 95833

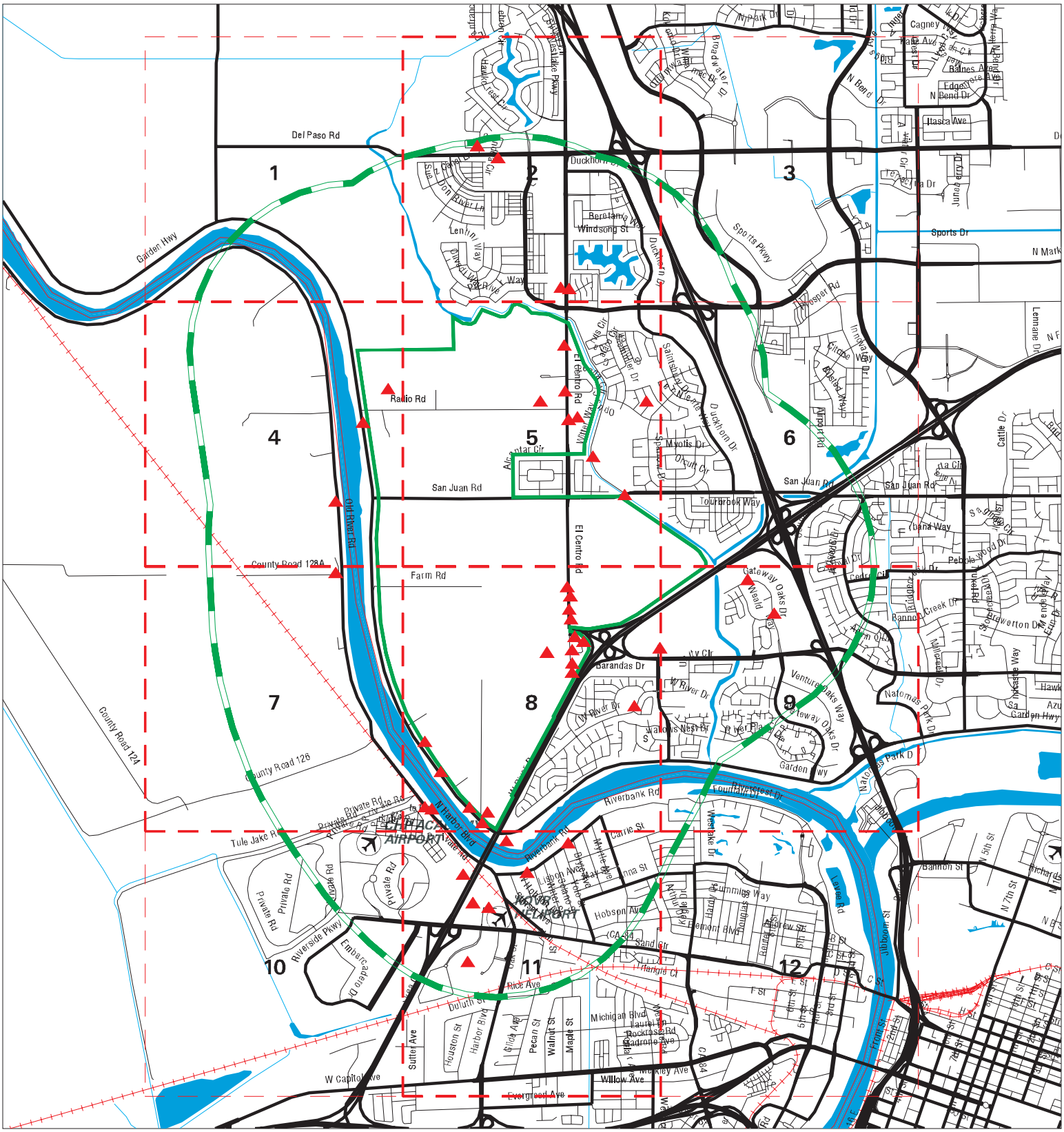
| MAP ID / FOCUS MAP | SITE NAME | ADDRESS | DATABASE ACRONYMS | DIST (ft. & mi.) DIRECTION |
|---|---|---|---|---|
| 79 / 8 | FAIRFIELD INN & SUIT | 2730 EL CENTRO RD | NPDES, CIWQS | TP |
| 80 / 8 | BLACK BEAR DINER SAC | 2700 EL CENTRO RD | CIWQS | TP |
| 81 / 8 | GABE MACHADO | 2651 EL CENTRO RD | Sacramento Co. ML | TP |
| H82 / 8 | ATLAS COPCO COMPRESS | 2640 EL CENTRO RD | HWTS | TP |
| H83 / 8 | ATLAS COPCO | 2640 EL CENTRO RD | HWTS | TP |
| 84 / 8 | 2600 EL CENTRO RD | 2600 EL CENTRO RD | CIWQS | TP |
| 85 / 8 | SACRAMENTO AREA FLOO | 2430 GARDEN HIGHWAY | HWTS | TP |
| I86 / 8 | VERIZON WIRELESS REE | 2196 GARDEN HWY | Sacramento Co. ML, CERS | TP |
| I87 / 8 | VERIZON WIRELESS REE | 2196 GARDEN HWY | FINDS | TP |
| 88 / 8 | LAWRENCE RAPOSA | 2250 GARDEN HWY | Sacramento Co. ML | 30 0.006 SW |
| J89 / 8 | FARMING | 2350 GARDEN HWY | SWEEPS UST, CA FID UST | 52 0.010 SW |
| J90 / 8 | FARMING | 2350 GARDEN HWY | HIST UST | 52 0.010 SW |
| K91 / 8 | AT & T MOBILITY - SA | 2210 GARDEN HWY | Sacramento Co. ML, CERS | 87 0.016 SW |
| K92 / 8 | NEW CINGULAR WIRELES | 2210 GARDEN HIGHWAY | RCRA NonGen / NLR | 87 0.016 SW |
| 93 / 5 | CITY OF SAC - SUMP 0 | SAN JUAN RD & WITTER | Sacramento Co. ML | 135 0.026 NE |
| 94 / 4 | KCTC SAC-AMERICAN TO | 3802 GARDEN HWY | Sacramento Co. ML | 150 0.028 West |
| 95 / 5 | E.D. WITTER | 3480 WITTER WY | HIST UST, Sacramento Co. ML | 274 0.052 ESE |
| 96 / 11 | BRIDGES ON THE RIVER | 2125 GARDEN HIGHWAY | ENF, Sacramento Co. ML, CIWQS | 462 0.087 SE |
| 97 / 2 | SACRAMENTO CITY FIRE | 4201 EL CENTRO RD | Sacramento Co. ML, CERS | 896 0.170 NNE |
| L98 / 8 | SACRAMENTO DISTRICT | | FUDS | 927 0.176 SW |
| 99 / 2 | STADIUM CLUB ESTATES | 4200 EL CENTRO RD | Sacramento Co. ML | 960 0.182 NNE |
| L100 / 8 | SAC ENGR AREA-WEIR A | STATE OLD RIVER/NORT | RESPONSE, ENVIROSTOR | 961 0.182 SW |
| L101 / 8 | LIGHTHOUSE MARINA | 136 S RIVER RD | UST | 1054 0.200 SW |
| 102 / 8 | RGA BYPROODUCTS COMP | 120 S RIVER ROAD | HIST UST | 1059 0.201 SW |
| M103 / 8 | RESIDENT | 2700 ORCHARD LN | HIST UST | 1215 0.230 SE |
| M104 / 8 | RESIDENT | 2700 ORCHARD LN | SWEEPS UST, HIST UST, CA FID UST, Sacram... | 1215 0.230 SE |
| 105 / 7 | TAMANO FARMS | 50980 COUNTY ROAD 12 | RCRA NonGen / NLR | 1274 0.241 West |
| N106 / 4 | | 21450 OLD RIVER | AST | 1287 0.244 West |
| N107 / 4 | HAMM'S RANCH | 21450 OLD RIVER RD | RCRA NonGen / NLR | 1287 0.244 West |
| N108 / 4 | LANG FARMS #1 | 21450 OLD RIVER RD | AST | 1287 0.244 West |
| N109 / 4 | LANG FARMS #1 | 21450 OLD RIVER RD | CERS HAZ WASTE, CERS TANKS, CERS | 1287 0.244 West |
| 110 / 9 | VERIZON WIRELESS GAT | 2870 GATEWAY OAKS DR | Sacramento Co. ML, CERS | 1310 0.248 ESE |
| 111 / 5 | WITTER RANCH ELEMENT | STEMMLER DRIVE/POPPY | ENVIROSTOR, SCH | 1455 0.276 East |
| 112 / 11 | BRYTE SEND STORAGE | 1645 RIVERBANK RD | LUST, Cortese, HIST CORTESE, CERS | 1592 0.302 SE |
| 113 / 11 | BRYTE BEND WATER TRE | 400 NORTH HARBOR BLV | CPS-SLIC, CHMIRS, CERS | 1660 0.314 SSW |
| 114 / 8 | TWO RIVERS ELEMENTAR | 3201 WEST RIVER DRIV | ENVIROSTOR, SCH | 1999 0.379 ESE |
| 115 / 11 | SACRAMENTO MAINTENAN | 1450 RIVERBANK | LUST, Cortese, HIST CORTESE, NPDES, CERS | 2109 0.399 ESE |
| 116 / 11 | RIVERPOINT OFFICE BL | 700 RIVERPOINT DR | CPS-SLIC, DEED, NPDES, CIWQS, CERS | 2310 0.438 SSW |
| 117 / 11 | MCI COMMUNICATION SE | 2820 KOVR DRIVE | CPS-SLIC, EMI, CERS | 2356 0.446 South |

## MAPPED SITES SUMMARY

Target Property:
UPPER WEST SIDE
SACRAMENTO, CA 95833

| MAP ID / FOCUS MAP | SITE NAME | ADDRESS | DATABASE ACRONYMS | DIST (ft. & mi.) DIRECTION |
|---|---|---|---|---|
| O118 / 9 | PG&E CALL CENTER | 2740 GATEWAY OAKS DR | LUST, Cortese, CERS | 2495 0.473 SE |
| O119 / 9 | PG&E CALL CENTER | 2740 GATEWAY OAKS DR | LUST | 2495 0.473 SE |
| O120 / 9 | PG&E CALL CENTER | 2740 GATEWAY OAKS DR | Sacramento Co. CS | 2495 0.473 SE |
| 121 / 11 | RIVERPOINT BUSINESS | BETWN I-80, REED AVE | ENVIROSTOR | 4063 0.770 SSW |
| 122 / 2 | NATOMAS MIDDLE SCHOO | 3700 DEL PASO RD | ENVIROSTOR, SCH, SWEEPS UST, CA FID UST | 4437 0.840 North |
| 123 / 2 | WESTLAKE ELEMENTARY | DEL PASO ROAD/WYNDVI | ENVIROSTOR, SCH | 4911 0.930 NNW |

# Key Map - 6304972.4s




Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/2 1 Miles

| | |
|---|---|
| SITE NAME: Upper West Side | CLIENT: Engeo |
| ADDRESS: Upper West Side | CONTACT: Travis Chatters |
| CITY/STATE: Sacramento CA | INQUIRY #: 6304972.4s |
| ZIP: 95833 | DATE: 12/17/20 2:46 PM |

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# MAP FINDINGS SUMMARY

| Database | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|---|---|---|---|---|---|---|---|---|
| **STANDARD ENVIRONMENTAL RECORDS** | | | | | | | | |
| ***Federal NPL site list*** | | | | | | | | |
| NPL | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| Proposed NPL | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| NPL LIENS | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| ***Federal Delisted NPL site list*** | | | | | | | | |
| Delisted NPL | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| ***Federal CERCLIS list*** | | | | | | | | |
| FEDERAL FACILITY | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| SEMS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Federal CERCLIS NFRAP site list*** | | | | | | | | |
| SEMS-ARCHIVE | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Federal RCRA CORRACTS facilities list*** | | | | | | | | |
| CORRACTS | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| ***Federal RCRA non-CORRACTS TSD facilities list*** | | | | | | | | |
| RCRA-TSDF | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Federal RCRA generators list*** | | | | | | | | |
| RCRA-LQG | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| RCRA-SQG | 0.250 | 1 | 0 | 0 | NR | NR | NR | 1 |
| RCRA-VSQG | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| ***Federal institutional controls / engineering controls registries*** | | | | | | | | |
| LUCIS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| US ENG CONTROLS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| US INST CONTROLS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Federal ERNS list*** | | | | | | | | |
| ERNS | TP | 2 | NR | NR | NR | NR | NR | 2 |
| ***State- and tribal - equivalent NPL*** | | | | | | | | |
| RESPONSE | 1.000 | | 0 | 1 | 0 | 0 | NR | 1 |
| ***State- and tribal - equivalent CERCLIS*** | | | | | | | | |
| ENVIROSTOR | 1.000 | | 0 | 1 | 2 | 3 | NR | 6 |
| ***State and tribal landfill and/or solid waste disposal site lists*** | | | | | | | | |
| SWF/LF | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***State and tribal leaking storage tank lists*** | | | | | | | | |
| LUST | 0.500 | 3 | 0 | 0 | 4 | NR | NR | 7 |

# MAP FINDINGS SUMMARY

| Database | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|---|---|---|---|---|---|---|---|---|
| INDIAN LUST | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| CPS-SLIC | 0.500 | 2 | 0 | 0 | 3 | NR | NR | 5 |
| ***State and tribal registered storage tank lists*** | | | | | | | | |
| FEMA UST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| UST | 0.250 | 2 | 0 | 1 | NR | NR | NR | 3 |
| AST | 0.250 | 5 | 0 | 2 | NR | NR | NR | 7 |
| INDIAN UST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| ***State and tribal voluntary cleanup sites*** | | | | | | | | |
| VCP | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| INDIAN VCP | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***State and tribal Brownfields sites*** | | | | | | | | |
| BROWNFIELDS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| **ADDITIONAL ENVIRONMENTAL RECORDS** | | | | | | | | |
| ***Local Brownfield lists*** | | | | | | | | |
| US BROWNFIELDS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Local Lists of Landfill / Solid Waste Disposal Sites*** | | | | | | | | |
| WMUDS/SWAT | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| SWRCY | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| HAULERS | TP | | NR | NR | NR | NR | NR | 0 |
| INDIAN ODI | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ODI | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| DEBRIS REGION 9 | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| IHS OPEN DUMPS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Local Lists of Hazardous waste / Contaminated Sites*** | | | | | | | | |
| US HIST CDL | TP | | NR | NR | NR | NR | NR | 0 |
| HIST Cal-Sites | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| SCH | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| CDL | TP | | NR | NR | NR | NR | NR | 0 |
| CERS HAZ WASTE | 0.250 | 5 | 0 | 1 | NR | NR | NR | 6 |
| Toxic Pits | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| US CDL | TP | | NR | NR | NR | NR | NR | 0 |
| PFAS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ***Local Lists of Registered Storage Tanks*** | | | | | | | | |
| SWEEPS UST | 0.250 | 3 | 1 | 1 | NR | NR | NR | 5 |
| HIST UST | 0.250 | 5 | 2 | 3 | NR | NR | NR | 10 |
| CERS TANKS | 0.250 | 3 | 0 | 1 | NR | NR | NR | 4 |
| CA FID UST | 0.250 | 3 | 1 | 1 | NR | NR | NR | 5 |
| ***Local Land Records*** | | | | | | | | |
| LIENS | TP | | NR | NR | NR | NR | NR | 0 |

# MAP FINDINGS SUMMARY

| Database | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|---|---|---|---|---|---|---|---|---|
| LIENS 2 | TP | | NR | NR | NR | NR | NR | 0 |
| DEED | 0.500 | | 0 | 0 | 1 | NR | NR | 1 |
| ***Records of Emergency Release Reports*** | | | | | | | | |
| HMIRS | TP | | NR | NR | NR | NR | NR | 0 |
| CHMIRS | TP | 6 | NR | NR | NR | NR | NR | 6 |
| LDS | TP | | NR | NR | NR | NR | NR | 0 |
| MCS | TP | | NR | NR | NR | NR | NR | 0 |
| SPILLS 90 | TP | | NR | NR | NR | NR | NR | 0 |
| ***Other Ascertainable Records*** | | | | | | | | |
| RCRA NonGen / NLR | 0.250 | 7 | 1 | 2 | NR | NR | NR | 10 |
| FUDS | 1.000 | | 0 | 1 | 0 | 0 | NR | 1 |
| DOD | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| SCRD DRYCLEANERS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| US FIN ASSUR | TP | | NR | NR | NR | NR | NR | 0 |
| EPA WATCH LIST | TP | | NR | NR | NR | NR | NR | 0 |
| 2020 COR ACTION | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| TSCA | TP | | NR | NR | NR | NR | NR | 0 |
| TRIS | TP | | NR | NR | NR | NR | NR | 0 |
| SSTS | TP | | NR | NR | NR | NR | NR | 0 |
| ROD | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| RMP | TP | | NR | NR | NR | NR | NR | 0 |
| RAATS | TP | | NR | NR | NR | NR | NR | 0 |
| PRP | TP | | NR | NR | NR | NR | NR | 0 |
| PADS | TP | | NR | NR | NR | NR | NR | 0 |
| ICIS | TP | | NR | NR | NR | NR | NR | 0 |
| FTTS | TP | | NR | NR | NR | NR | NR | 0 |
| MLTS | TP | | NR | NR | NR | NR | NR | 0 |
| COAL ASH DOE | TP | | NR | NR | NR | NR | NR | 0 |
| COAL ASH EPA | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| PCB TRANSFORMER | TP | | NR | NR | NR | NR | NR | 0 |
| RADINFO | TP | | NR | NR | NR | NR | NR | 0 |
| HIST FTTS | TP | | NR | NR | NR | NR | NR | 0 |
| DOT OPS | TP | | NR | NR | NR | NR | NR | 0 |
| CONSENT | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| INDIAN RESERV | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| FUSRAP | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| UMTRA | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| LEAD SMELTERS | TP | | NR | NR | NR | NR | NR | 0 |
| US AIRS | TP | | NR | NR | NR | NR | NR | 0 |
| US MINES | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| ABANDONED MINES | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| FINDS | TP | 11 | NR | NR | NR | NR | NR | 11 |
| DOCKET HWC | TP | | NR | NR | NR | NR | NR | 0 |
| ECHO | TP | 7 | NR | NR | NR | NR | NR | 7 |
| UXO | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| FUELS PROGRAM | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| CA BOND EXP. PLAN | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| Cortese | 0.500 | 1 | 0 | 0 | 3 | NR | NR | 4 |
| CUPA Listings | 0.250 | | 0 | 0 | NR | NR | NR | 0 |

# MAP FINDINGS SUMMARY

| Database | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|---|---|---|---|---|---|---|---|---|
| DRYCLEANERS | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| EMI | TP | | NR | NR | NR | NR | NR | 0 |
| ENF | TP | | NR | NR | NR | NR | NR | 0 |
| Financial Assurance | TP | | NR | NR | NR | NR | NR | 0 |
| HAZNET | TP | 14 | NR | NR | NR | NR | NR | 14 |
| ICE | TP | | NR | NR | NR | NR | NR | 0 |
| HIST CORTESE | 0.500 | 1 | 0 | 0 | 2 | NR | NR | 3 |
| HWP | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| HWT | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| MINES | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| MWMP | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| NPDES | TP | 2 | NR | NR | NR | NR | NR | 2 |
| PEST LIC | TP | | NR | NR | NR | NR | NR | 0 |
| PROC | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| Notify 65 | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| UIC | TP | | NR | NR | NR | NR | NR | 0 |
| UIC GEO | TP | | NR | NR | NR | NR | NR | 0 |
| WASTEWATER PITS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| WDS | TP | | NR | NR | NR | NR | NR | 0 |
| WIP | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| MILITARY PRIV SITES | TP | | NR | NR | NR | NR | NR | 0 |
| PROJECT | TP | | NR | NR | NR | NR | NR | 0 |
| WDR | TP | | NR | NR | NR | NR | NR | 0 |
| CIWQS | TP | 4 | NR | NR | NR | NR | NR | 4 |
| CERS | TP | 8 | NR | NR | NR | NR | NR | 8 |
| NON-CASE INFO | TP | | NR | NR | NR | NR | NR | 0 |
| OTHER OIL GAS | TP | | NR | NR | NR | NR | NR | 0 |
| PROD WATER PONDS | TP | | NR | NR | NR | NR | NR | 0 |
| SAMPLING POINT | TP | | NR | NR | NR | NR | NR | 0 |
| WELL STIM PROJ | TP | | NR | NR | NR | NR | NR | 0 |
| HWTS | TP | 19 | NR | NR | NR | NR | NR | 19 |
| MINES MRDS | TP | | NR | NR | NR | NR | NR | 0 |
| **EDR HIGH RISK HISTORICAL RECORDS** | | | | | | | | |
| ***EDR Exclusive Records*** | | | | | | | | |
| EDR MGP | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| EDR Hist Auto | 0.125 | 3 | 0 | NR | NR | NR | NR | 3 |
| EDR Hist Cleaner | 0.125 | | 0 | NR | NR | NR | NR | 0 |
| **EDR RECOVERED GOVERNMENT ARCHIVES** | | | | | | | | |
| ***Exclusive Recovered Govt. Archives*** | | | | | | | | |
| RGA LF | TP | | NR | NR | NR | NR | NR | 0 |
| RGA LUST | TP | 2 | NR | NR | NR | NR | NR | 2 |
| - Totals -- | | 119 | 5 | 15 | 15 | 3 | 0 | 157 |

# MAP FINDINGS SUMMARY

| Database | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|---|---|---|---|---|---|---|---|---|

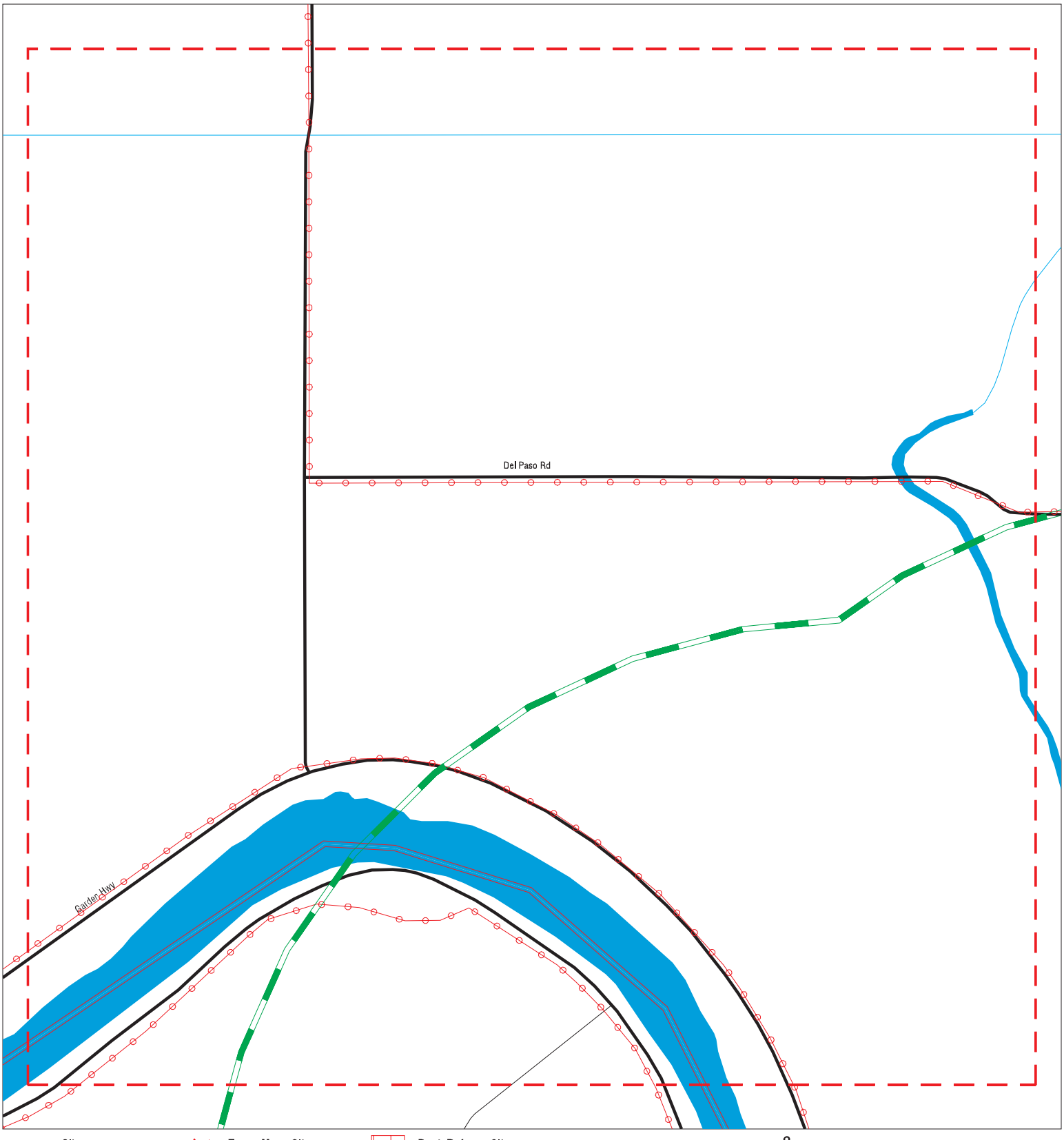
NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

# Focus Map - 1 - 6304972.4s




Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

| | |
|---|---|
| SITE NAME: Upper West Side<br>ADDRESS: Upper West Side<br>CITY/STATE: Sacramento CA<br>ZIP: 95833 | CLIENT: Engeo<br>CONTACT: Travis Chatters<br>INQUIRY #: 6304972.4s<br>DATE: 12/17/20 |

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MAPPED SITES SUMMARY - FOCUS MAP 1

Target Property:
UPPER WEST SIDE
SACRAMENTO, CA 95833

| MAP ID / FOCUS MAP | SITE NAME | ADDRESS | DATABASE ACRONYMS | DIST (ft. & mi.) DIRECTION |
|---|---|---|---|---|

NO MAPPED SITES FOUND

# Focus Map - 2 - 6304972.4s




Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

| | |
|---|---|
| SITE NAME: Upper West Side | CLIENT: Engeo |
| ADDRESS: Upper West Side | CONTACT: Travis Chatters |
| CITY/STATE: Sacramento CA | INQUIRY #: 6304972.4s |
| ZIP: 95833 | DATE: 12/17/20 |

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MAPPED SITES SUMMARY - FOCUS MAP 2

Target Property:
UPPER WEST SIDE
SACRAMENTO, CA 95833

| MAP ID / FOCUS MAP | SITE NAME | ADDRESS | DATABASE ACRONYMS | DIST (ft. & mi.) DIRECTION |
|---|---|---|---|---|
| 97 / 2 | SACRAMENTO CITY FIRE | 4201 EL CENTRO RD | Sacramento Co. ML, CERS | 896 0.170 NNE |
| 99 / 2 | STADIUM CLUB ESTATES | 4200 EL CENTRO RD | Sacramento Co. ML | 960 0.182 NNE |
| 122 / 2 | NATOMAS MIDDLE SCHOO | 3700 DEL PASO RD | ENVIROSTOR, SCH, SWEEPS UST, CA FID UST | 4437 0.840 North |
| 123 / 2 | WESTLAKE ELEMENTARY | DEL PASO ROAD/WYNDVI | ENVIROSTOR, SCH | 4911 0.930 NNW |

# Focus Map - 3 - 6304972.4s




| | |
|---|---|
| SITE NAME: Upper West Side | CLIENT: Engeo |
| ADDRESS: Upper West Side | CONTACT: Travis Chatters |
| CITY/STATE: Sacramento CA | INQUIRY #: 6304972.4s |
| ZIP: 95833 | DATE: 12/17/20 |

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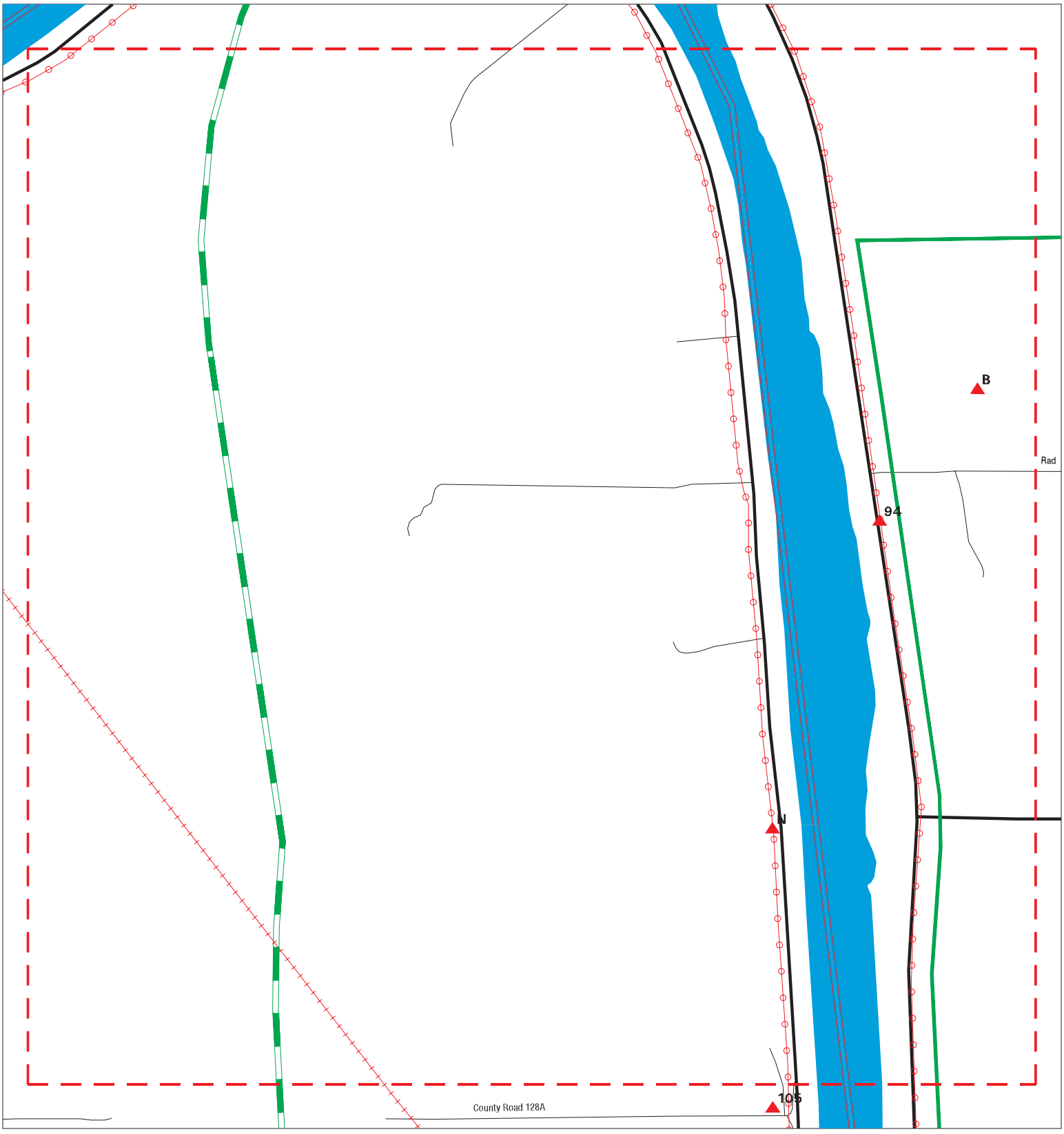
MAPPED SITES SUMMARY - FOCUS MAP 3

Target Property:
UPPER WEST SIDE
SACRAMENTO, CA 95833

| MAP ID / FOCUS MAP | SITE NAME | ADDRESS | DATABASE ACRONYMS | DIST (ft. & mi.) DIRECTION |
|---|---|---|---|---|

NO MAPPED SITES FOUND

# Focus Map - 4 - 6304972.4s




Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

| | |
|---|---|
| SITE NAME: Upper West Side<br>ADDRESS: Upper West Side<br>CITY/STATE: Sacramento CA<br>ZIP: 95833 | CLIENT: Engeo<br>CONTACT: Travis Chatters<br>INQUIRY #: 6304972.4s<br>DATE: 12/17/20 |

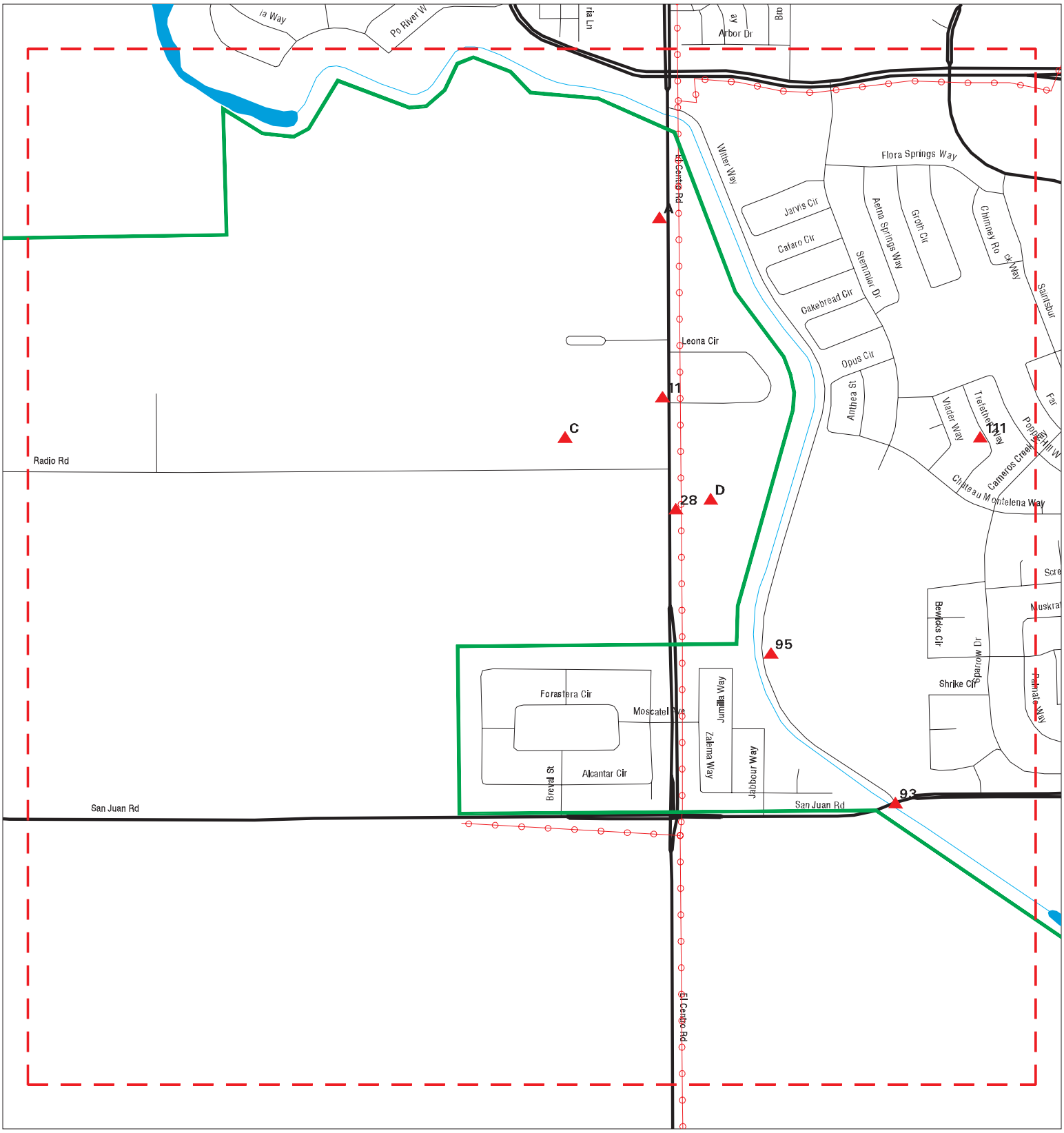
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MAPPED SITES SUMMARY - FOCUS MAP 4

Target Property:
UPPER WEST SIDE
SACRAMENTO, CA 95833

| MAP ID / FOCUS MAP | SITE NAME | ADDRESS | DATABASE ACRONYMS | DIST (ft. & mi.) DIRECTION |
|---|---|---|---|---|
| B9 / 4 | FORMER JOHNSON RANCH | 3800 GARDEN HIGHWAY | CERS | TP |
| B10 / 4 | FORMER JOHNSON RANCH | 3800 GARDEN HIGHWAY | CPS-SLIC, Sacramento Co. CS | TP |
| 94 / 4 | KCTC SAC-AMERICAN TO | 3802 GARDEN HWY | Sacramento Co. ML | 150 0.028 West |
| N106 / 4 | | 21450 OLD RIVER | AST | 1287 0.244 West |
| N107 / 4 | HAMM'S RANCH | 21450 OLD RIVER RD | RCRA NonGen / NLR | 1287 0.244 West |
| N108 / 4 | LANG FARMS #1 | 21450 OLD RIVER RD | AST | 1287 0.244 West |
| N109 / 4 | LANG FARMS #1 | 21450 OLD RIVER RD | CERS HAZ WASTE, CERS TANKS, CERS | 1287 0.244 West |

# Focus Map - 5 - 6304972.4s




Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

| | |
|---|---|
| SITE NAME: Upper West Side | CLIENT: Engeo |
| ADDRESS: Upper West Side | CONTACT: Travis Chatters |
| CITY/STATE: Sacramento CA | INQUIRY #: 6304972.4s |
| ZIP: 95833 | DATE: 12/17/20 |

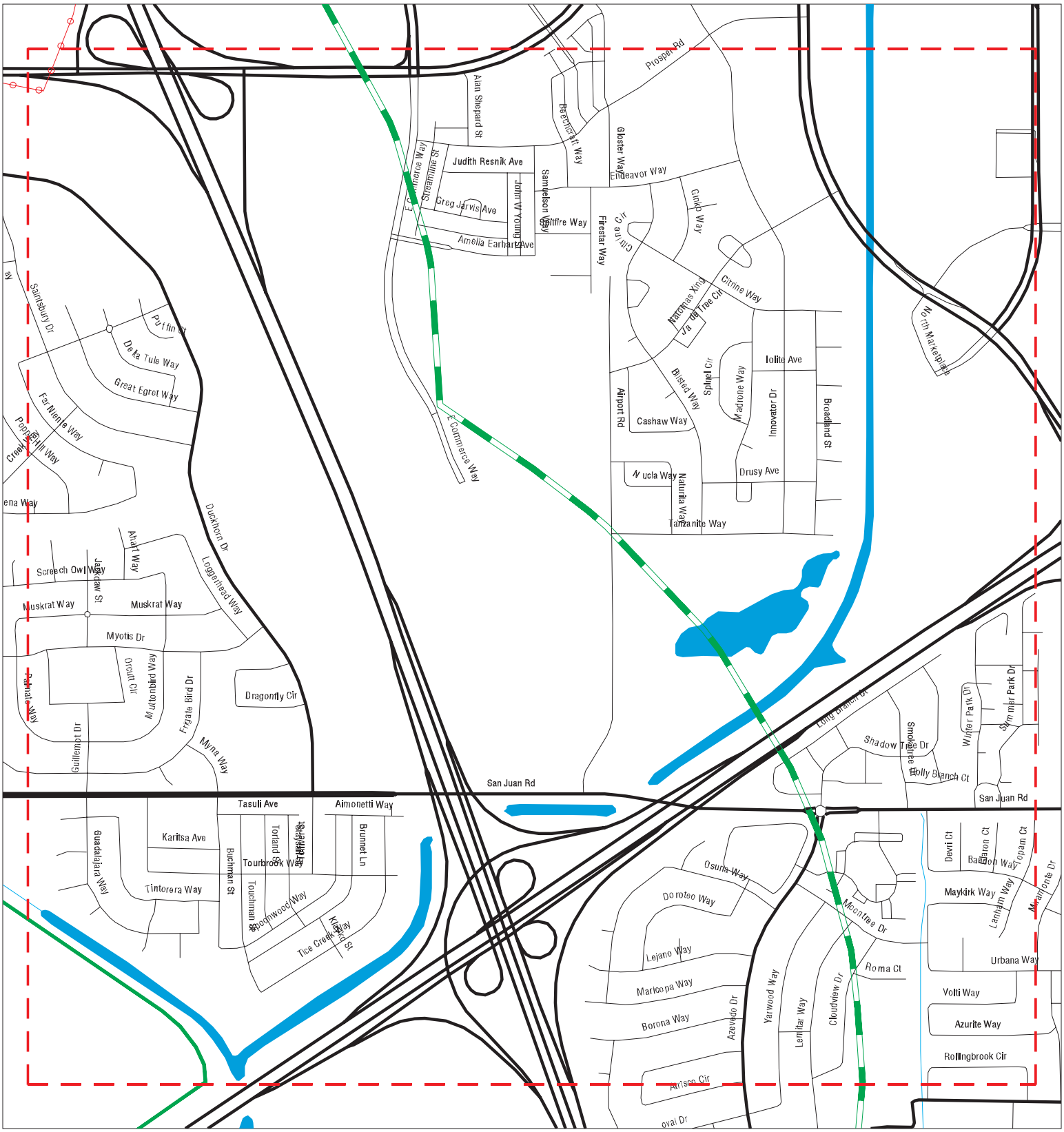
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MAPPED SITES SUMMARY - FOCUS MAP 5

Target Property:
UPPER WEST SIDE
SACRAMENTO, CA 95833

| MAP ID / FOCUS MAP | SITE NAME | ADDRESS | DATABASE ACRONYMS | DIST (ft. & mi.) DIRECTION |
|---|---|---|---|---|
| A1 / 5 | BASTIAO FARMS CORPOR | 3845 EL CENTRO RD | RCRA NonGen / NLR | TP |
| A2 / 5 | BASTIAO FARMS CORPOR | 3845 EL CENTRO RD | HAZNET, HWTS | TP |
| A3 / 5 | BASTIAO FARMS, INC. | 3845 EL CENTRO RD | AST, CERS HAZ WASTE, SWEEPS UST, CA FID ... | TP |
| A4 / 5 | BASTIAO FARMS CORPOR | 3845 EL CENTRO RD | FINDS, ECHO | TP |
| A5 / 5 | BASTIAO FARMS | 3845 EL CENTRO RD | Sacramento Co. ML | TP |
| A6 / 5 | BASTIAO FARMS INC | 3845 EL CENTRO ROAD | HIST UST | TP |
| A7 / 5 | NARINDER THANDI | 3930 EL CENTRO ROAD | NPDES | TP |
| A8 / 5 | NARINDER THANDI | 3930 EL CENTRO ROAD | FINDS, ECHO | TP |
| 11 / 5 | DHILLONS RANCH | 3751 EL CENTRO RD | Sacramento Co. ML | TP |
| C12 / 5 | FARM | 3705 EL CENTRO RD | AST, CERS HAZ WASTE, SWEEPS UST, CA FID ... | TP |
| C13 / 5 | | 3705 EL CENTRO ROAD | CHMIRS | TP |
| C14 / 5 | PERRY FARMS | 3705 EL CENTRO RD | RCRA NonGen / NLR | TP |
| C15 / 5 | VERIZON WIRELESS:RAD | 3705 EL CENTRO ROAD | FINDS | TP |
| C16 / 5 | PERRY FARMS | 3705 EL CENTRO RD | FINDS, ECHO | TP |
| C17 / 5 | VERIZON WIRELESS RAD | 3705 EL CENTRO RD | Sacramento Co. ML | TP |
| C18 / 5 | WILBERT ROSA | 3705 EL CENTRO RD | Sacramento Co. ML | TP |
| C19 / 5 | WILHERT ROSA | 3705 EL CENTRO RD | HIST UST | TP |
| C20 / 5 | PERRY FARMS | 3705 EL CENTRO RD | Sacramento Co. ML, HWTS | TP |
| C21 / 5 | VERIZON WIRELESS RAD | 3705 EL CENTRO ROAD | CERS | TP |
| D22 / 5 | GARY ALVERNAZ TRUST | 3650 EL CENTRO | RGA LUST | TP |
| D23 / 5 | GARY ALVERNAZ ENT | 3650 EL CENTRO RD | HAZNET, HWTS | TP |
| D24 / 5 | GARY ALVERNAZ TRUST | 3650 EL CENTRO | LUST, Sacramento Co. CS | TP |
| D25 / 5 | BAYER CROP SCIENCE | 3650 EL CENTRO RD | HAZNET, HWTS | TP |
| D26 / 5 | PETERSON PACIFIC COR | 3650 EL CENTRO RD | Sacramento Co. ML | TP |
| D27 / 5 | JODY'S WATER TRUCK | 3650 EL CENTRO RD | Sacramento Co. ML | TP |
| 28 / 5 | PRIVATE RESIDENCE | PRIVATE RESIDENCE | LUST | TP |
| 93 / 5 | CITY OF SAC - SUMP 0 | SAN JUAN RD & WITTER | Sacramento Co. ML | 135 0.026 NE |
| 95 / 5 | E.D. WITTER | 3480 WITTER WY | HIST UST, Sacramento Co. ML | 274 0.052 ESE |
| 111 / 5 | WITTER RANCH ELEMENT | STEMMLER DRIVE/POPPY | ENVIROSTOR, SCH | 1455 0.276 East |

# Focus Map - 6 - 6304972.4s




Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

| | |
|---|---|
| SITE NAME: Upper West Side | CLIENT: Engeo |
| ADDRESS: Upper West Side | CONTACT: Travis Chatters |
| CITY/STATE: Sacramento CA | INQUIRY #: 6304972.4s |
| ZIP: 95833 | DATE: 12/17/20 |

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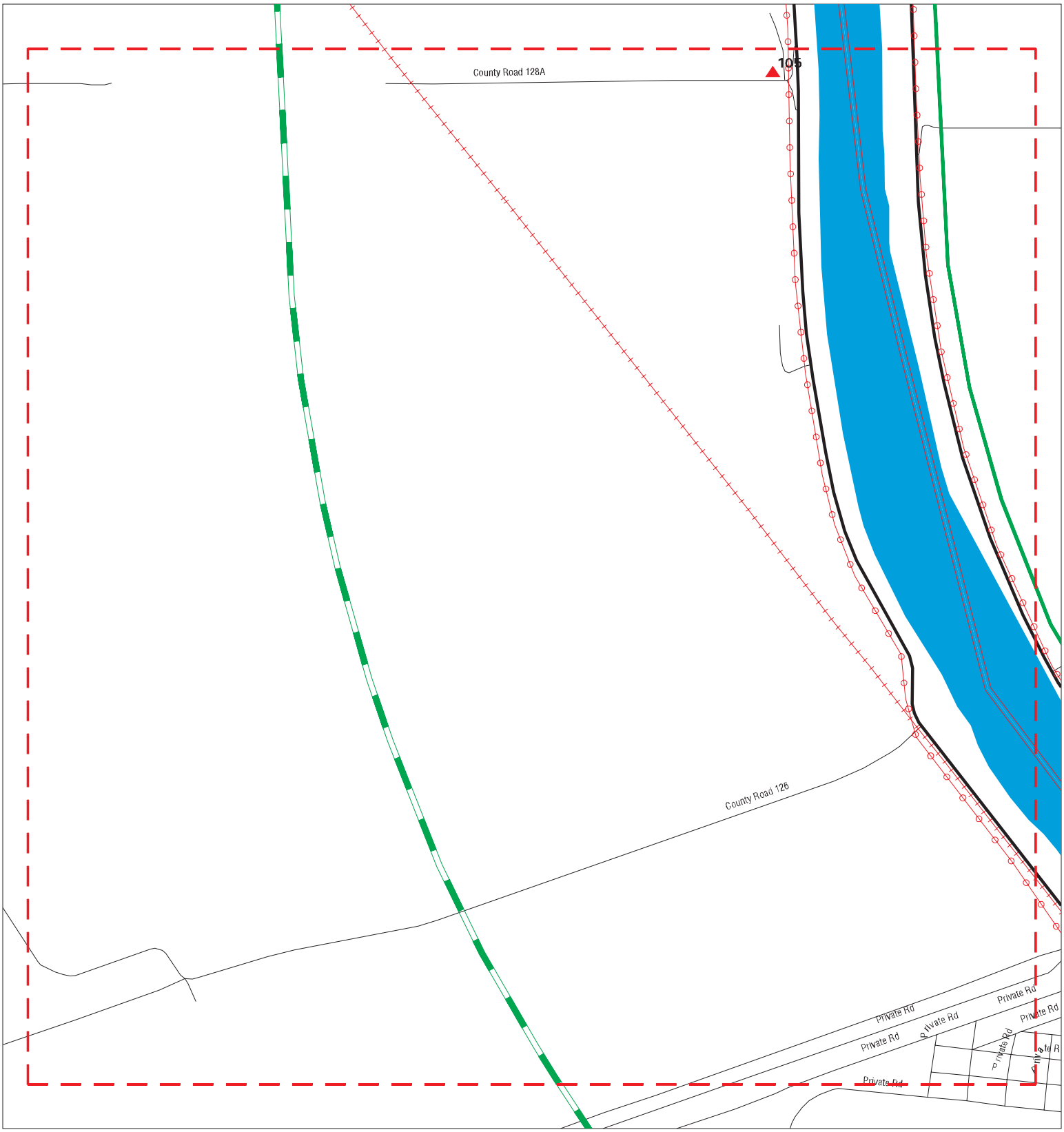
MAPPED SITES SUMMARY - FOCUS MAP 6

Target Property:
UPPER WEST SIDE
SACRAMENTO, CA 95833

| MAP ID / FOCUS MAP | SITE NAME | ADDRESS | DATABASE ACRONYMS | DIST (ft. & mi.) DIRECTION |
|---|---|---|---|---|

NO MAPPED SITES FOUND

# Focus Map - 7 - 6304972.4s




Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

| | |
|---|---|
| SITE NAME: Upper West Side<br>ADDRESS: Upper West Side<br>CITY/STATE: Sacramento CA<br>ZIP: 95833 | CLIENT: Engeo<br>CONTACT: Travis Chatters<br>INQUIRY #: 6304972.4s<br>DATE: 12/17/20 |

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MAPPED SITES SUMMARY - FOCUS MAP 7

Target Property:
UPPER WEST SIDE
SACRAMENTO, CA 95833

| MAP ID / FOCUS MAP | SITE NAME | ADDRESS | DATABASE ACRONYMS | DIST (ft. & mi.) DIRECTION |
|---|---|---|---|---|
| 105 / 7 | TAMANO FARMS | 50980 COUNTY ROAD 12 | RCRA NonGen / NLR | 1274 0.241 West |

# Focus Map - 8 - 6304972.4s




Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

| | |
|---|---|
| SITE NAME: Upper West Side | CLIENT: Engeo |
| ADDRESS: Upper West Side | CONTACT: Travis Chatters |
| CITY/STATE: Sacramento CA | INQUIRY #: 6304972.4s |
| ZIP: 95833 | DATE: 12/17/20 |

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MAPPED SITES SUMMARY - FOCUS MAP 8

Target Property:
UPPER WEST SIDE
SACRAMENTO, CA 95833

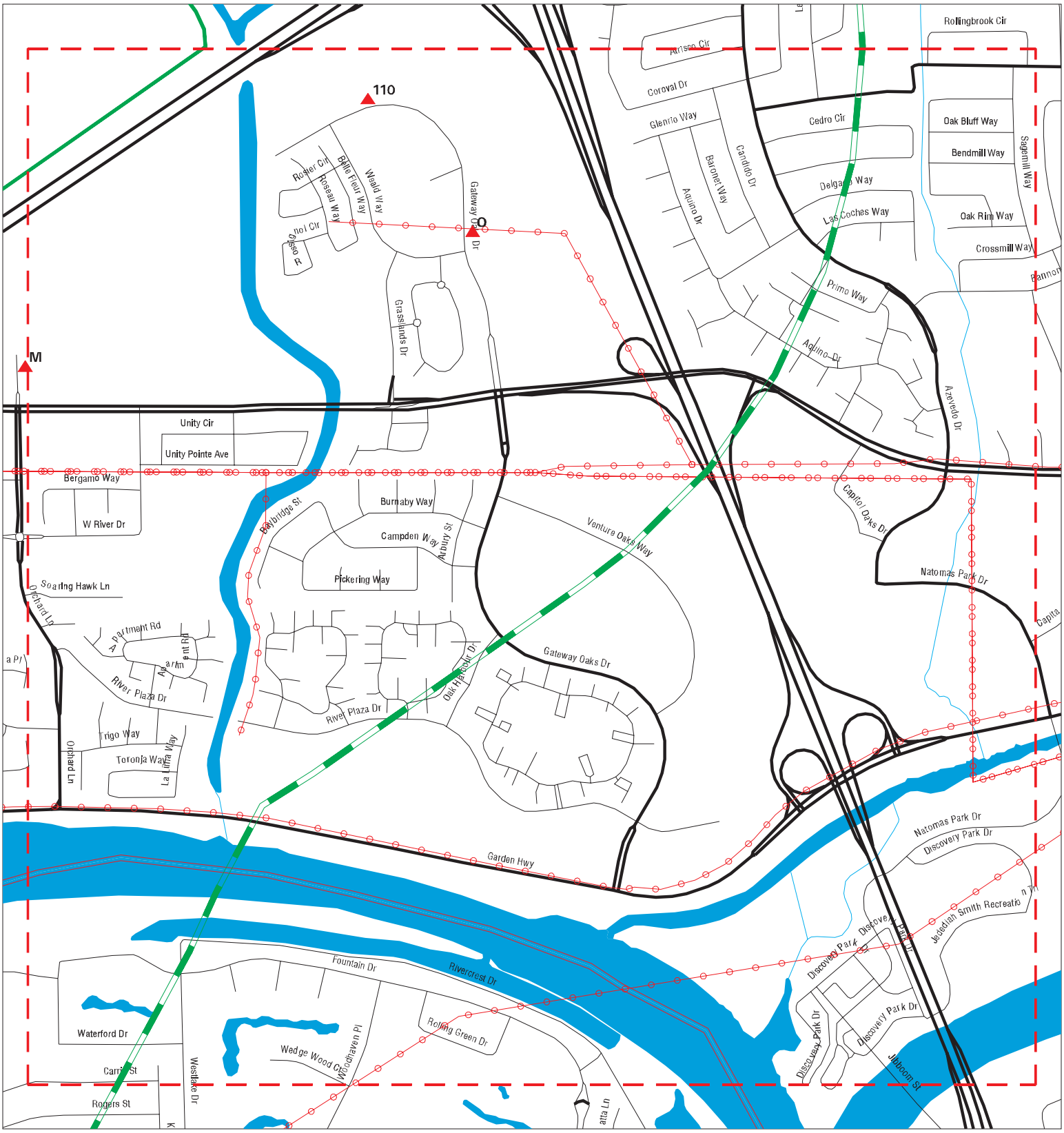
| MAP ID / FOCUS MAP | SITE NAME | ADDRESS | DATABASE ACRONYMS | DIST (ft. & mi.) DIRECTION |
|---|---|---|---|---|
| 29 / 8 | JIMICO | 2929 EL CENTRO RD | Sacramento Co. ML | TP |
| E30 / 8 | PAP MACHINERY, INC. | 2850 EL CENTRO RD | ECHO | TP |
| E31 / 8 | EMPIRE EQUIPMENT LP | 2850 EL CENTRO RD | HAZNET, HWTS | TP |
| E32 / 8 | PAP MACHINERY, INC. | 2850 EL CENTRO RD | RCRA NonGen / NLR | TP |
| E33 / 8 | PAPE MACHINARY INC | 2850 EL CENTRO RD. | AST | TP |
| E34 / 8 | PAP MACHINERY, INC. | 2850 EL CENTRO RD | AST | TP |
| E35 / 8 | PAP MACHINERY, INC. | 2850 EL CENTRO RD | Sacramento Co. ML | TP |
| E36 / 8 | EMPIRE EQUIPMENT CO | 2850 EL CENTRO RD | RCRA-SQG, CERS HAZ WASTE, CERS TANKS, FI.. | TP |
| E37 / 8 | PAP MACHINERY, INC. | 2850 EL CENTRO RD | FINDS | TP |
| E38 / 8 | WEAVER EQUIPMENT COM | 2850 EL CENTRO RD | Sacramento Co. ML | TP |
| E39 / 8 | WEAVER EQUIPMENT CO | 2850 EL CENTRO ROAD | HAZNET, HWTS | TP |
| E40 / 8 | 49 ER AUTO TRUCK PLA | 2848 EL CENTRO RD | EDR Hist Auto | TP |
| E41 / 8 | SACRAMENTO BUILDING | 2840 EL CENTRO RD | HAZNET, HWTS | TP |
| E42 / 8 | T-MOBILE WEST CORP ( | 2840 EL CENTRO RD | Sacramento Co. ML | TP |
| 43 / 8 | | 2828 EL CENTRO RD | ERNS | TP |
| F44 / 8 | SACRAMENTO 49ER AUTO | 2828 EL CENTRO RD | FINDS, ECHO | TP |
| F45 / 8 | FORTY-NINER AUTO #62 | 2828 EL CENTRO RD | HIST UST | TP |
| F46 / 8 | 49ER TRUCK STOP | 2828 EL CENTRO RD | RGA LUST | TP |
| F47 / 8 | SACRAMENTO FORTY-NIN | 2828 EL CENTRO ROAD | HAZNET, HWTS | TP |
| F48 / 8 | 1X UNOCAL 76 | 2828 EL CENTRO RD | HAZNET, HWTS | TP |
| F49 / 8 | SACRAMENTO 49ER AUTO | 2828 EL CENTRO RD | FINDS | TP |
| F50 / 8 | SACRAMENTO 49ER AUTO | 2828 EL CENTRO ROAD | HAZNET, HWTS | TP |
| F51 / 8 | CRST INTERNATIONAL | 2828 EL CENTRO RD | HAZNET, HWTS | TP |
| F52 / 8 | FORTY NINER TRAVEL P | 2828 EL CENTRO RD | CIWQS | TP |
| F53 / 8 | JIMICO | 2828 EL CENTRO RD | Sacramento Co. ML | TP |
| F54 / 8 | 49ER AUTO/TRUCK PLAZ | 2828 EL CENTRO RD | Sacramento Co. ML | TP |
| F55 / 8 | SACRAMENTO 49ER TRAV | 2828 EL CENTRO RD | Sacramento Co. ML | TP |
| F56 / 8 | SACRAMENTO 49ER TRAV | 2828 EL CENTRO RD | UST | TP |
| F57 / 8 | SACRAMENTO 49ER TRAV | 2828 EL CENTRO RD. | HWTS | TP |
| F58 / 8 | SEVENTY-SIX AUTO-TRU | 2828 EL CENTRO RD | EDR Hist Auto | TP |
| F59 / 8 | FORTY-NINER AUTO/TRU | 2828 EL CENTRO RD | HIST UST | TP |
| F60 / 8 | SACRAMENTO 49ER TRAV | 2828 EL CENTRO RD. | HAZNET, HWTS | TP |
| F61 / 8 | FORTY-NINER AUTO/TRU | 2828 EL CENTRO RD | SWEEPS UST, CA FID UST | TP |
| F62 / 8 | | 2828 EL CENTRO ROAD | CHMIRS | TP |
| F63 / 8 | | 2828 EL CENTRO RD. | CHMIRS | TP |
| F64 / 8 | SACRAMENTO 49ER TRAV | 2828 EL CENTRO RD. | RCRA NonGen / NLR | TP |
| F65 / 8 | | 2828 EL CENTRO RD | ERNS | TP |
| F66 / 8 | SACRAMENTO 49ER AUTO | 2828 EL CENTRO ROAD | RCRA NonGen / NLR | TP |
| F67 / 8 | 49ER TRUCK STOP | 2828 EL CENTRO RD | LUST, CPS-SLIC, Sacramento Co. CS, AST, ... | TP |

MAPPED SITES SUMMARY - FOCUS MAP 8

Target Property:
UPPER WEST SIDE
SACRAMENTO, CA 95833

| MAP ID / FOCUS MAP | SITE NAME | ADDRESS | DATABASE ACRONYMS | DIST (ft. & mi.) DIRECTION |
|---|---|---|---|---|
| F68 / 8 | SACRAMENTO 49ER TRAV | 2828 EL CENTRO RD. | RCRA NonGen / NLR | TP |
| F69 / 8 | | UNOCAL TRUCK STOP 28 | CHMIRS | TP |
| G70 / 8 | M & P INVESTMENTS IN | 2738 EL CENTRO RD | EDR Hist Auto | TP |
| G71 / 8 | EL CENTRO CHEVRON | 2738 EL CENTRO RD | CERS HAZ WASTE, CERS TANKS, Sacramento C... | TP |
| G72 / 8 | MANNA'S CHEVRON | 2738 EL CENTRO RD | UST | TP |
| G73 / 8 | EL CENTRO CHEVRON | 2738 EL CENTRO RD | FINDS | TP |
| G74 / 8 | EL CENTRO INVESTMENT | 2738 EL CENTRO RD | HAZNET, HWTS | TP |
| G75 / 8 | | 2738 EL CENTRO ROAD | CHMIRS | TP |
| G76 / 8 | EL CENTRO INVESTMENT | 2738 EL CENTRO RD | FINDS, ECHO | TP |
| G77 / 8 | M & P INV INC DBA MA | 2738 EL CENTRO RD | HAZNET, HWTS | TP |
| G78 / 8 | EL CENTRO INVESTMENT | 2738 EL CENTRO RD | RCRA NonGen / NLR | TP |
| 79 / 8 | FAIRFIELD INN & SUIT | 2730 EL CENTRO RD | NPDES, CIWQS | TP |
| 80 / 8 | BLACK BEAR DINER SAC | 2700 EL CENTRO RD | CIWQS | TP |
| 81 / 8 | GABE MACHADO | 2651 EL CENTRO RD | Sacramento Co. ML | TP |
| H82 / 8 | ATLAS COPCO COMPRESS | 2640 EL CENTRO RD | HWTS | TP |
| H83 / 8 | ATLAS COPCO | 2640 EL CENTRO RD | HWTS | TP |
| 84 / 8 | 2600 EL CENTRO RD | 2600 EL CENTRO RD | CIWQS | TP |
| 85 / 8 | SACRAMENTO AREA FLOO | 2430 GARDEN HIGHWAY | HWTS | TP |
| I86 / 8 | VERIZON WIRELESS REE | 2196 GARDEN HWY | Sacramento Co. ML, CERS | TP |
| I87 / 8 | VERIZON WIRELESS REE | 2196 GARDEN HWY | FINDS | TP |
| 88 / 8 | LAWRENCE RAPOSA | 2250 GARDEN HWY | Sacramento Co. ML | 30 0.006 SW |
| J89 / 8 | FARMING | 2350 GARDEN HWY | SWEEPS UST, CA FID UST | 52 0.010 SW |
| J90 / 8 | FARMING | 2350 GARDEN HWY | HIST UST | 52 0.010 SW |
| K91 / 8 | AT & T MOBILITY - SA | 2210 GARDEN HWY | Sacramento Co. ML, CERS | 87 0.016 SW |
| K92 / 8 | NEW CINGULAR WIRELES | 2210 GARDEN HIGHWAY | RCRA NonGen / NLR | 87 0.016 SW |
| L98 / 8 | SACRAMENTO DISTRICT | | FUDS | 927 0.176 SW |
| L100 / 8 | SAC ENGR AREA-WEIR A | STATE OLD RIVER/NORT | RESPONSE, ENVIROSTOR | 961 0.182 SW |
| L101 / 8 | LIGHTHOUSE MARINA | 136 S RIVER RD | UST | 1054 0.200 SW |
| 102 / 8 | RGA BYPROODUCTS COMP | 120 S RIVER ROAD | HIST UST | 1059 0.201 SW |
| M103 / 8 | RESIDENT | 2700 ORCHARD LN | HIST UST | 1215 0.230 SE |
| M104 / 8 | RESIDENT | 2700 ORCHARD LN | SWEEPS UST, HIST UST, CA FID UST, Sacram... | 1215 0.230 SE |
| 114 / 8 | TWO RIVERS ELEMENTAR | 3201 WEST RIVER DRIV | ENVIROSTOR, SCH | 1999 0.379 ESE |

# Focus Map - 9 - 6304972.4s




| | |
|---|---|
| SITE NAME: Upper West Side | CLIENT: Engeo |
| ADDRESS: Upper West Side | CONTACT: Travis Chatters |
| CITY/STATE: Sacramento CA | INQUIRY #: 6304972.4s |
| ZIP: 95833 | DATE: 12/17/20 |

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MAPPED SITES SUMMARY - FOCUS MAP 9

Target Property:
UPPER WEST SIDE
SACRAMENTO, CA 95833

| MAP ID / FOCUS MAP | SITE NAME | ADDRESS | DATABASE ACRONYMS | DIST (ft. & mi.) DIRECTION |
|---|---|---|---|---|
| 110 / 9 | VERIZON WIRELESS GAT | 2870 GATEWAY OAKS DR | Sacramento Co. ML, CERS | 1310 0.248 ESE |
| O118 / 9 | PG&E CALL CENTER | 2740 GATEWAY OAKS DR | LUST, Cortese, CERS | 2495 0.473 SE |
| O119 / 9 | PG&E CALL CENTER | 2740 GATEWAY OAKS DR | LUST | 2495 0.473 SE |
| O120 / 9 | PG&E CALL CENTER | 2740 GATEWAY OAKS DR | Sacramento Co. CS | 2495 0.473 SE |

# Focus Map - 10 - 6304972.4s




Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

| | |
|---|---|
| SITE NAME: Upper West Side | CLIENT: Engeo |
| ADDRESS: Upper West Side | CONTACT: Travis Chatters |
| CITY/STATE: Sacramento CA | INQUIRY #: 6304972.4s |
| ZIP: 95833 | DATE: 12/17/20 |

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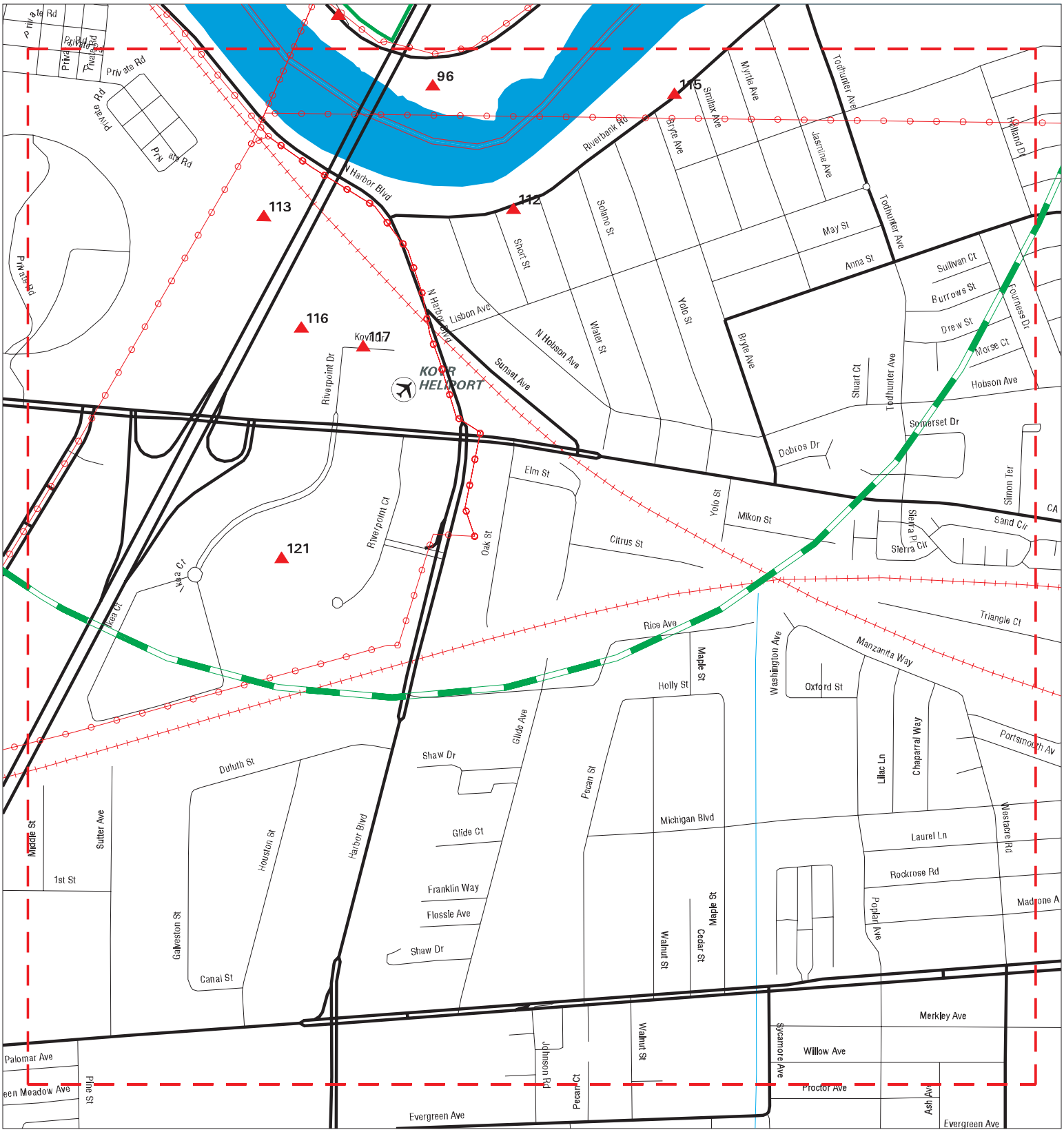
MAPPED SITES SUMMARY - FOCUS MAP 10

Target Property:
UPPER WEST SIDE
SACRAMENTO, CA 95833

| MAP ID / FOCUS MAP | SITE NAME | ADDRESS | DATABASE ACRONYMS | DIST (ft. & mi.) DIRECTION |
|---|---|---|---|---|

NO MAPPED SITES FOUND

# Focus Map - 11 - 6304972.4s




Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

| | |
|---|---|
| SITE NAME: Upper West Side | CLIENT: Engeo |
| ADDRESS: Upper West Side | CONTACT: Travis Chatters |
| CITY/STATE: Sacramento CA | INQUIRY #: 6304972.4s |
| ZIP: 95833 | DATE: 12/17/20 |

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MAPPED SITES SUMMARY - FOCUS MAP 11

Target Property:
UPPER WEST SIDE
SACRAMENTO, CA 95833

| MAP ID / FOCUS MAP | SITE NAME | ADDRESS | DATABASE ACRONYMS | DIST (ft. & mi.) DIRECTION |
|---|---|---|---|---|
| 96 / 11 | BRIDGES ON THE RIVER | 2125 GARDEN HIGHWAY | ENF, Sacramento Co. ML, CIWQS | 462 0.087 SE |
| 112 / 11 | BRYTE SEND STORAGE | 1645 RIVERBANK RD | LUST, Cortese, HIST CORTESE, CERS | 1592 0.302 SE |
| 113 / 11 | BRYTE BEND WATER TRE | 400 NORTH HARBOR BLV | CPS-SLIC, CHMIRS, CERS | 1660 0.314 SSW |
| 115 / 11 | SACRAMENTO MAINTENAN | 1450 RIVERBANK | LUST, Cortese, HIST CORTESE, NPDES, CERS | 2109 0.399 ESE |
| 116 / 11 | RIVERPOINT OFFICE BL | 700 RIVERPOINT DR | CPS-SLIC, DEED, NPDES, CIWQS, CERS | 2310 0.438 SSW |
| 117 / 11 | MCI COMMUNICATION SE | 2820 KOVR DRIVE | CPS-SLIC, EMI, CERS | 2356 0.446 South |
| 121 / 11 | RIVERPOINT BUSINESS | BETWN I-80, REED AVE | ENVIROSTOR | 4063 0.770 SSW |

# Focus Map - 12 - 6304972.4s




Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

| | |
|---|---|
| SITE NAME: Upper West Side | CLIENT: Engeo |
| ADDRESS: Upper West Side | CONTACT: Travis Chatters |
| CITY/STATE: Sacramento CA | INQUIRY #: 6304972.4s |
| ZIP: 95833 | DATE: 12/17/20 |

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MAPPED SITES SUMMARY - FOCUS MAP 12

Target Property:
UPPER WEST SIDE
SACRAMENTO, CA 95833

| MAP ID / FOCUS MAP | SITE NAME | ADDRESS | DATABASE ACRONYMS | DIST (ft. & mi.) DIRECTION |
|---|---|---|---|---|

NO MAPPED SITES FOUND

**A1**
**Target**
**Property**

**BASTIAO FARMS CORPORATION**
**3845 EL CENTRO RD**
**SACRAMENTO, CA 95834**

**RCRA NonGen / NLR** **1024797057**
**CAL000181858**

**Site 1 of 8 in cluster A**

**Actual:**
**14 ft.**

**Focus Map:**
**5**

RCRA NonGen / NLR:

| | |
|---|---|
| Date Form Received by Agency: | 1998-08-25 00:00:00.0 |
| Handler Name: | BASTIAO FARMS CORPORATION |
| Handler Address: | 3845 EL CENTRO RD |
| Handler City,State,Zip: | SACRAMENTO, CA 95834-0000 |
| EPA ID: | CAL000181858 |
| Contact Name: | DENNIS BASTIAO - OWNER |
| Contact Address: | 3845 EL CENTRO ROAD |
| Contact City,State,Zip: | SACRAMENTO, CA 95834 |
| Contact Telephone: | 916-416-1133 |
| Contact Fax: | 916-925-2947 |
| Contact Email: | KBASTIAO@AOL.COM |
| Contact Title: | Not reported |
| EPA Region: | 09 |
| Land Type: | Not reported |
| Federal Waste Generator Description: | Not a generator, verified |
| Non-Notifier: | Not reported |
| Biennial Report Cycle: | Not reported |
| Accessibility: | Not reported |
| Active Site Indicator: | Handler Activities |
| State District Owner: | Not reported |
| State District: | Not reported |
| Mailing Address: | 3845 EL CENTRO RD |
| Mailing City,State,Zip: | SACRAMENTO, CA 95834-0000 |
| Owner Name: | DENNIS BASTIAO |
| Owner Type: | Other |
| Operator Name: | DENNIS BASTIAO - OWNER |
| Operator Type: | Other |
| Short-Term Generator Activity: | No |
| Importer Activity: | No |
| Mixed Waste Generator: | No |
| Transporter Activity: | No |
| Transfer Facility Activity: | No |
| Recycler Activity with Storage: | No |
| Small Quantity On-Site Burner Exemption: | No |
| Smelting Melting and Refining Furnace Exemption: | No |
| Underground Injection Control: | No |
| Off-Site Waste Receipt: | No |
| Universal Waste Indicator: | Yes |
| Universal Waste Destination Facility: | Yes |
| Federal Universal Waste: | No |
| Active Site Fed-Reg Treatment Storage and Disposal Facility: | Not reported |
| Active Site Converter Treatment storage and Disposal Facility: | Not reported |
| Active Site State-Reg Treatment Storage and Disposal Facility: | Not reported |
| Active Site State-Reg Handler: | --- |
| Federal Facility Indicator: | Not reported |
| Hazardous Secondary Material Indicator: | N |
| Sub-Part K Indicator: | Not reported |
| Commercial TSD Indicator: | No |
| Treatment Storage and Disposal Type: | Not reported |
| 2018 GPRA Permit Baseline: | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | Not on the Baseline |
| Permit Renewals Workload Universe: | Not reported |

**BASTIAO FARMS CORPORATION (Continued)** **1024797057**

| | |
|---|---|
| Permit Workload Universe: | Not reported |
| Permit Progress Universe: | Not reported |
| Post-Closure Workload Universe: | Not reported |
| Closure Workload Universe: | Not reported |
| 202 GPRA Corrective Action Baseline: | No |
| Corrective Action Workload Universe: | No |
| Subject to Corrective Action Universe: | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | No |
| Corrective Action Priority Ranking: | No NCAPS ranking |
| Environmental Control Indicator: | No |
| Institutional Control Indicator: | No |
| Human Exposure Controls Indicator: | N/A |
| Groundwater Controls Indicator: | N/A |
| Operating TSDF Universe: | Not reported |
| Full Enforcement Universe: | Not reported |
| Significant Non-Complier Universe: | No |
| Unaddressed Significant Non-Complier Universe: | No |
| Addressed Significant Non-Complier Universe: | No |
| Significant Non-Complier With a Compliance Schedule Universe: | No |
| Financial Assurance Required: | Not reported |
| Handler Date of Last Change: | 2018-09-05 15:44:06.0 |
| Recognized Trader-Importer: | No |
| Recognized Trader-Exporter: | No |
| Importer of Spent Lead Acid Batteries: | No |
| Exporter of Spent Lead Acid Batteries: | No |
| Recycler Activity Without Storage: | No |
| Manifest Broker: | No |
| Sub-Part P Indicator: | No |

Handler - Owner Operator:

| | |
|---|---|
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: | DENNIS BASTIAO - OWNER |
| Legal Status: | Other |
| Date Became Current: | Not reported |
| Date Ended Current: | Not reported |
| Owner/Operator Address: | 3845 EL CENTRO ROAD |
| Owner/Operator City,State,Zip: | SACRAMENTO, CA 95834 |
| Owner/Operator Telephone: | 916-416-1133 |
| Owner/Operator Telephone Ext: | Not reported |
| Owner/Operator Fax: | Not reported |
| Owner/Operator Email: | Not reported |

| | |
|---|---|
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: | DENNIS BASTIAO |
| Legal Status: | Other |
| Date Became Current: | Not reported |
| Date Ended Current: | Not reported |
| Owner/Operator Address: | 3845 EL CENTRO ROAD |
| Owner/Operator City,State,Zip: | SACRAMENTO, CA 95834-0000 |
| Owner/Operator Telephone: | 916-925-2947 |
| Owner/Operator Telephone Ext: | Not reported |
| Owner/Operator Fax: | Not reported |
| Owner/Operator Email: | Not reported |

**BASTIAO FARMS CORPORATION (Continued)** **1024797057**

Historic Generators:
Receive Date: 1998-08-25 00:00:00.0
Handler Name: BASTIAO FARMS CORPORATION
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

---

**A2** **BASTIAO FARMS CORPORATION** **HAZNET** **S112888009**
**Target** **3845 EL CENTRO RD** **HWTS** **N/A**
**Property** **SACRAMENTO, CA 95834**

**Site 2 of 8 in cluster A**

**Actual:** **14 ft.**

**Focus Map:** **5**

HAZNET:
Name: BASTIAO FARMS CORPORATION
Address: 3845 EL CENTRO RD
Address 2: Not reported
City,State,Zip: SACRAMENTO, CA 958340000
Contact: DENNIS BASTIAO-OWNER
Telephone: 9169252947
Mailing Name: Not reported
Mailing Address: 3845 EL CENTRO RD

Year: 1998
Gepaid: CAC001398648
TSD EPA ID: CAD044003556
CA Waste Code: 223 - Unspecified oil-containing waste
Disposal Method: H01 - Transfer Station
Tons: 0.4587

Additional Info:
Year: 1998
Gen EPA ID: CAC001398648

Shipment Date: 19980826
Creation Date: 11/24/1998 0:00:00

**BASTIAO FARMS CORPORATION (Continued)** **S112888009**

| | |
|---|---|
| Receipt Date: | 19980826 |
| Manifest ID: | 98060980 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | CAD044003556 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.4587 |
| Waste Quantity: | 110 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

HWTS:

| | |
|---|---|
| Name: | BASTIAO FARMS CORPORATION |
| Address: | 3845 EL CENTRO RD |
| Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 958340000 |
| EPA ID: | CAC001398648 |
| Inactive Date: | 10/25/2000 |
| Create Date: | 06/24/1998 |
| Last Act Date: | 10/25/2000 |
| Mailing Name: | Not reported |
| Mailing Address: | 3845 EL CENTRO RD |
| Mailing Address 2: | Not reported |
| Mailing City,State,Zip: | SACRAMENTO, CA 958340000 |
| Owner Name: | DENNIS BASTIAO |
| Owner Address: | 3845 EL CENTRO RD |
| Owner Address 2: | Not reported |
| Owner City,State,Zip: | SACRAMENTO, CA 958340000 |
| Contact Name: | DENNIS BASTIAO-OWNER |
| Contact Address: | 3845 EL CENTRO RD |
| Contact Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 958340000 |

| | |
|---|---|
| Name: | BASTIAO FARMS CORPORATION |
| Address: | 3845 EL CENTRO RD |
| Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 958340000 |
| EPA ID: | CAL000181858 |
| Inactive Date: | Not reported |
| Create Date: | 08/25/1998 |
| Last Act Date: | 07/15/2020 |
| Mailing Name: | Not reported |
| Mailing Address: | 3845 EL CENTRO RD |
| Mailing Address 2: | Not reported |
| Mailing City,State,Zip: | SACRAMENTO, CA 958340000 |
| Owner Name: | DENNIS BASTIAO |

**BASTIAO FARMS CORPORATION (Continued)** **S112888009**

| | |
|---|---|
| Owner Address: | 3845 EL CENTRO ROAD |
| Owner Address 2: | Not reported |
| Owner City,State,Zip: | SACRAMENTO, CA 958340000 |
| Contact Name: | DENNIS BASTIAO - OWNER |
| Contact Address: | 3845 EL CENTRO ROAD |
| Contact Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 95834 |

---

**A3** **BASTIAO FARMS, INC.** **AST** **S101628543**
**Target** **3845 EL CENTRO RD** **CERS HAZ WASTE** **N/A**
**Property** **SACRAMENTO, CA 95834** **SWEEPS UST**
**CA FID UST**
**Site 3 of 8 in cluster A** **CERS**

**Actual:** **14 ft.**
**Focus Map:** **5**

AST:

| | |
|---|---|
| Name: | BASTIAO FARMS, INC. |
| Address: | 3845 EL CENTRO RD |
| City/Zip: | SACRAMENTO,95834 |
| Certified Unified Program Agencies: | Not reported |
| Owner: | BASTIAO FARMS, INC |
| Total Gallons: | Not reported |
| CERSID: | 10493119 |
| Facility ID: | FA0045306 |
| Business Name: | BASTIAO FARMS |
| Phone: | 9169252947 |
| Fax: | 9169252947 |
| Mailing Address: | 3845 EL CENTRO ROAD |
| Mailing Address City: | SACRAMENTO |
| Mailing Address State: | CA |
| Mailing Address Zip Code: | 95834 |
| Operator Name: | Dennis Bastiao |
| Operator Phone: | 9164161133 |
| Owner Phone: | 9169252947 |
| Owner Mail Address: | 3845 EL CENTRO ROAD |
| Owner State: | CA |
| Owner Zip Code: | 95834 |
| Owner Country: | United States |
| Property Owner Name: | Not reported |
| Property Owner Phone: | Not reported |
| Property Owner Mailing Address: | Not reported |
| Property Owner City: | Not reported |
| Property Owner Stat : | Not reported |
| Property Owner Zip Code: | Not reported |
| Property Owner Country: | Not reported |
| EPAID: | CAL000181858 |

CERS HAZ WASTE:

| | |
|---|---|
| Name: | BASTIAO FARMS, INC. |
| Address: | 3845 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95834 |
| Site ID: | 175190 |
| CERS ID: | 10493119 |
| CERS Description: | Hazardous Waste Generator |

SWEEPS UST:

| | |
|---|---|
| Name: | BASTIAO FARMS, INC. |
| Address: | 3845 EL CENTRO RD |

**BASTIAO FARMS, INC. (Continued)** **S101628543**

City: SACRAMENTO
Status: Active
Comp Number: 15581
Number: 9
Board Of Equalization: Not reported
Referral Date: 07-01-85
Action Date: Not reported
Created Date: 02-29-88
Owner Tank Id: 1
SWRCB Tank Id: 34-000-015581-000001
Tank Status: A
Capacity: 4000
Active Date: 07-01-85
Tank Use: M.V. FUEL
STG: P
Content: LEADED
Number Of Tanks: 1

CA FID UST:
Facility ID: 34006917
Regulated By: UTNKA
Regulated ID: 00015581
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 9169252947
Mail To: Not reported
Mailing Address: 3845 EL CENTRO RD
Mailing Address 2: Not reported
Mailing City,St,Zip: SACRAMENTO 95834
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

CERS:
Name: BASTIAO FARMS, INC.
Address: 3845 EL CENTRO RD
City,State,Zip: SACRAMENTO, CA 95834
Site ID: 175190
CERS ID: 10493119
CERS Description: Chemical Storage Facilities

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 01-08-2019
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Sacramento County Env Management Department
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 01-08-2019

**BASTIAO FARMS, INC. (Continued)** **S101628543**

Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Sacramento County Env Management Department
Eval Program: APSA
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 10-28-2015
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Sacramento County Env Management Department
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 10-28-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Sacramento County Env Management Department
Eval Program: APSA
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 01-08-2019
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Sacramento County Env Management Department
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 10-28-2015
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Sacramento County Env Management Department
Eval Program: HW
Eval Source: CERS

Coordinates:
Site ID: 175190
Facility Name: BASTIAO FARMS, INC.
Env Int Type Code: HWG
Program ID: 10493119
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.
Latitude: 38.639960
Longitude: -121.541570

Affiliation:
Affiliation Type Desc: CUPA District
Entity Name: Sacramento County Environmental Management Departm

**BASTIAO FARMS, INC. (Continued)** **S101628543**

| | |
|---|---|
| Entity Title: | Not reported |
| Affiliation Address: | 10590 Armstrong Avenue, Suite A |
| Affiliation City: | Sacramento |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 95655 |
| Affiliation Phone: | (916) 875-8550 |
| | |
| Affiliation Type Desc: | Document Preparer |
| Entity Name: | Kathryn Bastiao |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Environmental Contact |
| Entity Name: | Dennis Bastiao |
| Entity Title: | Not reported |
| Affiliation Address: | 3845 El Centro Road |
| Affiliation City: | Sacramento |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 95834 |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Operator |
| Entity Name: | Dennis Bastiao |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (916) 416-1133 |
| | |
| Affiliation Type Desc: | Facility Mailing Address |
| Entity Name: | Mailing Address |
| Entity Title: | Not reported |
| Affiliation Address: | 3845 EL CENTRO ROAD |
| Affiliation City: | SACRAMENTO |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 95834 |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Legal Owner |
| Entity Name: | BASTIAO FARMS, INC |
| Entity Title: | Not reported |
| Affiliation Address: | 3845 EL CENTRO ROAD |
| Affiliation City: | SACRAMENTO |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 95834 |
| Affiliation Phone: | (916) 925-2947 |

**BASTIAO FARMS, INC. (Continued)** **S101628543**

| | |
|---|---|
| Affiliation Type Desc: | Parent Corporation |
| Entity Name: | BASTIAO FARMS |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Identification Signer |
| Entity Name: | Kathryn Bastiao |
| Entity Title: | Office Manager |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

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**A4** **BASTIAO FARMS CORPORATION** **FINDS** **1023257200**
**Target** **3845 EL CENTRO RD** **ECHO** **N/A**
**Property** **SACRAMENTO, CA 95834**

**Site 4 of 8 in cluster A**

**Actual:**
**14 ft.**

**Focus Map:**
**5**

FINDS:
Registry ID: 110065463233

Click Here:

Environmental Interest/Information System:
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.
STATE MASTER

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

| | |
|---|---|
| Envid: | 1023257200 |
| Registry ID: | 110065463233 |
| DFR URL: | http://echo.epa.gov/detailed-facility-report?fid=110065463233 |
| Name: | BASTIAO FARMS CORPORATION |
| Address: | 3845 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95834 |

**A5** **BASTIAO FARMS** **Sacramento Co. ML** **S123680981**
**Target** **3845 EL CENTRO RD** **N/A**
**Property** **SACRAMENTO, CA 95834**

**Site 5 of 8 in cluster A**

**Actual:** **14 ft.**
**Focus Map:** **5**

Sacramento Co. ML:

| | |
|---|---|
| Name: | BASTIAO FARMS |
| Address: | 3845 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95834 |
| Facility Id: | Not reported |
| Facility Status: | Not reported |
| FD: | Not reported |
| Billing Codes BP: | A |
| Billing Codes UST: | Not reported |
| WG Bill Code: | A |
| Target Property Bill Cod: | Not reported |
| Food Bill Code: | Not reported |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | Not reported |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

| | |
|---|---|
| Name: | BASTIAO FARMS |
| Address: | 3845 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95834 |
| Facility Id: | Not reported |
| Facility Status: | Inactive. Included on a listing no longer updated. |
| FD: | U |
| Billing Codes BP: | Farm-No Fee |
| Billing Codes UST: | Farm-No Fee |
| WG Bill Code: | Farm-No Fee |
| Target Property Bill Cod: | 50 |
| Food Bill Code: | 53 |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | 1 |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

**A6** **BASTIAO FARMS INC** **HIST UST** **U001615955**
**Target** **3845 EL CENTRO ROAD** **N/A**
**Property** **SACRAMENTO, CA 95834**

**Site 6 of 8 in cluster A**

**Actual:** **14 ft.**
**Focus Map: 5**

HIST UST:

| | |
|---|---|
| Name: | BASTIAO FARMS INC |
| Address: | 3845 EL CENTRO ROAD |
| City,State,Zip: | SACRAMENTO, CA 95834 |
| File Number: | 0001FBB3 |
| URL: | http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0001FBB3.pdf |
| Region: | STATE |
| Facility ID: | 00000015581 |
| Facility Type: | Other |
| Other Type: | FARMING |
| Contact Name: | DENNIS J. BASTIAO |
| Telephone: | 9169252947 |
| Owner Name: | BASTIAO FARMS, INC. |
| Owner Address: | 3845 EL CENTRO ROAD |
| Owner City,St,Zip: | SACRAMENTO, CA 95834 |
| Total Tanks: | 0001 |
| | |
| Tank Num: | 001 |
| Container Num: | 1 |
| Year Installed: | 1981 |
| Tank Capacity: | 00004000 |
| Tank Used for: | PRODUCT |
| Type of Fuel: | REGULAR |
| Container Construction Thickness: | 1/4 |
| Leak Detection: | Visual |

Click here for Geo Tracker PDF:

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**A7** **NARINDER THANDI** **NPDES** **S122248491**
**Target** **3930 EL CENTRO ROAD** **N/A**
**Property** **SACRAMENTO, CA 95834**

**Site 7 of 8 in cluster A**

**Actual:** **14 ft.**
**Focus Map: 5**

NPDES:

| | |
|---|---|
| Name: | NARINDER THANDI |
| Address: | 3930 EL CENTRO ROAD |
| City,State,Zip: | SACRAMENTO, CA 95834 |
| Facility Status: | Not reported |
| NPDES Number: | Not reported |
| Region: | Not reported |
| Agency Number: | Not reported |
| Regulatory Measure ID: | Not reported |
| Place ID: | Not reported |
| Order Number: | Not reported |
| WDID: | 5S34IN602818 |
| Regulatory Measure Type: | Industrial |
| Program Type: | Not reported |
| Adoption Date Of Regulatory Measure: | Not reported |
| Effective Date Of Regulatory Measure: | Not reported |
| Termination Date Of Regulatory Measure: | Not reported |
| Expiration Date Of Regulatory Measure: | Not reported |
| Discharge Address: | Not reported |
| Discharge Name: | Not reported |

**NARINDER THANDI (Continued)** **S122248491**

| | |
|---|---|
| Discharge City: | Not reported |
| Discharge State: | Not reported |
| Discharge Zip: | Not reported |
| Status: | Undetermined |
| Status Date: | 03/25/2015 |
| Operator Name: | Narinder Thandi |
| Operator Address: | Not reported |
| Operator City: | Not reported |
| Operator State: | Not reported |
| Operator Zip: | Not reported |

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**A8** **NARINDER THANDI** **FINDS** **1023689233**
**Target** **3930 EL CENTRO ROAD** **ECHO** **N/A**
**Property** **SACRAMENTO, CA 95834**

**Site 8 of 8 in cluster A**

**Actual:** **14 ft.**

**Focus Map:** **5**

FINDS:
Registry ID: 110070086207

Click Here:

Environmental Interest/Information System:
US National Pollutant Discharge Elimination System (NPDES) module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

| | |
|---|---|
| Envid: | 1023689233 |
| Registry ID: | 110070086207 |
| DFR URL: | http://echo.epa.gov/detailed-facility-report?fid=110070086207 |
| Name: | NARINDER THANDI |
| Address: | 3930 EL CENTRO ROAD |
| City,State,Zip: | SACRAMENTO, CA 95834 |

---

**B9** **FORMER JOHNSON RANCH** **CERS** **S124438208**
**Target** **3800 GARDEN HIGHWAY** **N/A**
**Property** **SACRAMENTO COUNTY, CA 95834**

**Site 1 of 2 in cluster B**

**Actual:** **22 ft.**

**Focus Map:** **4**

CERS:

| | |
|---|---|
| Name: | FORMER JOHNSON RANCH |
| Address: | 3800 GARDEN HIGHWAY |
| City,State,Zip: | SACRAMENTO COUNTY, CA 95834 |
| Site ID: | 522247 |
| CERS ID: | T10000012933 |
| CERS Description: | Cleanup Program Site |

**FORMER JOHNSON RANCH (Continued)** **S124438208**

Affiliation:
Affiliation Type Desc: Local Agency Caseworker
Entity Name: DAVID VON ASPERN - SACRAMENTO COUNTY LOP
Entity Title: Not reported
Affiliation Address: 10590 ARMSTRONG AVENUE, SUITE A
Affiliation City: MATHER
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

---

**B10 Target Property** **FORMER JOHNSON RANCH**
**3800 GARDEN HIGHWAY**
**SACRAMENTO COUNTY, CA 95834**

**CPS-SLIC** **S124384734**
**Sacramento Co. CS** **N/A**

**Site 2 of 2 in cluster B**

**Actual: 22 ft.**

**Focus Map: 4**

CPS-SLIC:
Name: FORMER JOHNSON RANCH
Address: 3800 GARDEN HIGHWAY
City,State,Zip: SACRAMENTO COUNTY, CA 95834
Region: STATE
**Facility Status:** **Completed - Case Closed**
Status Date: 07/31/2020
Global Id: T10000012933
Lead Agency: SACRAMENTO COUNTY LOP
Lead Agency Case Number: D226 RO 1722
Latitude: 38.63634
Longitude: -121.55848
Case Type: Cleanup Program Site
Case Worker: DVA
Local Agency: SACRAMENTO COUNTY LOP
RB Case Number: Not reported
File Location: Local Agency
Potential Media Affected: Other Groundwater (uses other than drinking water), Soil
Potential Contaminants of Concern: Lead, Gasoline, Total Petroleum Hydrocarbons (TPH), Waste Oil / Motor / Hydraulic / Lubricating
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Sacramento Co. CS:
Name: FORMER JOHNSON RANCH
Address: 3800 GARDEN HWY
City,State,Zip: SACRAMENTO, CA
State Site Number: D226
Lead Staff: VonAspern, D.
Lead Agency: HM
Remedial Action Taken: NO
Substance: Not reported
Date Reported: Not reported
Facility Id: RO0001722
Case Type: Other ground water affected
Case Closed: Not reported
**Date Closed:** **Not reported**
**Case Type:** **Other Groundwater affected (uses other than drinking water)**

**FORMER JOHNSON RANCH (Continued)** **S124384734**

**Substance:** **Not reported**

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**11** **DHILLONS RANCH** **Sacramento Co. ML** **S111075600**
**Target** **3751 EL CENTRO RD** **N/A**
**Property** **SACRAMENTO, CA 95834**

**Actual:** **16 ft.**
**Focus Map:** **5**

Sacramento Co. ML:

| | |
|---|---|
| Name: | DHILLONS RANCH |
| Address: | 3751 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95834 |
| Facility Id: | Not reported |
| Facility Status: | Not reported |
| FD: | Not reported |
| Billing Codes BP: | I |
| Billing Codes UST: | Not reported |
| WG Bill Code: | Not reported |
| Target Property Bill Cod: | Not reported |
| Food Bill Code: | Not reported |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | Not reported |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

---

**C12** **FARM** **AST** **S101590723**
**Target** **3705 EL CENTRO RD** **CERS HAZ WASTE** **N/A**
**Property** **SACRAMENTO, CA 95834** **SWEEPS UST**
**CA FID UST**

**Site 1 of 10 in cluster C** **CERS**

**Actual:** **18 ft.**
**Focus Map:** **5**

AST:

| | |
|---|---|
| Name: | PERRY FARMS |
| Address: | 3705 EL CENTRO RD |
| City/Zip: | SACRAMENTO,95834 |
| Certified Unified Program Agencies: | Not reported |
| Owner: | JOE PERRY |
| Total Gallons: | Not reported |
| CERSID: | 10493383 |
| Facility ID: | FA0045389 |
| Business Name: | PERRY FARMS |
| Phone: | 9169250979 |
| Fax: | Not reported |
| Mailing Address: | 3705 EL CENTRO ROAD |
| Mailing Address City: | SACRAMENTO |
| Mailing Address State: | CA |
| Mailing Address Zip Code: | 95834 |
| Operator Name: | JOE PERRY |
| Operator Phone: | 9169520020 |

**FARM (Continued)** **S101590723**

Owner Phone: 9169250979
Owner Mail Address: 3705 EL CENTRO ROAD
Owner State: CA
Owner Zip Code: 95834
Owner Country: United States
Property Owner Name: Not reported
Property Owner Phone: Not reported
Property Owner Mailing Address: Not reported
Property Owner City: Not reported
Property Owner Stat : Not reported
Property Owner Zip Code: Not reported
Property Owner Country: Not reported
EPAID: Cal000360845

CERS HAZ WASTE:
Name: PERRY FARMS
Address: 3705 EL CENTRO RD
City,State,Zip: SACRAMENTO, CA 95834
Site ID: 399291
CERS ID: 10493383
CERS Description: Hazardous Waste Generator

SWEEPS UST:
Name: FARM
Address: 3705 EL CENTRO RD
City: SACRAMENTO
Status: Not reported
Comp Number: 1188
Number: Not reported
Board Of Equalization: 44-018683
Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported
Owner Tank Id: Not reported
SWRCB Tank Id: 34-000-001188-000001
Tank Status: Not reported
Capacity: 1000
Active Date: Not reported
Tank Use: M.V. FUEL
STG: PRODUCT
Content: LEADED
Number Of Tanks: 1

CA FID UST:
Facility ID: 34006626
Regulated By: UTNKI
Regulated ID: 00001188
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 9169295910
Mail To: Not reported
Mailing Address: 3705 EL CENTRO RD
Mailing Address 2: Not reported
Mailing City,St,Zip: SACRAMENTO 95834
Contact: Not reported
Contact Phone: Not reported

**FARM (Continued)** **S101590723**

DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Inactive

CERS:
Name: PERRY FARMS
Address: 3705 EL CENTRO RD
City,State,Zip: SACRAMENTO, CA 95834
Site ID: 399291
CERS ID: 10493383
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 399291
Site Name: PERRY FARMS
Violation Date: 6/6/2019
Citation: HSC 6.5 25123.3(c)25123.3(h)(1)(C) - California Health and Safety Code, Chapter 6.5 , Section(s) 25123.3(c)25123.3(h)(1)(C)
Violation Description: Failure to send hazardous waste offsite for treatment, storage, or disposal of acute/extremely hazardous waste after the first 1-kilogram threshold amount was accumulated within a 90 day period.
Violation Notes: Returned to compliance on 06/10/2019. facility has not disposed of used oil and oil filters since 2016 at time of inspection.
Violation Division: Sacramento County Env Management Department
Violation Program: HW
Violation Source: CERS

Site ID: 399291
Site Name: PERRY FARMS
Violation Date: 6/9/2016
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to complete and electronically submit hazardous material inventory information for all reportable hazardous materials on site at or above reportable quantities.
Violation Notes: Returned to compliance on 06/27/2016. Waste oil (550gal), hydraulic oil (55gal), motor oil (55gal), and oxygen (275 cu ft) need to be added to chemical inventory and amount of diesel needs to be revised to 3300 gal
Violation Division: Sacramento County Env Management Department
Violation Program: HMRRP
Violation Source: CERS

Site ID: 399291
Site Name: PERRY FARMS
Violation Date: 6/6/2019
Citation: HSC 6.95 Multiple - California Health and Safety Code, Chapter 6.95, Section(s) Multiple
Violation Description: Business Plan Program - Release/Leaks/Spills - General
Violation Notes: Returned to compliance on 06/10/2019. Oily rainwater in secondary containment was observed at time of inspection.
Violation Division: Sacramento County Env Management Department
Violation Program: HMRRP
Violation Source: CERS

**FARM (Continued)** **S101590723**

Evaluation:

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 06-06-2019 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Not reported |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | HMRRP |
| Eval Source: | CERS |

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 06-06-2019 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Not reported |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | HW |
| Eval Source: | CERS |

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 06-09-2016 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Not reported |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | HW |
| Eval Source: | CERS |

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 06-09-2016 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Not reported |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | HMRRP |
| Eval Source: | CERS |

Enforcement Action:

| | |
|---|---|
| Site ID: | 399291 |
| Site Name: | PERRY FARMS |
| Site Address: | 3705 EL CENTRO RD |
| Site City: | SACRAMENTO |
| Site Zip: | 95834 |
| Enf Action Date: | 09-15-2016 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |
| Enf Action Notes: | Not reported |
| Enf Action Division: | Sacramento County Env Management Department |
| Enf Action Program: | HMRRP |
| Enf Action Source: | CERS |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | CUPA District |
| Entity Name: | Sacramento County Environmental Management Departm |
| Entity Title: | Not reported |
| Affiliation Address: | 10590 Armstrong Avenue, Suite A |

**FARM (Continued)** **S101590723**

| | |
|---|---|
| Affiliation City: | Sacramento |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 95655 |
| Affiliation Phone: | (916) 875-8550 |
| | |
| Affiliation Type Desc: | Environmental Contact |
| Entity Name: | Joe Perry |
| Entity Title: | Not reported |
| Affiliation Address: | 3705 El Centro Road |
| Affiliation City: | Sacramento |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 95834 |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Facility Mailing Address |
| Entity Name: | Mailing Address |
| Entity Title: | Not reported |
| Affiliation Address: | 3705 EL CENTRO ROAD |
| Affiliation City: | SACRAMENTO |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 95834 |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Identification Signer |
| Entity Name: | Joe Perry |
| Entity Title: | Partner |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Operator |
| Entity Name: | Joe Perry |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (916) 952-0020 |
| | |
| Affiliation Type Desc: | Document Preparer |
| Entity Name: | Joe Perry |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Legal Owner |

**FARM (Continued)** **S101590723**

| | |
|---|---|
| Entity Name: | Joe Perry |
| Entity Title: | Not reported |
| Affiliation Address: | 3705 EL CENTRO ROAD |
| Affiliation City: | SACRAMENTO |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 95834 |
| Affiliation Phone: | (916) 925-0979 |
| | |
| Affiliation Type Desc: | Parent Corporation |
| Entity Name: | PERRY FARMS |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

---

**C13** **CHMIRS** **S105668125**
**Target Property** **3705 EL CENTRO ROAD SACRAMENTO, CA** **N/A**

**Site 2 of 10 in cluster C**

**Actual:** **18 ft.**

**Focus Map:** **5**

CHMIRS:

| | |
|---|---|
| Name: | Not reported |
| Address: | 3705 EL CENTRO ROAD |
| City,State,Zip: | SACRAMENTO, CA |
| OES Incident Number: | 0-1613 |
| OES notification: | 04/07/2000 |
| OES Date: | Not reported |
| OES Time: | Not reported |
| **Date Completed:** | **Not reported** |
| Property Use: | Not reported |
| Agency Id Number: | Not reported |
| Agency Incident Number: | Not reported |
| Time Notified: | Not reported |
| Time Completed: | Not reported |
| Surrounding Area: | Not reported |
| Estimated Temperature: | Not reported |
| Property Management: | Not reported |
| More Than Two Substances Involved?: | Not reported |
| Resp Agncy Personel # Of Decontaminated: | Not reported |
| Responding Agency Personel # Of Injuries: | Not reported |
| Responding Agency Personel # Of Fatalities: | Not reported |
| Others Number Of Decontaminated: | Not reported |
| Others Number Of Injuries: | Not reported |
| Others Number Of Fatalities: | Not reported |
| Vehicle Make/year: | Not reported |
| Vehicle License Number: | Not reported |
| Vehicle State: | Not reported |
| Vehicle Id Number: | Not reported |
| CA DOT PUC/ICC Number: | Not reported |
| Company Name: | Not reported |
| Reporting Officer Name/ID: | Not reported |
| Report Date: | Not reported |

**(Continued)** **S105668125**

| | |
|---|---|
| Facility Telephone: | Not reported |
| Waterway Involved: | No |
| Waterway: | Not reported |
| Spill Site: | Not reported |
| Cleanup By: | Unknown |
| Containment: | Not reported |
| What Happened: | Not reported |
| Type: | Not reported |
| Measure: | Not reported |
| Other: | Not reported |
| Date/Time: | Not reported |
| Year: | 2000 |
| Agency: | Sacramento City FD |
| Incident Date: | 4/7/200012:00:00 AM |
| Admin Agency: | Not reported |
| Amount: | Not reported |
| Contained: | Yes |
| Site Type: | Residence,Other |
| E Date: | Not reported |
| Substance: | 24D, Herbicide |
| Gallons: | 20 |
| Unknown: | 0 |
| Substance #2: | Not reported |
| Substance #3: | Not reported |
| Evacuations: | 4 |
| Number of Injuries: | 0 |
| Number of Fatalities: | 0 |
| #1 Pipeline: | Not reported |
| #2 Pipeline: | Not reported |
| #3 Pipeline: | Not reported |
| #1 Vessel >= 300 Tons: | Not reported |
| #2 Vessel >= 300 Tons: | Not reported |
| #3 Vessel >= 300 Tons: | Not reported |
| Evacs: | Not reported |
| Injuries: | Not reported |
| Fatals: | Not reported |
| Comments: | Not reported |
| Description: | Fire in shop on a farm. Pesticides and Herbicides were in the shop. Able to test one site of the fire containing organic phosphate in the water. It was dyked off and contained. Some residences in the area were evacuated as a precautionary measure. |

---

**C14** **PERRY FARMS** **RCRA NonGen / NLR** **1024828713**
**Target** **3705 EL CENTRO RD** **CAL000360845**
**Property** **SACRAMENTO, CA 95834**

**Site 3 of 10 in cluster C**

**Actual:** **18 ft.**
**Focus Map:** **5**

RCRA NonGen / NLR:

| | | |
|---|---|---|
| Date Form Received by Agency: | | 2011-02-07 00:00:00.0 |
| Handler Name: | PERRY FARMS | |
| Handler Address: | | 3705 EL CENTRO RD |
| Handler City,State,Zip: | | SACRAMENTO, CA 95834-9610 |
| EPA ID: | | CAL000360845 |
| Contact Name: | | JOE PERRY |
| Contact Address: | | 3705 EL CENTRO RD |

**PERRY FARMS (Continued)** **1024828713**

| | |
|---|---|
| Contact City,State,Zip: | SACRAMENTO, CA 95834 |
| Contact Telephone: | 916-952-0020 |
| Contact Fax: | 000-000-0000 |
| Contact Email: | LISAP9@EARTHLINK.NET |
| Contact Title: | Not reported |
| EPA Region: | 09 |
| Land Type: | Not reported |
| Federal Waste Generator Description: | Not a generator, verified |
| Non-Notifier: | Not reported |
| Biennial Report Cycle: | Not reported |
| Accessibility: | Not reported |
| Active Site Indicator: | Handler Activities |
| State District Owner: | Not reported |
| State District: | Not reported |
| Mailing Address: | 3705 EL CENTRO RD |
| Mailing City,State,Zip: | SACRAMENTO, CA 95834-9610 |
| Owner Name: | JOE & JOAQUIN PERRY |
| Owner Type: | Other |
| Operator Name: | JOE PERRY |
| Operator Type: | Other |
| Short-Term Generator Activity: | No |
| Importer Activity: | No |
| Mixed Waste Generator: | No |
| Transporter Activity: | No |
| Transfer Facility Activity: | No |
| Recycler Activity with Storage: | No |
| Small Quantity On-Site Burner Exemption: | No |
| Smelting Melting and Refining Furnace Exemption: | No |
| Underground Injection Control: | No |
| Off-Site Waste Receipt: | No |
| Universal Waste Indicator: | Yes |
| Universal Waste Destination Facility: | Yes |
| Federal Universal Waste: | No |
| Active Site Fed-Reg Treatment Storage and Disposal Facility: | Not reported |
| Active Site Converter Treatment storage and Disposal Facility: | Not reported |
| Active Site State-Reg Treatment Storage and Disposal Facility: | Not reported |
| Active Site State-Reg Handler: | --- |
| Federal Facility Indicator: | Not reported |
| Hazardous Secondary Material Indicator: | N |
| Sub-Part K Indicator: | Not reported |
| Commercial TSD Indicator: | No |
| Treatment Storage and Disposal Type: | Not reported |
| 2018 GPRA Permit Baseline: | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | Not on the Baseline |
| Permit Renewals Workload Universe: | Not reported |
| Permit Workload Universe: | Not reported |
| Permit Progress Universe: | Not reported |
| Post-Closure Workload Universe: | Not reported |
| Closure Workload Universe: | Not reported |
| 202 GPRA Corrective Action Baseline: | No |
| Corrective Action Workload Universe: | No |
| Subject to Corrective Action Universe: | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | No |
| Corrective Action Priority Ranking: | No NCAPS ranking |
| Environmental Control Indicator: | No |

**PERRY FARMS (Continued)** **1024828713**

| | |
|---|---|
| Institutional Control Indicator: | No |
| Human Exposure Controls Indicator: | N/A |
| Groundwater Controls Indicator: | N/A |
| Operating TSDF Universe: | Not reported |
| Full Enforcement Universe: | Not reported |
| Significant Non-Complier Universe: | No |
| Unaddressed Significant Non-Complier Universe: | No |
| Addressed Significant Non-Complier Universe: | No |
| Significant Non-Complier With a Compliance Schedule Universe: | No |
| Financial Assurance Required: | Not reported |
| Handler Date of Last Change: | 2018-09-05 20:34:01.0 |
| Recognized Trader-Importer: | No |
| Recognized Trader-Exporter: | No |
| Importer of Spent Lead Acid Batteries: | No |
| Exporter of Spent Lead Acid Batteries: | No |
| Recycler Activity Without Storage: | No |
| Manifest Broker: | No |
| Sub-Part P Indicator: | No |

Handler - Owner Operator:

| | |
|---|---|
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: | JOE & JOAQUIN PERRY |
| Legal Status: | Other |
| Date Became Current: | Not reported |
| Date Ended Current: | Not reported |
| Owner/Operator Address: | 3705 EL CENTRO RD |
| Owner/Operator City,State,Zip: | SACRAMENTO, CA 95834-9610 |
| Owner/Operator Telephone: | 916-952-0020 |
| Owner/Operator Telephone Ext: | Not reported |
| Owner/Operator Fax: | Not reported |
| Owner/Operator Email: | Not reported |

| | |
|---|---|
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: | JOE PERRY |
| Legal Status: | Other |
| Date Became Current: | Not reported |
| Date Ended Current: | Not reported |
| Owner/Operator Address: | 3705 EL CENTRO RD |
| Owner/Operator City,State,Zip: | SACRAMENTO, CA 95834 |
| Owner/Operator Telephone: | 916-952-0020 |
| Owner/Operator Telephone Ext: | Not reported |
| Owner/Operator Fax: | Not reported |
| Owner/Operator Email: | Not reported |

Historic Generators:

| | |
|---|---|
| Receive Date: | 2011-02-07 00:00:00.0 |
| Handler Name: PERRY FARMS | |
| Federal Waste Generator Description: | Not a generator, verified |
| State District Owner: | Not reported |
| Large Quantity Handler of Universal Waste: | No |
| Recognized Trader Importer: | No |
| Recognized Trader Exporter: | No |
| Spent Lead Acid Battery Importer: | No |
| Spent Lead Acid Battery Exporter: | No |
| Current Record: | Yes |

**PERRY FARMS (Continued)** **1024828713**

Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

---

**C15** **VERIZON WIRELESS:RADIO ROAD** **FINDS** **1023314992**
**Target Property** **3705 EL CENTRO ROAD** **N/A**
**SACRAMENTO, CA 95834**

**Site 4 of 10 in cluster C**

**Actual: 18 ft.**
FINDS:
Registry ID: 110066080984

**Focus Map: 5**
Click Here:

Environmental Interest/Information System:
STATE MASTER

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

---

**C16** **PERRY FARMS** **FINDS** **1023257488**
**Target Property** **3705 EL CENTRO RD** **ECHO** **N/A**
**SACRAMENTO, CA 95834**

**Site 5 of 10 in cluster C**

**Actual: 18 ft.**
FINDS:
Registry ID: 110065466301

**Focus Map: 5**
Click Here:

Environmental Interest/Information System:
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.
STATE MASTER

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1023257488
Registry ID: 110065466301

**PERRY FARMS (Continued)** **1023257488**

| | |
|---|---|
| DFR URL: | http://echo.epa.gov/detailed-facility-report?fid=110065466301 |
| Name: | PERRY FARMS |
| Address: | 3705 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95834 |

---

**C17** **VERIZON WIRELESS RADIO ROAD** **Sacramento Co. ML** **S118559099**
**Target** **3705 EL CENTRO RD** **N/A**
**Property** **SACRAMENTO, CA 95834**

**Site 6 of 10 in cluster C**

**Actual:** **18 ft.**
**Focus Map:** **5**

Sacramento Co. ML:

| | |
|---|---|
| Name: | VERIZON WIRELESS RADIO ROAD |
| Address: | 3705 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95834 |
| Facility Id: | Not reported |
| Facility Status: | Not reported |
| FD: | Not reported |
| Billing Codes BP: | A |
| Billing Codes UST: | Not reported |
| WG Bill Code: | Not reported |
| Target Property Bill Cod: | Not reported |
| Food Bill Code: | Not reported |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | Not reported |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

---

**C18** **WILBERT ROSA** **Sacramento Co. ML** **S123295424**
**Target** **3705 EL CENTRO RD** **N/A**
**Property** **SACRAMENTO, CA 95834**

**Site 7 of 10 in cluster C**

**Actual:** **18 ft.**
**Focus Map:** **5**

Sacramento Co. ML:

| | |
|---|---|
| Name: | WILBERT ROSA |
| Address: | 3705 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95834 |
| Facility Id: | U0001486 |
| Facility Status: | Inactive. Included on a listing no longer updated. |
| FD: | U |
| Billing Codes BP: | Disclaimer |
| Billing Codes UST: | No Tanks |
| WG Bill Code: | Oil Changed by Outside Company-No Fee |
| Target Property Bill Cod: | 50 |
| Food Bill Code: | 50 |
| CUPA Permit Date: | Not reported |

**WILBERT ROSA (Continued)** **S123295424**

| | |
|---|---|
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | 08/03/1989 |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | 0 |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

---

**C19** **WILBERT ROSA** **HIST UST** **U001615969**
**Target** **3705 EL CENTRO RD** **N/A**
**Property** **SACRAMENTO, CA 95834**

**Site 8 of 10 in cluster C**

**Actual:** **18 ft.**

**Focus Map:** **5**

HIST UST:

| | |
|---|---|
| Name: | WILHERT ROSA |
| Address: | 3705 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95834 |
| File Number: | 0002961E |
| URL: | http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002961E.pdf |
| Region: | STATE |
| Facility ID: | 00000001188 |
| Facility Type: | Other |
| Other Type: | HOME |
| Contact Name: | Not reported |
| Telephone: | 0000000000 |
| Owner Name: | WILHERT ROSA |
| Owner Address: | 3705 EL CENTRO RD |
| Owner City,St,Zip: | SACRAMENTO, CA 95834 |
| Total Tanks: | 0001 |
| | |
| Tank Num: | 001 |
| Container Num: | 1 |
| Year Installed: | Not reported |
| Tank Capacity: | 00000000 |
| Tank Used for: | PRODUCT |
| Type of Fuel: | REGULAR |
| Container Construction Thickness: | Not reported |
| Leak Detection: | None |

Click here for Geo Tracker PDF:

**C20** **PERRY FARMS** **Sacramento Co. ML** **S123293334**
**Target** **3705 EL CENTRO RD** **HWTS** **N/A**
**Property** **SACRAMENTO, CA 95834**

**Site 9 of 10 in cluster C**

**Actual:**
**18 ft.**

**Focus Map:**
**5**

Sacramento Co. ML:

| | |
|---|---|
| Name: | PERRY FARMS |
| Address: | 3705 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95834 |
| Facility Id: | Not reported |
| Facility Status: | Not reported |
| FD: | Not reported |
| Billing Codes BP: | A |
| Billing Codes UST: | Not reported |
| WG Bill Code: | A |
| Target Property Bill Cod: | Not reported |
| Food Bill Code: | Not reported |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | Not reported |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

HWTS:

| | |
|---|---|
| Name: | PERRY FARMS |
| Address: | 3705 EL CENTRO RD |
| Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 958349610 |
| EPA ID: | CAL000360845 |
| Inactive Date: | Not reported |
| Create Date: | 02/07/2011 |
| Last Act Date: | 08/05/2020 |
| Mailing Name: | Not reported |
| Mailing Address: | 3705 EL CENTRO RD |
| Mailing Address 2: | Not reported |
| Mailing City,State,Zip: | SACRAMENTO, CA 958349610 |
| Owner Name: | JOE & JOAQUIN PERRY |
| Owner Address: | 3705 EL CENTRO RD |
| Owner Address 2: | Not reported |
| Owner City,State,Zip: | SACRAMENTO, CA 958349610 |
| Contact Name: | JOE PERRY |
| Contact Address: | 3705 EL CENTRO RD |
| Contact Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 95834 |

NAICS:

| | |
|---|---|
| EPA ID: | CAL000360845 |
| Create Date: | 2011-02-07 08:56:40.277 |
| NAICS Code: | 99999 |
| NAICS Description: | Not Otherwise Specified |

**PERRY FARMS (Continued)** **S123293334**

| | |
|---|---|
| Issued EPA ID Date: | 2011-02-07 08:56:40.24700 |
| Inactive Date: | Not reported |
| Facility Name: | PERRY FARMS |
| Facility Address: | 3705 EL CENTRO RD |
| Facility Address 2: | Not reported |
| Facility City: | SACRAMENTO |
| Facility County: | Not reported |
| Facility State: | CA |
| Facility Zip: | 958349610 |

---

**C21** **VERIZON WIRELESS RADIO ROAD** **CERS** **S121777188**
**Target** **3705 EL CENTRO ROAD** **N/A**
**Property** **SACRAMENTO, CA 95834**

**Site 10 of 10 in cluster C**

**Actual:**
**18 ft.**

**Focus Map:**
**5**

CERS:

| | |
|---|---|
| Name: | VERIZON WIRELESS RADIO ROAD |
| Address: | 3705 EL CENTRO ROAD |
| City,State,Zip: | SACRAMENTO, CA 95834 |
| Site ID: | 406360 |
| CERS ID: | 10593673 |
| CERS Description: | Chemical Storage Facilities |

Evaluation:

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 08-28-2019 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | NOTE: No violations observed at time of inspection. |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | HMRRP |
| Eval Source: | CERS |

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 08-04-2016 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | No violations observed this date. |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | HMRRP |
| Eval Source: | CERS |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | CUPA District |
| Entity Name: | Sacramento County Environmental Management Departm |
| Entity Title: | Not reported |
| Affiliation Address: | 10590 Armstrong Avenue, Suite A |
| Affiliation City: | Sacramento |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 95655 |
| Affiliation Phone: | (916) 875-8550 |

| | |
|---|---|
| Affiliation Type Desc: | Document Preparer |
| Entity Name: | Steve Skanderson |
| Entity Title: | Not reported |

**VERIZON WIRELESS RADIO ROAD (Continued)** **S121777188**

| | |
|---|---|
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Environmental Contact |
| Entity Name: | Environmental Compliance |
| Entity Title: | Not reported |
| Affiliation Address: | 295 Parkshore Drive |
| Affiliation City: | Folsom |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 95630 |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Facility Mailing Address |
| Entity Name: | Mailing Address |
| Entity Title: | Not reported |
| Affiliation Address: | 295 Parkshore Drive |
| Affiliation City: | Folsom |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 95630 |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Legal Owner |
| Entity Name: | Verizon Wireless |
| Entity Title: | Not reported |
| Affiliation Address: | 295 Parkshore Drive |
| Affiliation City: | Folsom |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 95630 |
| Affiliation Phone: | (866) 694-2415 |
| | |
| Affiliation Type Desc: | Identification Signer |
| Entity Name: | armand delgado |
| Entity Title: | environmental compliance mgr |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Parent Corporation |
| Entity Name: | Verizon Wireless [Northern California] |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

**VERIZON WIRELESS RADIO ROAD (Continued)** **S121777188**

| | |
|---|---|
| Affiliation Type Desc: | Operator |
| Entity Name: | Verizon Wireless |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (866) 694-2415 |

---

**D22** **GARY ALVERNAZ TRUST PROPERTY** **RGA LUST** **S114625723**
**Target** **3650 EL CENTRO** **N/A**
**Property** **SACRAMENTO, CA**

**Site 1 of 6 in cluster D**

**Actual:** **15 ft.**
**Focus Map:** **5**

RGA LUST:

| | | | |
|---|---|---|---|
| Name: | GARY ALVERNAZ TRUST PROPERTY | | |
| Address: | 3650 EL CENTRO | | |
| City: | SACRAMENTO | | |
| State: | SACRAMENTO | | |
| | 2009 | GARY ALVERNAZ TRUST PROPERTY | 3650 EL CENTRO |
| Name: | GARY ALVERNAZ TRUST PROPERTY | | |
| Address: | 3650 EL CENTRO | | |
| City: | SACRAMENTO | | |
| State: | SACRAMENTO | | |
| | 2008 | GARY ALVERNAZ TRUST PROPERTY | 3650 EL CENTRO |
| Name: | GARY ALVERNAZ TRUST PROPERTY | | |
| Address: | 3650 EL CENTRO | | |
| City: | SACRAMENTO | | |
| State: | SACRAMENTO | | |
| | 2007 | GARY ALVERNAZ TRUST PROPERTY | 3650 EL CENTRO |

---

**D23** **GARY ALVERNAZ ENT** **HAZNET** **S113060352**
**Target** **3650 EL CENTRO RD** **HWTS** **N/A**
**Property** **SACRAMENTO, CA 95834**

**Site 2 of 6 in cluster D**

**Actual:** **15 ft.**
**Focus Map:** **5**

HAZNET:

| | |
|---|---|
| Name: | GARY ALVERNAZ ENT |
| Address: | 3650 EL CENTRO RD |
| Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 958340000 |
| Contact: | GARY ALVERNAZ |
| Telephone: | 9169250697 |
| Mailing Name: | Not reported |
| Mailing Address: | 3650 EL CENTRO RD |
| | |
| Year: | 2005 |
| Gepaid: | CAL000101003 |
| TSD EPA ID: | CAD044003556 |
| CA Waste Code: | 223 - Unspecified oil-containing waste |
| Disposal Method: | H01 - Transfer Station |
| Tons: | 5.421 |

**GARY ALVERNAZ ENT (Continued)** **S113060352**

| | |
|---|---|
| Year: | 2005 |
| Gepaid: | CAL000101003 |
| TSD EPA ID: | CAT080033681 |
| CA Waste Code: | 291 - Latex waste |
| Disposal Method: | R01 - Recycler |
| Tons: | 0.2085 |

| | |
|---|---|
| Year: | 2005 |
| Gepaid: | CAL000101003 |
| TSD EPA ID: | CAD008252405 |
| CA Waste Code: | 331 - Off-specification, aged or surplus organics |
| Disposal Method: | R01 - Recycler |
| Tons: | 0.231 |

| | |
|---|---|
| Year: | 2005 |
| Gepaid: | CAL000101003 |
| TSD EPA ID: | CAT080033681 |
| CA Waste Code: | 223 - Unspecified oil-containing waste |
| Disposal Method: | D80 - Disposal, Land Fill |
| Tons: | 0.3753 |

| | |
|---|---|
| Year: | 2005 |
| Gepaid: | CAL000101003 |
| TSD EPA ID: | CAT080033681 |
| CA Waste Code: | 291 - Latex waste |
| Disposal Method: | D80 - Disposal, Land Fill |
| Tons: | 0.07506 |

Additional Info:

| | |
|---|---|
| Year: | 2005 |
| Gen EPA ID: | CAL000101003 |

| | |
|---|---|
| Shipment Date: | 20051021 |
| Creation Date: | 7/12/2006 18:30:47 |
| Receipt Date: | 20051027 |
| Manifest ID: | 23813314 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD008252405 |
| Trans Name: | PACIFIC RESOURCE RECOVERY |
| TSDF Alt EPA ID: | CAD008252405 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D001 |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.231 |
| Waste Quantity: | 70 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

**GARY ALVERNAZ ENT (Continued)** **S113060352**

| | |
|---|---|
| Shipment Date: | 20051021 |
| Creation Date: | 1/2/2007 18:30:32 |
| Receipt Date: | 20051027 |
| Manifest ID: | 24882843 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080033681 |
| Trans Name: | D/K ENVIRONMENTAL |
| TSDF Alt EPA ID: | CAT080033681 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | D80 - Disposal, Land Fill |
| Quantity Tons: | 0.3336 |
| Waste Quantity: | 80 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20051021 |
| Creation Date: | 1/2/2007 18:30:32 |
| Receipt Date: | 20051027 |
| Manifest ID: | 24882843 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080033681 |
| Trans Name: | D/K ENVIRONMENTAL |
| TSDF Alt EPA ID: | CAT080033681 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 291 - Latex waste |
| RCRA Code: | Not reported |
| Meth Code: | D80 - Disposal, Land Fill |
| Quantity Tons: | 0.07506 |
| Waste Quantity: | 18 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20051021 |
| Creation Date: | 1/2/2007 18:30:32 |
| Receipt Date: | 20051027 |
| Manifest ID: | 24882843 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080033681 |

**GARY ALVERNAZ ENT (Continued)** **S113060352**

| | |
|---|---|
| Trans Name: | D/K ENVIRONMENTAL |
| TSDF Alt EPA ID: | CAT080033681 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | D80 - Disposal, Land Fill |
| Quantity Tons: | 0.0417 |
| Waste Quantity: | 10 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20051021 |
| Creation Date: | 1/2/2007 18:30:32 |
| Receipt Date: | 20051027 |
| Manifest ID: | 24882843 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080033681 |
| Trans Name: | D/K ENVIRONMENTAL |
| TSDF Alt EPA ID: | CAT080033681 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 291 - Latex waste |
| RCRA Code: | Not reported |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.2085 |
| Waste Quantity: | 50 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20051004 |
| Creation Date: | 1/2/2007 18:30:20 |
| Receipt Date: | 20051005 |
| Manifest ID: | 24777630 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| TSDF Alt EPA ID: | CAD044003556 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 5.421 |
| Waste Quantity: | 1300 |
| Quantity Unit: | G |

**GARY ALVERNAZ ENT (Continued)** **S113060352**

Additional Code 1: Not reported
Additional Code 2: Not reported
Additional Code 3: Not reported
Additional Code 4: Not reported
Additional Code 5: Not reported

HWTS:
Name: GARY ALVERNAZ ENT
Address: 3650 EL CENTRO RD
Address 2: Not reported
City,State,Zip: SACRAMENTO, CA 958340000
EPA ID: CAL000101003
Inactive Date: 06/30/2006
Create Date: 08/05/1997
Last Act Date: 12/04/2006
Mailing Name: Not reported
Mailing Address: 3650 EL CENTRO RD
Mailing Address 2: Not reported
Mailing City,State,Zip: SACRAMENTO, CA 958340000
Owner Name: GARY ALVERNAZ
Owner Address: 3650 EL CENTRO RD
Owner Address 2: Not reported
Owner City,State,Zip: SACRAMENTO, CA 958340000
Contact Name: GARY ALVERNAZ
Contact Address: 3650 EL CENTRO RD
Contact Address 2: Not reported
City,State,Zip: SACRAMENTO, CA 958340000

NAICS:
EPA ID: CAL000101003
Create Date: 2005-02-10 11:40:20.760
NAICS Code: 11531
NAICS Description: Support Activities for Forestry
Issued EPA ID Date: 1997-08-05 00:00:00
Inactive Date: 2006-06-30 00:00:00
Facility Name: GARY ALVERNAZ ENT
Facility Address: 3650 EL CENTRO RD
Facility Address 2: Not reported
Facility City: SACRAMENTO
Facility County: Not reported
Facility State: CA
Facility Zip: 958340000

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**D24** **GARY ALVERNAZ TRUST PROPERTY** **LUST** **S108723473**
**Target** **3650 EL CENTRO** **Sacramento Co. CS** **N/A**
**Property** **SACRAMENTO, CA 95834**

**Site 3 of 6 in cluster D**

**Actual:** **15 ft.**
**Focus Map:** **5**

LUST REG 5:
Name: GARY ALVERNAZ TRUST PROPERTY
Address: 3650 EL CENTRO
City: SACRAMENTO
Region: 5
Status: Leak being confirmed
Case Number: Not reported
Case Type: Drinking Water Aquifer affected

**GARY ALVERNAZ TRUST PROPERTY (Continued)** **S108723473**

Substance: Not reported
Staff Initials: VJF
Lead Agency: Local
Program: LUST
MTBE Code: N/A

Sacramento Co. CS:
Name: GARYALVERNAZ TRUST PROPERTY
Address: 3650 EL CENTRO RD
City,State,Zip: SACRAMENTO, CA
State Site Number: G088
Lead Staff: VonAspern, D.
Lead Agency: HM
Remedial Action Taken: NO
Substance: Not reported
Date Reported: Not reported
Facility Id: RO0001627
Case Type: Other ground water affected
Case Closed: Y
**Date Closed: 11/21/2006**
**Case Type: Other Groundwater affected (uses other than drinking water)**
**Substance: Not reported**

---

**D25** **BAYER CROP SCIENCE** **HAZNET** **S123582446**
**Target** **3650 EL CENTRO RD** **HWTS** **N/A**
**Property** **SACRAMENTO, CA 95834**

**Site 4 of 6 in cluster D**

**Actual:** **15 ft.**

**Focus Map:** **5**

HAZNET:
Name: BAYER CROP SCIENCE
Address: 3650 EL CENTRO RD
Address 2: Not reported
City,State,Zip: SACRAMENTO, CA 95834
Contact: BOB AUSTIN
Telephone: 9169255225
Mailing Name: Not reported
Mailing Address: 3650 EL CENTRO RD

Year: 2005
Gepaid: CAC002597374
TSD EPA ID: CAT080014079
CA Waste Code: 331 - Off-specification, aged or surplus organics
Disposal Method: H01 - Transfer Station
Tons: 0.0425

Additional Info:
Year: 2005
Gen EPA ID: CAC002597374

Shipment Date: 20051128
Creation Date: 1/4/2007 18:30:12
Receipt Date: 20051201
Manifest ID: 24389828
Trans EPA ID: NJD080631369
Trans Name: ONYX ENVIRONMENTAL SVCS LLC

**BAYER CROP SCIENCE (Continued)** **S123582446**

| | |
|---|---|
| Trans 2 EPA ID: | CAT000624247 |
| Trans 2 Name: | MP ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAT080014079 |
| Trans Name: | ONYX ENVIRONMENTAL SERVICES LLC |
| TSDF Alt EPA ID: | CAT080014079 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | P070 |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.0425 |
| Waste Quantity: | 85 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

HWTS:

| | |
|---|---|
| Name: | BAYER CROP SCIENCE |
| Address: | 3650 EL CENTRO RD |
| Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 95834 |
| EPA ID: | CAC002597374 |
| Inactive Date: | 05/08/2006 |
| Create Date: | 11/08/2005 |
| Last Act Date: | 11/08/2005 |
| Mailing Name: | Not reported |
| Mailing Address: | 3650 EL CENTRO RD |
| Mailing Address 2: | Not reported |
| Mailing City,State,Zip: | SACRAMENTO, CA 95834 |
| Owner Name: | BAYER CROP SCIENCE |
| Owner Address: | 3650 EL CENTRO RD |
| Owner Address 2: | Not reported |
| Owner City,State,Zip: | SACRAMENTO, CA 95834 |
| Contact Name: | BOB AUSTIN |
| Contact Address: | 3650 EL CENTRO RD |
| Contact Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 95834 |

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**D26** **PETERSON PACIFIC CORP** **Sacramento Co. ML** **S123293350**
**Target** **3650 EL CENTRO RD** **N/A**
**Property** **SACRAMENTO, CA 95834**

**Site 5 of 6 in cluster D**

**Actual:** **15 ft.**

**Focus Map:** **5**

Sacramento Co. ML:

| | |
|---|---|
| Name: | PETERSON PACIFIC CORP |
| Address: | 3650 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95834 |
| Facility Id: | Not reported |
| Facility Status: | Not reported |
| FD: | Not reported |
| Billing Codes BP: | I |
| Billing Codes UST: | Not reported |
| WG Bill Code: | I |
| Target Property Bill Cod: | Not reported |

**PETERSON PACIFIC CORP (Continued)** **S123293350**

| | |
|---|---|
| Food Bill Code: | Not reported |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | Not reported |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

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**D27** **JODY'S WATER TRUCK** **Sacramento Co. ML** **S123292081**
**Target** **3650 EL CENTRO RD** **N/A**
**Property** **SACRAMENTO, CA 95834**

**Site 6 of 6 in cluster D**

**Actual:** **15 ft.**

**Focus Map:** **5**

Sacramento Co. ML:

| | |
|---|---|
| Name: | JODY'S WATER TRUCK |
| Address: | 3650 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95834 |
| Facility Id: | Not reported |
| Facility Status: | Not reported |
| FD: | Not reported |
| Billing Codes BP: | I |
| Billing Codes UST: | Not reported |
| WG Bill Code: | Not reported |
| Target Property Bill Cod: | Not reported |
| Food Bill Code: | Not reported |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | Not reported |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

**28** **PRIVATE RESIDENCE** **LUST** **S110654988**
**Target** **PRIVATE RESIDENCE** **N/A**
**Property** **SACRAMENTO, CA 95834**

**Actual:**
**16 ft.**

**Focus Map:**
**5**

LUST:

| | |
|---|---|
| Name: | PRIVATE RESIDENCE |
| Address: | PRIVATE RESIDENCE |
| City,State,Zip: | SACRAMENTO, CA 95834 |
| Lead Agency: | SACRAMENTO COUNTY LOP |
| Case Type: | LUST Cleanup Site |
| Geo Track: | http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0606748466 |
| Global Id: | T0606748466 |
| Latitude: | 38.633809 |
| Longitude: | -121.539493 |
| Status: | Completed - Case Closed |
| Status Date: | 02/22/2016 |
| Case Worker: | DVA |
| RB Case Number: | 341501 |
| Local Agency: | SACRAMENTO COUNTY LOP |
| File Location: | Local Agency |
| Local Case Number: | G088/RO 1627 |
| Potential Media Affect: | Other Groundwater (uses other than drinking water), Soil |
| Potential Contaminants of Concern: | Diesel, Gasoline, Benzene |
| Site History: | A complete site history is available within several documents already uploaded to GeoTracker website. Please click on the "Site Maps / Documents" tab. |

LUST:

| | |
|---|---|
| Global Id: | T0606748466 |
| Contact Type: | Local Agency Caseworker |
| Contact Name: | DAVID VON ASPERN |
| Organization Name: | SACRAMENTO COUNTY LOP |
| Address: | 10590 ARMSTRONG AVENUE, SUITE A |
| City: | MATHER |
| Email: | vonaspernd@saccounty.net |
| Phone Number: | Not reported |

| | |
|---|---|
| Global Id: | T0606748466 |
| Contact Type: | Regional Board Caseworker |
| Contact Name: | VERA FISCHER |
| Organization Name: | CENTRAL VALLEY RWQCB (REGION 5S) |
| Address: | 11020 SUN CENTER DRIVE #200 |
| City: | RANCHO CORDOVA |
| Email: | vera.fischer@waterboards.ca.gov |
| Phone Number: | Not reported |

LUST:

| | |
|---|---|
| Global Id: | T0606748466 |
| Action Type: | ENFORCEMENT |
| Date: | 06/19/2013 |
| Action: | Technical Correspondence / Assistance / Other |

| | |
|---|---|
| Global Id: | T0606748466 |
| Action Type: | ENFORCEMENT |
| Date: | 12/20/2012 |
| Action: | File review |

| | |
|---|---|
| Global Id: | T0606748466 |
| Action Type: | ENFORCEMENT |

**PRIVATE RESIDENCE (Continued)** **S110654988**

Date: 04/11/2013
Action: Staff Letter

Global Id: T0606748466
Action Type: Other
Date: 02/09/2007
Action: Leak Reported

Global Id: T0606748466
Action Type: ENFORCEMENT
Date: 05/27/2009
Action: Verbal Enforcement

Global Id: T0606748466
Action Type: ENFORCEMENT
Date: 03/31/2009
Action: Technical Correspondence / Assistance / Other

Global Id: T0606748466
Action Type: ENFORCEMENT
Date: 03/04/2014
Action: Staff Letter

Global Id: T0606748466
Action Type: ENFORCEMENT
Date: 09/15/2011
Action: File review

Global Id: T0606748466
Action Type: ENFORCEMENT
Date: 02/19/2016
Action: Closure/No Further Action Letter

Global Id: T0606748466
Action Type: ENFORCEMENT
Date: 07/12/2010
Action: Meeting

Global Id: T0606748466
Action Type: ENFORCEMENT
Date: 12/03/2015
Action: Notification - Public Notice of Case Closure

Global Id: T0606748466
Action Type: RESPONSE
Date: 07/07/2015
Action: Site Assessment Report

Global Id: T0606748466
Action Type: RESPONSE
Date: 07/07/2015
Action: Site Assessment Report

Global Id: T0606748466
Action Type: Other
Date: 06/21/2006
Action: Leak Discovery

**PRIVATE RESIDENCE (Continued)** **S110654988**

Global Id: T0606748466
Action Type: RESPONSE
Date: 03/04/2014
Action: Request for Closure - Regulator Responded

Global Id: T0606748466
Action Type: RESPONSE
Date: 09/03/2013
Action: Soil and Water Investigation Workplan - Regulator Responded

Global Id: T0606748466
Action Type: RESPONSE
Date: 11/06/2014
Action: Request for Closure - Regulator Responded

Global Id: T0606748466
Action Type: RESPONSE
Date: 02/17/2016
Action: Request for Closure - Regulator Responded

Global Id: T0606748466
Action Type: ENFORCEMENT
Date: 02/09/2007
Action: Notice of Responsibility

Global Id: T0606748466
Action Type: RESPONSE
Date: 03/04/2014
Action: Correspondence - Regulator Responded

Global Id: T0606748466
Action Type: REMEDIATION
Date: 06/21/2007
Action: Not reported

Global Id: T0606748466
Action Type: REMEDIATION
Date: 01/01/2008
Action: Excavation

Global Id: T0606748466
Action Type: ENFORCEMENT
Date: 08/19/2013
Action: Staff Letter

LUST:
Global Id: T0606748466
Status: Open - Case Begin Date
Status Date: 06/21/2006

Global Id: T0606748466
Status: Open - Site Assessment
Status Date: 06/21/2007

Global Id: T0606748466
Status: Open - Eligible for Closure
Status Date: 01/30/2015

**PRIVATE RESIDENCE (Continued)** **S110654988**

Global Id: T0606748466
Status: Completed - Case Closed
Status Date: 02/22/2016

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**29** **JIMICO** **Sacramento Co. ML** **S105268771**
**Target Property** **2929 EL CENTRO RD** **N/A**
**SACRAMENTO, CA 95833**

**Actual:** **14 ft.**
**Focus Map: 8**

Sacramento Co. ML:

| | |
|---|---|
| Name: | JIMICO |
| Address: | 2929 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Facility Id: | Not reported |
| Facility Status: | Inactive. Included on a listing no longer updated. |
| FD: | U |
| Billing Codes BP: | Out of Business |
| Billing Codes UST: | No Tanks |
| WG Bill Code: | Oil Changed by Outside Company-No Fee |
| Target Property Bill Cod: | 51 |
| Food Bill Code: | 51 |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | 0 |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

---

**E30** **PAP MACHINERY, INC.** **ECHO** **1025946350**
**Target Property** **2850 EL CENTRO RD** **N/A**
**SACRAMENTO, CA 95833**

**Site 1 of 13 in cluster E**

**Actual:** **14 ft.**
**Focus Map: 8**

ECHO:

| | |
|---|---|
| Envid: | 1025946350 |
| Registry ID: | Not reported |
| DFR URL: | http://echo.epa.gov/detailed-facility-report?fid=CAL000291926 |
| Name: | PAP MACHINERY, INC. |
| Address: | 2850 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833-9602 |

**E31** **EMPIRE EQUIPMENT LP DBA NORTRAX** **HAZNET** **S113017755**
**Target** **2850 EL CENTRO RD** **HWTS** **N/A**
**Property** **SACRAMENTO, CA 95833**

**Site 2 of 13 in cluster E**

**Actual:** **14 ft.**

**Focus Map:** **8**

HAZNET:

| | |
|---|---|
| Name: | EMPIRE EQUIPMENT LP DBA NORTRAX |
| Address: | 2850 EL CENTRO RD |
| Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 958330000 |
| Contact: | R DENNIS BRANCH MGR REG SALES |
| Telephone: | 9169227181 |
| Mailing Name: | Not reported |
| Mailing Address: | 38600 CEDAR BLVD |
| Year: | 2006 |
| Gepaid: | CAD983596651 |
| TSD EPA ID: | CAD093459485 |
| CA Waste Code: | 213 - Hydrocarbon solvents (benzene, hexane, Stoddard, Etc.) |
| Disposal Method: | R01 - Recycler |
| Tons: | 0.06255 |
| Year: | 2005 |
| Gepaid: | CAD983596651 |
| TSD EPA ID: | CAT080033681 |
| CA Waste Code: | 352 - Other organic solids |
| Disposal Method: | D80 - Disposal, Land Fill |
| Tons: | 0.95 |
| Year: | 2005 |
| Gepaid: | CAD983596651 |
| TSD EPA ID: | CAT080033681 |
| CA Waste Code: | 791 - Liquids with pH <= 2 |
| Disposal Method: | R01 - Recycler |
| Tons: | 0.0417 |
| Year: | 2005 |
| Gepaid: | CAD983596651 |
| TSD EPA ID: | CAT080033681 |
| CA Waste Code: | 223 - Unspecified oil-containing waste |
| Disposal Method: | D80 - Disposal, Land Fill |
| Tons: | 0.05 |
| Year: | 2004 |
| Gepaid: | CAD983596651 |
| TSD EPA ID: | CAT080033681 |
| CA Waste Code: | 791 - Liquids with pH <= 2 |
| Disposal Method: | R01 - Recycler |
| Tons: | 0.00417 |
| Year: | 2004 |
| Gepaid: | CAD983596651 |
| TSD EPA ID: | CAT080033681 |
| CA Waste Code: | 352 - Other organic solids |
| Disposal Method: | D80 - Disposal, Land Fill |
| Tons: | 0.6 |
| Year: | 2004 |

**EMPIRE EQUIPMENT LP DBA NORTRAX (Continued)** **S113017755**

| | |
|---|---|
| Gepaid: | CAD983596651 |
| TSD EPA ID: | CAD008252405 |
| CA Waste Code: | 331 - Off-specification, aged or surplus organics |
| Disposal Method: | R01 - Recycler |
| Tons: | 0.198 |
| | |
| Year: | 2004 |
| Gepaid: | CAD983596651 |
| TSD EPA ID: | CAD028409019 |
| CA Waste Code: | 331 - Off-specification, aged or surplus organics |
| Disposal Method: | H01 - Transfer Station |
| Tons: | 0.0125 |
| | |
| Year: | 2003 |
| Gepaid: | CAD983596651 |
| TSD EPA ID: | CA0000084517 |
| CA Waste Code: | 134 - Aqueous solution with total organic residues less than 10 percent |
| Disposal Method: | T01 - Treatment, Tank |
| Tons: | 0.357 |
| | |
| Year: | 2001 |
| Gepaid: | CAD983596651 |
| TSD EPA ID: | CAT080033681 |
| CA Waste Code: | 134 - Aqueous solution with total organic residues less than 10 percent |
| Disposal Method: | R01 - Recycler |
| Tons: | 0.378 |

Click this hyperlink while viewing on your computer to access
9 additional CA HAZNET: record(s) in the EDR Site Report.

Additional Info:

| | |
|---|---|
| Year: | 2005 |
| Gen EPA ID: | CAD983596651 |
| | |
| Shipment Date: | 20050222 |
| Creation Date: | 5/29/2005 18:31:56 |
| Receipt Date: | 20050302 |
| Manifest ID: | 24309108 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080033681 |
| Trans Name: | D/K ENVIRONMENTAL |
| TSDF Alt EPA ID: | CAT080033681 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 791 - Liquids with pH < 2 792 Liquids with pH < 2 with metals |
| RCRA Code: | D002 |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.0417 |
| Waste Quantity: | 10 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |

**EMPIRE EQUIPMENT LP DBA NORTRAX (Continued)** **S113017755**

| | |
|---|---|
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20050222 |
| Creation Date: | 5/29/2005 18:31:56 |
| Receipt Date: | 20050302 |
| Manifest ID: | 24309108 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080033681 |
| Trans Name: | D/K ENVIRONMENTAL |
| TSDF Alt EPA ID: | CAT080033681 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | NON |
| Meth Code: | D80 - Disposal, Land Fill |
| Quantity Tons: | 0.25 |
| Waste Quantity: | 500 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20050222 |
| Creation Date: | 5/29/2005 18:31:56 |
| Receipt Date: | 20050302 |
| Manifest ID: | 24309108 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080033681 |
| Trans Name: | D/K ENVIRONMENTAL |
| TSDF Alt EPA ID: | CAT080033681 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | NA |
| Meth Code: | D80 - Disposal, Land Fill |
| Quantity Tons: | 0.05 |
| Waste Quantity: | 100 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20050112 |
| Creation Date: | 3/2/2007 18:30:13 |
| Receipt Date: | 20050119 |
| Manifest ID: | 24217265 |
| Trans EPA ID: | CAD044003556 |

**EMPIRE EQUIPMENT LP DBA NORTRAX (Continued)** **S113017755**

| | |
|---|---|
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080033681 |
| Trans Name: | D K ENVIRONMENTAL |
| TSDF Alt EPA ID: | CAT080033681 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | NA |
| Meth Code: | D80 - Disposal, Land Fill |
| Quantity Tons: | 0.7 |
| Waste Quantity: | 1400 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2003 |
| Gen EPA ID: | CAD983596651 |
| | |
| Shipment Date: | 20030512 |
| Creation Date: | 6/23/2004 9:59:25 |
| Receipt Date: | 20030513 |
| Manifest ID: | 22369394 |
| Trans EPA ID: | TXR000050930 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CA0000084517 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | CA0000084517 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 134 - Aqueous solution with <10% total organic residues |
| RCRA Code: | Not reported |
| Meth Code: | T01 - Treatment, Tank |
| Quantity Tons: | 0.1932 |
| Waste Quantity: | 46 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20030324 |
| Creation Date: | 7/12/2003 18:31:23 |
| Receipt Date: | 20030325 |
| Manifest ID: | 22449178 |
| Trans EPA ID: | TXR000050930 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CA0000084517 |
| Trans Name: | Not reported |

**EMPIRE EQUIPMENT LP DBA NORTRAX (Continued)** **S113017755**

| | |
|---|---|
| TSDF Alt EPA ID: | CA0000084517 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 134 - Aqueous solution with <10% total organic residues |
| RCRA Code: | Not reported |
| Meth Code: | T01 - Treatment, Tank |
| Quantity Tons: | 0.1638 |
| Waste Quantity: | 39 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2006 |
| Gen EPA ID: | CAD983596651 |
| Shipment Date: | 20060629 |
| Creation Date: | 9/17/2006 18:33:10 |
| Receipt Date: | 20060706 |
| Manifest ID: | 25025181 |
| Trans EPA ID: | TXR000050930 |
| Trans Name: | SAFETY KLEEN SYSTEMS INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD093459485 |
| Trans Name: | SAFETY KLEEN SYSTEMS INC |
| TSDF Alt EPA ID: | CAD093459485 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 213 - Hydrocarbon solvents (benzene, hexane, Stoddard, etc. |
| RCRA Code: | Not reported |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.06255 |
| Waste Quantity: | 15 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2001 |
| Gen EPA ID: | CAD983596651 |
| Shipment Date: | 20010705 |
| Creation Date: | 10/1/2001 0:00:00 |
| Receipt Date: | 20010710 |
| Manifest ID: | 20936295 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD008252405 |
| Trans Name: | Not reported |

**EMPIRE EQUIPMENT LP DBA NORTRAX (Continued)** **S113017755**

| | |
|---|---|
| TSDF Alt EPA ID: | CAD008252405 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D001 |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.132 |
| Waste Quantity: | 40 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20010419 |
| Creation Date: | 7/10/2001 0:00:00 |
| Receipt Date: | 20010424 |
| Manifest ID: | 20742051 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD008252405 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D001 |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.462 |
| Waste Quantity: | 140 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20010419 |
| Creation Date: | 7/10/2001 0:00:00 |
| Receipt Date: | 20010424 |
| Manifest ID: | 20742051 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD008252405 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D001 |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.0495 |
| Waste Quantity: | 15 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |

**EMPIRE EQUIPMENT LP DBA NORTRAX (Continued)** **S113017755**

| | |
|---|---|
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20010419 |
| Creation Date: | 7/10/2001 0:00:00 |
| Receipt Date: | 20010424 |
| Manifest ID: | 20742050 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080033681 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 134 - Aqueous solution with <10% total organic residues |
| RCRA Code: | D002 |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.378 |
| Waste Quantity: | 90 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 1997 |
| Gen EPA ID: | CAD983596651 |
| | |
| Shipment Date: | 19970829 |
| Creation Date: | 7/23/1998 0:00:00 |
| Receipt Date: | 19970909 |
| Manifest ID: | 96628729 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | CAD028277036 |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | CAT080013352 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | Not reported |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.5678 |
| Waste Quantity: | 167 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

**EMPIRE EQUIPMENT LP DBA NORTRAX (Continued)** **S113017755**

| | |
|---|---|
| Shipment Date: | 19970829 |
| Creation Date: | 7/23/1998 0:00:00 |
| Receipt Date: | 19970903 |
| Manifest ID: | 96674412 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044429835 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | CAD044429835 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D001 |
| Meth Code: | D99 - Disposal, Other |
| Quantity Tons: | 0.363 |
| Waste Quantity: | 110 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 19970829 |
| Creation Date: | 7/23/1998 0:00:00 |
| Receipt Date: | 19970903 |
| Manifest ID: | 96674412 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044429835 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | CAD044429835 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | D99 - Disposal, Other |
| Quantity Tons: | 0.4587 |
| Waste Quantity: | 110 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 19970829 |
| Creation Date: | 7/23/1998 0:00:00 |
| Receipt Date: | 19970903 |
| Manifest ID: | 96674412 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044429835 |

**EMPIRE EQUIPMENT LP DBA NORTRAX (Continued)** **S113017755**

| | |
|---|---|
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | CAD044429835 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | D99 - Disposal, Other |
| Quantity Tons: | 0.6 |
| Waste Quantity: | 1200 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 19970829 |
| Creation Date: | 7/23/1998 0:00:00 |
| Receipt Date: | 19970903 |
| Manifest ID: | 96674412 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044429835 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | CAD044429835 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | D99 - Disposal, Other |
| Quantity Tons: | 0.2293 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2004 |
| Gen EPA ID: | CAD983596651 |

| | |
|---|---|
| Shipment Date: | 20041116 |
| Creation Date: | 3/13/2007 18:30:28 |
| Receipt Date: | 20041124 |
| Manifest ID: | 24216866 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080033681 |
| Trans Name: | D/K ENVIRONMENTAL |
| TSDF Alt EPA ID: | CAT080033681 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | NA |

**EMPIRE EQUIPMENT LP DBA NORTRAX (Continued)** **S113017755**

| | |
|---|---|
| Meth Code: | D80 - Disposal, Land Fill |
| Quantity Tons: | Not reported |
| Waste Quantity: | 1200 |
| Quantity Unit: | Not reported |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20040921 |
| Creation Date: | 12/21/2004 18:31:57 |
| Receipt Date: | 20040929 |
| Manifest ID: | 23640550 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080033681 |
| Trans Name: | D/K ENVIRONMENTAL |
| TSDF Alt EPA ID: | CAT080033681 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | NA |
| Meth Code: | D80 - Disposal, Land Fill |
| Quantity Tons: | 0.6 |
| Waste Quantity: | 1200 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20040818 |
| Creation Date: | 12/22/2004 18:31:08 |
| Receipt Date: | 20040824 |
| Manifest ID: | 23636227 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080033681 |
| Trans Name: | D K ENVIRONMENTAL |
| TSDF Alt EPA ID: | CAT080033681 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 791 - Liquids with pH < 2 792 Liquids with pH < 2 with metals |
| RCRA Code: | D002 |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.00417 |
| Waste Quantity: | 1 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

**EMPIRE EQUIPMENT LP DBA NORTRAX (Continued)** **S113017755**

| | |
|---|---|
| Shipment Date: | 20040818 |
| Creation Date: | 12/28/2004 14:46:39 |
| Receipt Date: | 20040824 |
| Manifest ID: | 23636225 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD028409019 |
| Trans Name: | CROSBY & OVERTON INC |
| TSDF Alt EPA ID: | CAD028409019 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D001 |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.0125 |
| Waste Quantity: | 25 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20040818 |
| Creation Date: | 12/28/2004 14:46:39 |
| Receipt Date: | 20040824 |
| Manifest ID: | 23636226 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD008252405 |
| Trans Name: | PACIFIC RESOURCE RECOVERY |
| TSDF Alt EPA ID: | CAD008252405 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D001 |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.198 |
| Waste Quantity: | 60 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 1998 |
| Gen EPA ID: | CAD983596651 |

| | |
|---|---|
| Shipment Date: | 19980925 |
| Creation Date: | 12/17/1998 0:00:00 |
| Receipt Date: | 19980928 |
| Manifest ID: | 98540442 |
| Trans EPA ID: | CAD044003556 |

**EMPIRE EQUIPMENT LP DBA NORTRAX (Continued)** **S113017755**

| | |
|---|---|
| Trans Name: | Not reported |
| Trans 2 EPA ID: | CAD028277036 |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | CAT080013352 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | Not reported |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.561 |
| Waste Quantity: | 165 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 19980910 |
| Creation Date: | 11/23/1998 0:00:00 |
| Receipt Date: | 19980915 |
| Manifest ID: | 98061033 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD008252405 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | CAD008252405 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D001 |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.0396 |
| Waste Quantity: | 12 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 19980910 |
| Creation Date: | 11/5/1998 0:00:00 |
| Receipt Date: | 19980915 |
| Manifest ID: | 98061121 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080033681 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 133 - Aqueous solution with 10% or more total organic residues |
| RCRA Code: | D002 |

**EMPIRE EQUIPMENT LP DBA NORTRAX (Continued)** **S113017755**

| | |
|---|---|
| Meth Code: | D99 - Disposal, Other |
| Quantity Tons: | 0.9174 |
| Waste Quantity: | 220 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 19980910 |
| Creation Date: | 11/5/1998 0:00:00 |
| Receipt Date: | 19980915 |
| Manifest ID: | 98061121 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080033681 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | D99 - Disposal, Other |
| Quantity Tons: | 0.6 |
| Waste Quantity: | 1200 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

HWTS:

| | |
|---|---|
| Name: | EMPIRE EQUIPMENT LP DBA NORTRAX |
| Address: | 2850 EL CENTRO RD |
| Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 958330000 |
| EPA ID: | CAD983596651 |
| Inactive Date: | 03/04/2005 |
| Create Date: | 07/25/1991 |
| Last Act Date: | 03/17/2008 |
| Mailing Name: | NORMA STEVENSON |
| Mailing Address: | 38600 CEDAR BLVD |
| Mailing Address 2: | Not reported |
| Mailing City,State,Zip: | NEWARK, CA 945604800 |
| Owner Name: | EMPIRE TRACTOR & EQUIPMENT CO |
| Owner Address: | 2850 EL CENTRO RD |
| Owner Address 2: | Not reported |
| Owner City,State,Zip: | SACRAMENTO, CA 958330000 |
| Contact Name: | R DENNIS BRANCH MGR REG SALES |
| Contact Address: | 2850 EL CENTRO RD |
| Contact Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 945600000 |

NAICS:

**EMPIRE EQUIPMENT LP DBA NORTRAX (Continued)** **S113017755**

| | |
|---|---|
| EPA ID: | CAD983596651 |
| Create Date: | 2003-10-23 15:27:19.000 |
| NAICS Code: | 42183 |
| NAICS Description: | Industrial Machinery and Equipment Wholesalers |
| Issued EPA ID Date: | 1991-07-25 00:00:00 |
| Inactive Date: | 2005-03-04 00:00:00 |
| Facility Name: | EMPIRE EQUIPMENT LP DBA NORTRAX |
| Facility Address: | 2850 EL CENTRO RD |
| Facility Address 2: | Not reported |
| Facility City: | SACRAMENTO |
| Facility County: | Not reported |
| Facility State: | CA |
| Facility Zip: | 958330000 |

| | |
|---|---|
| EPA ID: | CAD983596651 |
| Create Date: | 2002-12-03 15:25:10.000 |
| NAICS Code: | 44421 |
| NAICS Description: | Outdoor Power Equipment Stores |
| Issued EPA ID Date: | 1991-07-25 00:00:00 |
| Inactive Date: | 2005-03-04 00:00:00 |
| Facility Name: | EMPIRE EQUIPMENT LP DBA NORTRAX |
| Facility Address: | 2850 EL CENTRO RD |
| Facility Address 2: | Not reported |
| Facility City: | SACRAMENTO |
| Facility County: | Not reported |
| Facility State: | CA |
| Facility Zip: | 958330000 |

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**E32**
**Target Property**

**PAP MACHINERY, INC.**
**2850 EL CENTRO RD**
**SACRAMENTO, CA 95833**

**RCRA NonGen / NLR** **1024810861**
**CAL000291926**

**Site 3 of 13 in cluster E**

**Actual:**
**14 ft.**

**Focus Map:**
**8**

RCRA NonGen / NLR:

| | | |
|---|---|---|
| Date Form Received by Agency: | | 2005-03-07 00:00:00.0 |
| Handler Name: | PAP MACHINERY, INC. | |
| Handler Address: | | 2850 EL CENTRO RD |
| Handler City,State,Zip: | | SACRAMENTO, CA 95833-9602 |
| EPA ID: | | CAL000291926 |
| Contact Name: | | DAN RADONSKI |
| Contact Address: | | PO BOX 407 |
| Contact City,State,Zip: | | EUGENE, OR 97440 |
| Contact Telephone: | | 541-341-3344 |
| Contact Fax: | | 541-633-7530 |
| Contact Email: | | DRADONSKI@PAPE.COM |
| Contact Title: | | Not reported |
| EPA Region: | | 09 |
| Land Type: | | Not reported |
| Federal Waste Generator Description: | | Not a generator, verified |
| Non-Notifier: | | Not reported |
| Biennial Report Cycle: | | Not reported |
| Accessibility: | | Not reported |
| Active Site Indicator: | | Handler Activities |
| State District Owner: | | Not reported |
| State District: | | Not reported |
| Mailing Address: | | PO BOX 407 |

**PAP MACHINERY, INC. (Continued)** **1024810861**

| | |
|---|---|
| Mailing City,State,Zip: | EUGENE, OR 97440-0000 |
| Owner Name: | THE PAP GROUP INC |
| Owner Type: | Other |
| Operator Name: | DAN RADONSKI |
| Operator Type: | Other |
| Short-Term Generator Activity: | No |
| Importer Activity: | No |
| Mixed Waste Generator: | No |
| Transporter Activity: | No |
| Transfer Facility Activity: | No |
| Recycler Activity with Storage: | No |
| Small Quantity On-Site Burner Exemption: | No |
| Smelting Melting and Refining Furnace Exemption: | No |
| Underground Injection Control: | No |
| Off-Site Waste Receipt: | No |
| Universal Waste Indicator: | Yes |
| Universal Waste Destination Facility: | Yes |
| Federal Universal Waste: | No |
| Active Site Fed-Reg Treatment Storage and Disposal Facility: | Not reported |
| Active Site Converter Treatment storage and Disposal Facility: | Not reported |
| Active Site State-Reg Treatment Storage and Disposal Facility: | Not reported |
| Active Site State-Reg Handler: | --- |
| Federal Facility Indicator: | Not reported |
| Hazardous Secondary Material Indicator: | N |
| Sub-Part K Indicator: | Not reported |
| Commercial TSD Indicator: | No |
| Treatment Storage and Disposal Type: | Not reported |
| 2018 GPRA Permit Baseline: | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | Not on the Baseline |
| Permit Renewals Workload Universe: | Not reported |
| Permit Workload Universe: | Not reported |
| Permit Progress Universe: | Not reported |
| Post-Closure Workload Universe: | Not reported |
| Closure Workload Universe: | Not reported |
| 202 GPRA Corrective Action Baseline: | No |
| Corrective Action Workload Universe: | No |
| Subject to Corrective Action Universe: | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | No |
| Corrective Action Priority Ranking: | No NCAPS ranking |
| Environmental Control Indicator: | No |
| Institutional Control Indicator: | No |
| Human Exposure Controls Indicator: | N/A |
| Groundwater Controls Indicator: | N/A |
| Operating TSDF Universe: | Not reported |
| Full Enforcement Universe: | Not reported |
| Significant Non-Complier Universe: | No |
| Unaddressed Significant Non-Complier Universe: | No |
| Addressed Significant Non-Complier Universe: | No |
| Significant Non-Complier With a Compliance Schedule Universe: | No |
| Financial Assurance Required: | Not reported |
| Handler Date of Last Change: | 2018-09-05 20:26:28.0 |
| Recognized Trader-Importer: | No |
| Recognized Trader-Exporter: | No |
| Importer of Spent Lead Acid Batteries: | No |
| Exporter of Spent Lead Acid Batteries: | No |

**PAP MACHINERY, INC. (Continued)** **1024810861**

Recycler Activity Without Storage: No
Manifest Broker: No
Sub-Part P Indicator: No

Handler - Owner Operator:
Owner/Operator Indicator: Operator
Owner/Operator Name: DAN RADONSKI
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: PO BOX 407
Owner/Operator City,State,Zip: EUGENE, OR 97440
Owner/Operator Telephone: 541-341-3344
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: THE PAP GROUP INC
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: PO BOX 407
Owner/Operator City,State,Zip: EUGENE, OR 97440-0000
Owner/Operator Telephone: 541-341-3344
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 2005-03-07 00:00:00.0
Handler Name: PAP MACHINERY, INC.
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 42181
NAICS Description: CONSTRUCTION AND MINING (EXCEPT OIL WELL) MACHINERY AND EQUIPMENT WHOLESALERS

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

**E33** **PAPE MACHINARY INC** **AST** **A100176154**
**Target** **2850 EL CENTRO RD.** **N/A**
**Property** **SACRAMENTO, CA**

**Site 4 of 13 in cluster E**

**Actual:** AST:
**14 ft.**

**Focus Map:**
**8**

| | |
|---|---|
| Name: | PAPE MACHINARY INC |
| Address: | 2850 EL CENTRO RD. |
| City/Zip: | SACRAMENTO, |
| Certified Unified Program Agencies: | Sacramento |
| Owner: | PAPE MACHINARY INC |
| Total Gallons: | 6,000 |
| CERSID: | Not reported |
| Facility ID: | Not reported |
| Business Name: | Not reported |
| Phone: | Not reported |
| Fax: | Not reported |
| Mailing Address: | Not reported |
| Mailing Address City: | Not reported |
| Mailing Address State: | Not reported |
| Mailing Address Zip Code: | Not reported |
| Operator Name: | Not reported |
| Operator Phone: | Not reported |
| Owner Phone: | Not reported |
| Owner Mail Address: | Not reported |
| Owner State: | Not reported |
| Owner Zip Code: | Not reported |
| Owner Country: | Not reported |
| Property Owner Name: | Not reported |
| Property Owner Phone: | Not reported |
| Property Owner Mailing Address: | Not reported |
| Property Owner City: | Not reported |
| Property Owner Stat : | Not reported |
| Property Owner Zip Code: | Not reported |
| Property Owner Country: | Not reported |
| EPAID: | Not reported |

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**E34** **PAP MACHINERY, INC.** **AST** **A100423140**
**Target** **2850 EL CENTRO RD** **N/A**
**Property** **SACRAMENTO, CA 95833**

**Site 5 of 13 in cluster E**

**Actual:** AST:
**14 ft.**

**Focus Map:**
**8**

| | |
|---|---|
| Name: | PAP MACHINERY, INC. |
| Address: | 2850 EL CENTRO RD |
| City/Zip: | SACRAMENTO,95833 |
| Certified Unified Program Agencies: | Not reported |
| Owner: | Pape Properties, Inc. |
| Total Gallons: | Not reported |
| CERSID: | 10159723 |
| Facility ID: | FA0008830 |
| Business Name: | Pape Machinery, Inc. |
| Phone: | 916-922-7181 |
| Fax: | Not reported |
| Mailing Address: | 2850 El Centro Road |
| Mailing Address City: | Sacramento |
| Mailing Address State: | CA |
| Mailing Address Zip Code: | 95833 |

**PAP MACHINERY, INC. (Continued)** **A100423140**

| | |
|---|---|
| Operator Name: | Pape Machinery, Inc. |
| Operator Phone: | 916-922-7181 |
| Owner Phone: | 541-341-3344 |
| Owner Mail Address: | PO Box 407 |
| Owner State: | OR |
| Owner Zip Code: | 97440 |
| Owner Country: | United States |
| Property Owner Name: | Mid-Valley Development, LLC |
| Property Owner Phone: | Not reported |
| Property Owner Mailing Address: | 7109 Hillcrest Drive |
| Property Owner City: | Modesto |
| Property Owner Stat : | CA |
| Property Owner Zip Code: | 95356 |
| Property Owner Country: | United States |
| EPAID: | CAL000291926 |

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**E35** **PAP MACHINERY, INC.** **Sacramento Co. ML** **S123293244**
**Target** **2850 EL CENTRO RD** **N/A**
**Property** **SACRAMENTO, CA 95833**

**Site 6 of 13 in cluster E**

**Actual:** **14 ft.**

**Focus Map:** **8**

Sacramento Co. ML:

| | |
|---|---|
| Name: | PAP MACHINERY, INC. |
| Address: | 2850 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Facility Id: | Not reported |
| Facility Status: | Not reported |
| FD: | Not reported |
| Billing Codes BP: | A |
| Billing Codes UST: | Not reported |
| WG Bill Code: | A |
| Target Property Bill Cod: | Not reported |
| Food Bill Code: | Not reported |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | Not reported |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

**E36** **EMPIRE EQUIPMENT CO LP** **RCRA-SQG** **1000595713**
**Target** **2850 EL CENTRO RD** **CERS HAZ WASTE** **CAD983596651**
**Property** **SACRAMENTO, CA 95833** **CERS TANKS**
**FINDS**
**Site 7 of 13 in cluster E** **ECHO**
**HAZNET**
**Actual:** **CERS**
**14 ft.** **HWTS**

**Focus Map:**
**8**

RCRA-SQG:

| | | |
|---|---|---|
| Date Form Received by Agency: | | 1996-03-14 00:00:00.0 |
| Handler Name: | EMPIRE EQUIPMENT CO LP | |
| Handler Address: | | 2850 EL CENTRO RD |
| Handler City,State,Zip: | | SACRAMENTO, CA 95833 |
| EPA ID: | | CAD983596651 |
| Contact Name: | | EDWARD J MAHONY |
| Contact Address: | | 2850 EL CENTRO RD |
| Contact City,State,Zip: | | SACRAMENTO, CA 95833 |
| Contact Telephone: | | 916-922-7181 |
| Contact Fax: | | Not reported |
| Contact Email: | | Not reported |
| Contact Title: | | Not reported |
| EPA Region: | | 09 |
| Land Type: | | Private |
| Federal Waste Generator Description: | | Small Quantity Generator |
| Non-Notifier: | | Not reported |
| Biennial Report Cycle: | | Not reported |
| Accessibility: | | Not reported |
| Active Site Indicator: | | Handler Activities |
| State District Owner: | | CA |
| State District: | | 4R |
| Mailing Address: | | P O BOX 15017 |
| Mailing City,State,Zip: | | SACRAMENTO, CA 95851 |
| Owner Name: | | EMPIRE EQUIPMENT CO LP |
| Owner Type: | | Private |
| Operator Name: | | NOT REQUIRED |
| Operator Type: | | Private |
| Short-Term Generator Activity: | | No |
| Importer Activity: | | No |
| Mixed Waste Generator: | | No |
| Transporter Activity: | | No |
| Transfer Facility Activity: | | No |
| Recycler Activity with Storage: | | No |
| Small Quantity On-Site Burner Exemption: | | No |
| Smelting Melting and Refining Furnace Exemption: | | No |
| Underground Injection Control: | | No |
| Off-Site Waste Receipt: | | No |
| Universal Waste Indicator: | | No |
| Universal Waste Destination Facility: | | No |
| Federal Universal Waste: | | No |
| Active Site Fed-Reg Treatment Storage and Disposal Facility: | | Not reported |
| Active Site Converter Treatment storage and Disposal Facility: | | Not reported |
| Active Site State-Reg Treatment Storage and Disposal Facility: | | Not reported |
| Active Site State-Reg Handler: | | --- |
| Federal Facility Indicator: | | Not reported |
| Hazardous Secondary Material Indicator: | | NN |
| Sub-Part K Indicator: | | Not reported |
| Commercial TSD Indicator: | | No |
| Treatment Storage and Disposal Type: | | Not reported |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| 2018 GPRA Permit Baseline: | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | Not on the Baseline |
| Permit Renewals Workload Universe: | Not reported |
| Permit Workload Universe: | Not reported |
| Permit Progress Universe: | Not reported |
| Post-Closure Workload Universe: | Not reported |
| Closure Workload Universe: | Not reported |
| 202 GPRA Corrective Action Baseline: | No |
| Corrective Action Workload Universe: | No |
| Subject to Corrective Action Universe: | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | No |
| Corrective Action Priority Ranking: | No NCAPS ranking |
| Environmental Control Indicator: | No |
| Institutional Control Indicator: | No |
| Human Exposure Controls Indicator: | N/A |
| Groundwater Controls Indicator: | N/A |
| Operating TSDF Universe: | Not reported |
| Full Enforcement Universe: | Not reported |
| Significant Non-Complier Universe: | No |
| Unaddressed Significant Non-Complier Universe: | No |
| Addressed Significant Non-Complier Universe: | No |
| Significant Non-Complier With a Compliance Schedule Universe: | No |
| Financial Assurance Required: | Not reported |
| Handler Date of Last Change: | 2002-06-27 03:35:29.0 |
| Recognized Trader-Importer: | No |
| Recognized Trader-Exporter: | No |
| Importer of Spent Lead Acid Batteries: | No |
| Exporter of Spent Lead Acid Batteries: | No |
| Recycler Activity Without Storage: | Not reported |
| Manifest Broker: | Not reported |
| Sub-Part P Indicator: | Not reported |

Handler - Owner Operator:

| | |
|---|---|
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: | EMPIRE EQUIPMENT CO LP |
| Legal Status: | Private |
| Date Became Current: | Not reported |
| Date Ended Current: | Not reported |
| Owner/Operator Address: | P O BOX 15017 |
| Owner/Operator City,State,Zip: | SACRAMENTO, CA 95851-5017 |
| Owner/Operator Telephone: | 916-922-7181 |
| Owner/Operator Telephone Ext: | Not reported |
| Owner/Operator Fax: | Not reported |
| Owner/Operator Email: | Not reported |

| | |
|---|---|
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: | NOT REQUIRED |
| Legal Status: | Private |
| Date Became Current: | Not reported |
| Date Ended Current: | Not reported |
| Owner/Operator Address: | NOT REQUIRED |
| Owner/Operator City,State,Zip: | NOT REQUIRED, ME 99999 |
| Owner/Operator Telephone: | 415-555-1212 |
| Owner/Operator Telephone Ext: | Not reported |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 1996-03-14 00:00:00.0
Handler Name: EMPIRE EQUIPMENT CO LP
Federal Waste Generator Description: Small Quantity Generator
State District Owner: CA
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 42181
NAICS Description: CONSTRUCTION AND MINING (EXCEPT OIL WELL) MACHINERY AND EQUIPMENT WHOLESALERS

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

CERS HAZ WASTE:
Name: PAP+ MACHINERY, INC.
Address: 2850 EL CENTRO RD
City,State,Zip: SACRAMENTO, CA 95833
Site ID: 399079
CERS ID: 10159723
CERS Description: Hazardous Waste Generator

CERS TANKS:
Name: PAP+ MACHINERY, INC.
Address: 2850 EL CENTRO RD
City,State,Zip: SACRAMENTO, CA 95833
Site ID: 399079
CERS ID: 10159723
CERS Description: Aboveground Petroleum Storage

FINDS:
Registry ID: 110002854242

Click Here:

Environmental Interest/Information System:
California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

facilities.
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

| | |
|---|---|
| Envid: | 1000595713 |
| Registry ID: | 110002854242 |
| DFR URL: | http://echo.epa.gov/detailed-facility-report?fid=110002854242 |
| Name: | EMPIRE EQUIPMENT CO LP |
| Address: | 2850 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |

HAZNET:

| | |
|---|---|
| Name: | PAP MACHINERY INC. |
| Address: | 2850 EL CENTRO RD |
| Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 974400000 |
| Contact: | KRISTINE HAMILTON |
| Telephone: | 5413023577 |
| Mailing Name: | Not reported |
| Mailing Address: | PO BOX 407 |
| | |
| Year: | 2019 |
| Gepaid: | CAL000291926 |
| TSD EPA ID: | AZR000521146 |
| CA Waste Code: | 352 - Other organic solids |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 1.75000 |
| | |
| Year: | 2018 |
| Gepaid: | CAL000291926 |
| TSD EPA ID: | CA0000084517 |
| CA Waste Code: | 134 - Aqueous solution with total organic residues less than 10 percent |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 0.31500 |
| | |
| Year: | 2018 |
| Gepaid: | CAL000291926 |
| TSD EPA ID: | AZR000515924 |
| CA Waste Code: | 352 - Other organic solids |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 1.40000 |
| | |
| Year: | 2018 |
| Gepaid: | CAL000291926 |
| TSD EPA ID: | CAT080013352 |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

CA Waste Code: 343 - Unspecified organic liquid mixture
Disposal Method: H061 - Fuel Blending Prior To Energy Recovery At Another Site
Tons: 0.05100

Year: 2017
Gepaid: CAL000291926
TSD EPA ID: CAD044003556
CA Waste Code: 352 - Other organic solids
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 2.625

Year: 2017
Gepaid: CAL000291926
TSD EPA ID: CAD097030993
CA Waste Code: 352 - Other organic solids
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.4

Year: 2016
Gepaid: CAL000291926
TSD EPA ID: CAD044003556
CA Waste Code: 352 - Other organic solids
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 2.15

Year: 2016
Gepaid: CAL000291926
TSD EPA ID: CAD008252405
CA Waste Code: 343 - Unspecified organic liquid mixture
Disposal Method: H061 - Fuel Blending Prior To Energy Recovery At Another Site
Tons: 0.017

Year: 2015
Gepaid: CAL000291926
TSD EPA ID: CAD044003556
CA Waste Code: 352 - Other organic solids
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 2.265

Year: 2015
Gepaid: CAL000291926
TSD EPA ID: CAD008252405
CA Waste Code: 343 - Unspecified organic liquid mixture
Disposal Method: H061 - Fuel Blending Prior To Energy Recovery At Another Site
Tons: 0.034

Click this hyperlink while viewing on your computer to access
27 additional CA HAZNET: record(s) in the EDR Site Report.

Additional Info:
Year: 2005
Gen EPA ID: CAL000291926

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Shipment Date: | 20051111 |
| Creation Date: | 1/2/2007 18:30:32 |
| Receipt Date: | 20051117 |
| Manifest ID: | 24778134 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080033681 |
| Trans Name: | D/K ENVIRONMENTAL |
| TSDF Alt EPA ID: | CAT080033681 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | D80 - Disposal, Land Fill |
| Quantity Tons: | 0.825 |
| Waste Quantity: | 1650 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20050819 |
| Creation Date: | 4/13/2006 18:47:49 |
| Receipt Date: | 20050829 |
| Manifest ID: | 24883324 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD980884183 |
| Trans Name: | GEM - RANCHO CORDOVA LLC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 1.065 |
| Waste Quantity: | 2130 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20050623 |
| Creation Date: | 9/13/2005 18:30:54 |
| Receipt Date: | 20050624 |
| Manifest ID: | 23544360 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD980884183 |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Trans Name: | GEM RANCHO CORDOVA |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | NA |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.297 |
| Waste Quantity: | 90 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20050623 |
| Creation Date: | 9/13/2005 18:30:54 |
| Receipt Date: | 20050624 |
| Manifest ID: | 23544360 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD980884183 |
| Trans Name: | GEM RANCHO CORDOVA |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | NA |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.0495 |
| Waste Quantity: | 15 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20050623 |
| Creation Date: | 10/11/2005 18:31:29 |
| Receipt Date: | 20050629 |
| Manifest ID: | 23544359 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080033681 |
| Trans Name: | D K ENVIRONMENTAL |
| TSDF Alt EPA ID: | CAT080033681 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | D80 - Disposal, Land Fill |
| Quantity Tons: | 0.45 |
| Waste Quantity: | 900 |
| Quantity Unit: | P |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20050623 |
| Creation Date: | 9/13/2005 18:30:54 |
| Receipt Date: | 20050624 |
| Manifest ID: | 23544360 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD980884183 |
| Trans Name: | GEM RANCHO CORDOVA |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D001 |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.0462 |
| Waste Quantity: | 14 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20050408 |
| Creation Date: | 7/20/2005 18:30:55 |
| Receipt Date: | 20050526 |
| Manifest ID: | 24309034 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD980884183 |
| Trans Name: | RANCHO CORDOVA LLC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | NA |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.4 |
| Waste Quantity: | 800 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20050331 |
| Creation Date: | 7/21/2005 18:32:26 |
| Receipt Date: | 20050406 |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Manifest ID: | 24313141 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080033681 |
| Trans Name: | D/K ENVIRONMENTAL |
| TSDF Alt EPA ID: | CAT080033681 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | NA |
| Meth Code: | D80 - Disposal, Land Fill |
| Quantity Tons: | 0.45 |
| Waste Quantity: | 900 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2015 |
| Gen EPA ID: | CAL000291926 |
| Shipment Date: | 20151119 |
| Creation Date: | 1/21/2016 22:15:39 |
| Receipt Date: | 20151120 |
| Manifest ID: | 014791042JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.75 |
| Waste Quantity: | 1500 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| Shipment Date: | 20150826 |
| Creation Date: | 10/14/2015 22:15:09 |
| Receipt Date: | 20150827 |
| Manifest ID: | 014723109JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.475 |
| Waste Quantity: | 950 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20150701 |
| Creation Date: | 8/31/2015 22:15:34 |
| Receipt Date: | 20150702 |
| Manifest ID: | 013679712JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.425 |
| Waste Quantity: | 850 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20150421 |
| Creation Date: | 8/21/2015 22:15:28 |
| Receipt Date: | 20150422 |
| Manifest ID: | 013679566JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.14 |
| Waste Quantity: | 280 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20150319 |
| Creation Date: | 9/22/2015 22:15:36 |
| Receipt Date: | 20150409 |
| Manifest ID: | 013679591JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | CAR000245050 |
| Trans 2 Name: | ECOTRANS LLC |
| TSDF EPA ID: | CAD008252405 |
| Trans Name: | PACIFIC RESOURCE RECOVERY |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | Not reported |
| Meth Code: | H061 - Fuel Blending Prior To Energy Recovery At Another Site |
| Quantity Tons: | 0.034 |
| Waste Quantity: | 10 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20150317 |
| Creation Date: | 5/18/2015 22:15:07 |
| Receipt Date: | 20150318 |
| Manifest ID: | 013679553JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.3 |
| Waste Quantity: | 600 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20150128 |
| Creation Date: | 3/23/2015 22:15:20 |
| Receipt Date: | 20150129 |
| Manifest ID: | 013679651JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.175 |
| Waste Quantity: | 350 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2008 |
| Gen EPA ID: | CAL000291926 |
| | |
| Shipment Date: | 20081124 |
| Creation Date: | 2/2/2009 18:30:18 |
| Receipt Date: | 20081203 |
| Manifest ID: | 004339647JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.35 |
| Waste Quantity: | 700 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Shipment Date: | 20080829 |
| Creation Date: | 10/13/2008 18:30:32 |
| Receipt Date: | 20080904 |
| Manifest ID: | 004338223JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.4 |
| Waste Quantity: | 800 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20080429 |
| Creation Date: | 8/4/2008 18:30:28 |
| Receipt Date: | 20080508 |
| Manifest ID: | 004089576JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.75 |
| Waste Quantity: | 1500 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20080303 |
| Creation Date: | 5/5/2008 18:30:30 |
| Receipt Date: | 20080307 |
| Manifest ID: | 004091296JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.75 |
| Waste Quantity: | 1500 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2013 |
| Gen EPA ID: | CAL000291926 |
| Shipment Date: | 20131107 |
| Creation Date: | 12/4/2013 22:15:12 |
| Receipt Date: | 20131108 |
| Manifest ID: | 012167300JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.225 |
| Waste Quantity: | 450 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| Shipment Date: | 20130814 |
| Creation Date: | 9/26/2013 22:15:06 |
| Receipt Date: | 20130815 |
| Manifest ID: | 011290172JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.175 |
| Waste Quantity: | 350 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20130809 |
| Creation Date: | 9/26/2013 22:15:06 |
| Receipt Date: | 20130809 |
| Manifest ID: | 011290176JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.175 |
| Waste Quantity: | 350 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20130506 |
| Creation Date: | 6/13/2013 22:15:07 |
| Receipt Date: | 20130507 |
| Manifest ID: | 009925269JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.45 |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Waste Quantity: | 900 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20130227 |
| Creation Date: | 5/1/2013 22:15:05 |
| Receipt Date: | 20130228 |
| Manifest ID: | 009550500JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.55 |
| Waste Quantity: | 1100 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20130205 |
| Creation Date: | 3/15/2013 22:15:20 |
| Receipt Date: | 20130206 |
| Manifest ID: | 009549438JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.417 |
| Waste Quantity: | 100 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Shipment Date: | 20130115 |
| Creation Date: | 3/15/2013 22:15:20 |
| Receipt Date: | 20130116 |
| Manifest ID: | 009550325JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.3 |
| Waste Quantity: | 600 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2016 |
| Gen EPA ID: | CAL000291926 |
| Shipment Date: | 20151119 |
| Creation Date: | 1/21/2016 22:15:39 |
| Receipt Date: | 20151120 |
| Manifest ID: | 014791042JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.75 |
| Waste Quantity: | 1500 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| Shipment Date: | 20150826 |
| Creation Date: | 10/14/2015 22:15:09 |
| Receipt Date: | 20150827 |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Manifest ID: | 014723109JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.475 |
| Waste Quantity: | 950 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20150701 |
| Creation Date: | 8/31/2015 22:15:34 |
| Receipt Date: | 20150702 |
| Manifest ID: | 013679712JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.425 |
| Waste Quantity: | 850 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20150421 |
| Creation Date: | 8/21/2015 22:15:28 |
| Receipt Date: | 20150422 |
| Manifest ID: | 013679566JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.14 |
| Waste Quantity: | 280 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20150319 |
| Creation Date: | 9/22/2015 22:15:36 |
| Receipt Date: | 20150409 |
| Manifest ID: | 013679591JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | CAR000245050 |
| Trans 2 Name: | ECOTRANS LLC |
| TSDF EPA ID: | CAD008252405 |
| Trans Name: | PACIFIC RESOURCE RECOVERY |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | Not reported |
| Meth Code: | H061 - Fuel Blending Prior To Energy Recovery At Another Site |
| Quantity Tons: | 0.034 |
| Waste Quantity: | 10 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20150317 |
| Creation Date: | 5/18/2015 22:15:07 |
| Receipt Date: | 20150318 |
| Manifest ID: | 013679553JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.3 |
| Waste Quantity: | 600 |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20150128 |
| Creation Date: | 3/23/2015 22:15:20 |
| Receipt Date: | 20150129 |
| Manifest ID: | 013679651JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.175 |
| Waste Quantity: | 350 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2009 |
| Gen EPA ID: | CAL000291926 |
| | |
| Shipment Date: | 20091229 |
| Creation Date: | 3/5/2010 18:30:31 |
| Receipt Date: | 20091230 |
| Manifest ID: | 006587276JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.5 |
| Waste Quantity: | 1000 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20091014 |
| Creation Date: | 12/8/2009 18:30:18 |
| Receipt Date: | 20091016 |
| Manifest ID: | 006063949JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.3 |
| Waste Quantity: | 600 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20090814 |
| Creation Date: | 10/13/2009 18:30:21 |
| Receipt Date: | 20090821 |
| Manifest ID: | 002026372FLE |
| Trans EPA ID: | MAD039322250 |
| Trans Name: | CLEAN HARBORS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD980675276 |
| Trans Name: | CLEAN HARBORS BUTTONWILLOW LLC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 16.856 |
| Waste Quantity: | 20 |
| Quantity Unit: | Y |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20090619 |
| Creation Date: | 7/31/2009 18:30:08 |
| Receipt Date: | 20090625 |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Manifest ID: | 005486662JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.25 |
| Waste Quantity: | 500 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| Shipment Date: | 20090223 |
| Creation Date: | 4/14/2009 18:30:30 |
| Receipt Date: | 20090227 |
| Manifest ID: | 005487731JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.3 |
| Waste Quantity: | 600 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2006 |
| Gen EPA ID: | CAL000291926 |
| Shipment Date: | 20061211 |
| Creation Date: | 8/9/2007 18:30:19 |
| Receipt Date: | 20061212 |
| Manifest ID: | 000270990JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | - Not reported |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.3753 |
| Waste Quantity: | 90 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20061211 |
| Creation Date: | 4/19/2007 18:31:30 |
| Receipt Date: | 20061218 |
| Manifest ID: | 000270989JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.8 |
| Waste Quantity: | 1600 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20061211 |
| Creation Date: | 8/9/2007 18:30:19 |
| Receipt Date: | 20061212 |
| Manifest ID: | 000270990JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.153 |
| Waste Quantity: | 45 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20060803 |
| Creation Date: | 9/27/2006 18:36:04 |
| Receipt Date: | 20060811 |
| Manifest ID: | 25290219 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | CAT000646117 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | D80 - Disposal, Land Fill |
| Quantity Tons: | 2.5 |
| Waste Quantity: | 5000 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20060515 |
| Creation Date: | 8/25/2006 18:36:37 |
| Receipt Date: | 20060515 |
| Manifest ID: | 25188879 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| TSDF Alt EPA ID: | CAD044003556 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 1.35525 |
| Waste Quantity: | 325 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20060206 |
| Creation Date: | 7/5/2006 12:04:15 |
| Receipt Date: | 20060215 |
| Manifest ID: | 24849949 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080033681 |
| Trans Name: | D K ENVIRONMENTAL |
| TSDF Alt EPA ID: | CAT080033681 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | D80 - Disposal, Land Fill |
| Quantity Tons: | 0.875 |
| Waste Quantity: | 1750 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2007 |
| Gen EPA ID: | CAL000291926 |
| | |
| Shipment Date: | 20071024 |
| Creation Date: | 1/25/2008 18:30:33 |
| Receipt Date: | 20071026 |
| Manifest ID: | 003360442JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.75 |
| Waste Quantity: | 1500 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20071024 |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Creation Date: | 1/8/2008 18:31:04 |
| Receipt Date: | 20071102 |
| Manifest ID: | 003360443JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD980884183 |
| Trans Name: | GEM-RANCHO CORDOVA LLC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.017 |
| Waste Quantity: | 5 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20070816 |
| Creation Date: | 12/10/2007 18:30:07 |
| Receipt Date: | 20070817 |
| Manifest ID: | 003359745JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 1.45 |
| Waste Quantity: | 2900 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20070622 |
| Creation Date: | 11/3/2007 18:30:21 |
| Receipt Date: | 20070628 |
| Manifest ID: | 002006800JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 1 |
| Waste Quantity: | 2000 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20070622 |
| Creation Date: | 11/3/2007 18:30:14 |
| Receipt Date: | 20070629 |
| Manifest ID: | 002006801JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD980884183 |
| Trans Name: | GEM - RANCHO CORDOVA LLC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.1088 |
| Waste Quantity: | 32 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20070531 |
| Creation Date: | 10/18/2007 18:30:31 |
| Receipt Date: | 20070608 |
| Manifest ID: | 002004453JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD980884183 |
| Trans Name: | GEM - RANCHO CORDOVA LLC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 134 - Aqueous solution with <10% total organic residues |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| | Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.462 |
| Waste Quantity: | 110 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20070404 |
| Creation Date: | 8/23/2007 18:30:20 |
| Receipt Date: | 20070406 |
| Manifest ID: | 002004071JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD980884183 |
| Trans Name: | GEM - RANCHO CORDOVA LLC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.2085 |
| Waste Quantity: | 50 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20070404 |
| Creation Date: | 8/23/2007 18:30:34 |
| Receipt Date: | 20070413 |
| Manifest ID: | 002004069JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 1.25 |
| Waste Quantity: | 2500 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2014 |
| Gen EPA ID: | CAL000291926 |
| Shipment Date: | 20141217 |
| Creation Date: | 2/6/2015 22:15:34 |
| Receipt Date: | 20141218 |
| Manifest ID: | 012917903JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.45 |
| Waste Quantity: | 900 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| Shipment Date: | 20140910 |
| Creation Date: | 10/22/2014 22:15:04 |
| Receipt Date: | 20140911 |
| Manifest ID: | 012917430JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.15 |
| Waste Quantity: | 300 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Shipment Date: | 20140808 |
| Creation Date: | 9/24/2014 22:15:21 |
| Receipt Date: | 20140808 |
| Manifest ID: | 012917254JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.9 |
| Waste Quantity: | 1800 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20140507 |
| Creation Date: | 7/1/2014 22:15:08 |
| Receipt Date: | 20140508 |
| Manifest ID: | 011290808JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.25 |
| Waste Quantity: | 500 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20140212 |
| Creation Date: | 8/14/2014 22:15:12 |
| Receipt Date: | 20140305 |
| Manifest ID: | 012460968JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | CAD028277036 |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Trans 2 Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAD008252405 |
| Trans Name: | PACIFIC RESOURCE RECOVERY |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | D001 |
| Meth Code: | H061 - Fuel Blending Prior To Energy Recovery At Another Site |
| Quantity Tons: | 0.068 |
| Waste Quantity: | 20 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20140205 |
| Creation Date: | 3/8/2014 22:15:07 |
| Receipt Date: | 20140206 |
| Manifest ID: | 012460893JJK |
| Trans EPA ID: | CAD004003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.4 |
| Waste Quantity: | 800 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2011 |
| Gen EPA ID: | CAL000291926 |

| | |
|---|---|
| Shipment Date: | 20111228 |
| Creation Date: | 3/14/2012 20:30:11 |
| Receipt Date: | 20111230 |
| Manifest ID: | 008485345JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.175 |
| Waste Quantity: | 350 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20111021 |
| Creation Date: | 12/27/2011 18:30:22 |
| Receipt Date: | 20111028 |
| Manifest ID: | 008485150JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.125 |
| Waste Quantity: | 250 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20111021 |
| Creation Date: | 1/20/2012 20:31:14 |
| Receipt Date: | 20111107 |
| Manifest ID: | 008485151JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | CAT000624247 |
| Trans 2 Name: | MP ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAT080014079 |
| Trans Name: | VEOLIA ES TECHNICAL SOLUTIONS LLC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | D001 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.034 |
| Waste Quantity: | 10 |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20110909 |
| Creation Date: | 11/8/2011 18:30:21 |
| Receipt Date: | 20110916 |
| Manifest ID: | 008484853JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.3 |
| Waste Quantity: | 600 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20110617 |
| Creation Date: | 8/26/2011 18:30:23 |
| Receipt Date: | 20110624 |
| Manifest ID: | 007278000JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.3 |
| Waste Quantity: | 600 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Shipment Date: | 20110511 |
| Creation Date: | 6/28/2011 18:30:12 |
| Receipt Date: | 20110520 |
| Manifest ID: | 007277891JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.125 |
| Waste Quantity: | 250 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20110303 |
| Creation Date: | 4/27/2011 18:30:07 |
| Receipt Date: | 20110311 |
| Manifest ID: | 007277680JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.15 |
| Waste Quantity: | 300 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2012 |
| Gen EPA ID: | CAL000291926 |

| | |
|---|---|
| Shipment Date: | 20121022 |
| Creation Date: | 1/6/2013 22:15:07 |
| Receipt Date: | 20121022 |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Manifest ID: | 009549145JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.6 |
| Waste Quantity: | 1200 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20120724 |
| Creation Date: | 12/6/2012 22:16:01 |
| Receipt Date: | 20120724 |
| Manifest ID: | 009928266JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.4 |
| Waste Quantity: | 800 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20120514 |
| Creation Date: | 8/7/2012 22:15:13 |
| Receipt Date: | 20120515 |
| Manifest ID: | 004837210FLE |
| Trans EPA ID: | MAD039322250 |
| Trans Name: | CLEAN HARBORS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD980675276 |
| Trans Name: | CLEAN HARBORS BUTTONWILLOW LLC |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 16.856 |
| Waste Quantity: | 20 |
| Quantity Unit: | Y |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20120502 |
| Creation Date: | 6/27/2012 20:30:23 |
| Receipt Date: | 20120509 |
| Manifest ID: | 009548773JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 1.125 |
| Waste Quantity: | 2250 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20120302 |
| Creation Date: | 4/20/2012 20:30:22 |
| Receipt Date: | 20120307 |
| Manifest ID: | 009549763JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.125 |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Waste Quantity: | 250 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2010 |
| Gen EPA ID: | CAL000291926 |
| Shipment Date: | 20101223 |
| Creation Date: | 2/19/2011 18:30:18 |
| Receipt Date: | 20101230 |
| Manifest ID: | 006066131JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.15 |
| Waste Quantity: | 300 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| Shipment Date: | 20101020 |
| Creation Date: | 1/3/2011 18:30:09 |
| Receipt Date: | 20101022 |
| Manifest ID: | 007276883JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.225 |
| Waste Quantity: | 450 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20100811 |
| Creation Date: | 9/30/2010 18:30:56 |
| Receipt Date: | 20100813 |
| Manifest ID: | 007277372JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.45 |
| Waste Quantity: | 900 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20100520 |
| Creation Date: | 8/26/2010 18:30:18 |
| Receipt Date: | 20100521 |
| Manifest ID: | 006587659JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.35 |
| Waste Quantity: | 700 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20100211 |
| Creation Date: | 4/12/2010 18:31:10 |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Receipt Date: | 20100212 |
| Manifest ID: | 006582390JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.417 |
| Waste Quantity: | 100 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2017 |
| Gen EPA ID: | CAL000291926 |
| Shipment Date: | 20171114 |
| Creation Date: | 6/13/2018 18:30:39 |
| Receipt Date: | 20171122 |
| Manifest ID: | 017693144JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | US ECOLOGY VERNON INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.4 |
| Waste Quantity: | 800 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| Shipment Date: | 20171010 |
| Creation Date: | 6/13/2018 18:30:25 |
| Receipt Date: | 20171017 |
| Manifest ID: | 017145192JJK |
| Trans EPA ID: | CAD044003556 |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.25 |
| Waste Quantity: | 500 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20171003 |
| Creation Date: | 5/30/2018 18:33:59 |
| Receipt Date: | 20171004 |
| Manifest ID: | 017144647JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.8 |
| Waste Quantity: | 1600 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20170707 |
| Creation Date: | 5/29/2018 18:30:17 |
| Receipt Date: | 20170711 |
| Manifest ID: | 017154395JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 1 |
| Waste Quantity: | 2000 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20170505 |
| Creation Date: | 10/1/2018 18:30:14 |
| Receipt Date: | 20170523 |
| Manifest ID: | 017145317JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | CAR000245050 |
| Trans 2 Name: | ECO TRANS LLC |
| TSDF EPA ID: | CAD008252405 |
| Trans Name: | PACIFIC RESOURCE RECOVERY |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | D001 |
| Meth Code: | H061 - Fuel Blending Prior To Energy Recovery At Another Site |
| Quantity Tons: | 0.0204 |
| Waste Quantity: | 6 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20170315 |
| Creation Date: | 5/18/2017 18:32:20 |
| Receipt Date: | 20170316 |
| Manifest ID: | 016654251JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.4 |
| Waste Quantity: | 800 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| Shipment Date: | 20170203 |
| Creation Date: | 4/5/2017 18:30:28 |
| Receipt Date: | 20170203 |
| Manifest ID: | 016645327JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.175 |
| Waste Quantity: | 350 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

CERS:

| | |
|---|---|
| Name: | PAP+ MACHINERY, INC. |
| Address: | 2850 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Site ID: | 399079 |
| CERS ID: | 10159723 |
| CERS Description: | Chemical Storage Facilities |

Evaluation:

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 07-17-2017 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | No hazardous materials violations observed at time of inspection. |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | HMRRP |
| Eval Source: | CERS |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 07-17-2017 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | No hazardous waste violations observed at time of inspection. |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | HW |
| Eval Source: | CERS |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 07-17-2017 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | No APSA violations observed at time of inspection. |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | APSA |
| Eval Source: | CERS |

Coordinates:

| | |
|---|---|
| Site ID: | 399079 |
| Facility Name: | Pap+ Machinery, Inc. |
| Env Int Type Code: | APSA |
| Program ID: | 10159723 |
| Coord Name: | Not reported |
| Ref Point Type Desc: | Center of a facility or station. |
| Latitude: | 38.619110 |
| Longitude: | -121.538200 |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | Document Preparer |
| Entity Name: | Janet Bianchin |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Environmental Contact |
| Entity Name: | Janet Bianchin |
| Entity Title: | Not reported |
| Affiliation Address: | 28301 Inwood Road |
| Affiliation City: | Shingletown |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 96088 |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Identification Signer |
| Entity Name: | Janet Bianchin |
| Entity Title: | Environmental Consultant |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Legal Owner |
| Entity Name: | Pape Properties, Inc. |
| Entity Title: | Not reported |
| Affiliation Address: | P.O. Box 407 |
| Affiliation City: | Eugene |
| Affiliation State: | OR |

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

Affiliation Country: United States
Affiliation Zip: 97440
Affiliation Phone: (541) 341-3344

Affiliation Type Desc: Operator
Entity Name: Pape Machinery, Inc.
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: (916) 922-7181

Affiliation Type Desc: Parent Corporation
Entity Name: Pape Machinery, Inc.
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: CUPA District
Entity Name: Sacramento County Environmental Management Departm
Entity Title: Not reported
Affiliation Address: 10590 Armstrong Avenue, Suite A
Affiliation City: Sacramento
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 95655
Affiliation Phone: (916) 875-8550

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title: Not reported
Affiliation Address: 2850 El Centro Road
Affiliation City: Sacramento
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 95833
Affiliation Phone: Not reported

HWTS:
Name: PAP MACHINERY, INC.
Address: 2850 EL CENTRO RD
Address 2: Not reported
City,State,Zip: SACRAMENTO, CA 958339602
EPA ID: CAL000291926
Inactive Date: Not reported
Create Date: 03/07/2005
Last Act Date: 08/03/2020
Mailing Name: JANET KING
Mailing Address: PO BOX 407
Mailing Address 2: Not reported

**EMPIRE EQUIPMENT CO LP (Continued)** **1000595713**

Mailing City,State,Zip: EUGENE, OR 974400000
Owner Name: THE PAP GROUP INC
Owner Address: PO BOX 407
Owner Address 2: Not reported
Owner City,State,Zip: EUGENE, OR 974400000
Contact Name: JANET KING
Contact Address: 355 GOODPASTURE IS. RD.
Contact Address 2: SUITE 300
City,State,Zip: EUGENE, OR 97401

NAICS:
EPA ID: CAL000291926
Create Date: 2005-03-07 15:21:33.947
NAICS Code: 42181
NAICS Description: Construction and Mining (except Oil Well) Machinery and Equipment Wholesalers
Issued EPA ID Date: 2005-03-07 15:21:33.46000
Inactive Date: Not reported
Facility Name: PAP MACHINERY, INC.
Facility Address: 2850 EL CENTRO RD
Facility Address 2: Not reported
Facility City: SACRAMENTO
Facility County: Not reported
Facility State: CA
Facility Zip: 958339602

---

**E37** **PAP MACHINERY, INC.** **FINDS** **1016621958**
**Target** **2850 EL CENTRO RD** **N/A**
**Property** **SACRAMENTO, CA 95833**

**Site 8 of 13 in cluster E**

**Actual:** **14 ft.**

FINDS:
Registry ID: 110055885911

**Focus Map:** **8**

Click Here:

Environmental Interest/Information System:
STATE MASTER

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

---

**E38** **WEAVER EQUIPMENT COMPANY** **Sacramento Co. ML** **S123295349**
**Target** **2850 EL CENTRO RD** **N/A**
**Property** **SACRAMENTO, CA 95833**

**Site 9 of 13 in cluster E**

**Actual:** **14 ft.**

Sacramento Co. ML:
Name: WEAVER EQUIPMENT COMPANY
Address: 2850 EL CENTRO RD
City,State,Zip: SACRAMENTO, CA 95833
Facility Id: Not reported
Facility Status: Inactive. Included on a listing no longer updated.
FD: U
Billing Codes BP: Out of Business

**Focus Map:** **8**

**WEAVER EQUIPMENT COMPANY (Continued)** **S123295349**

| | |
|---|---|
| Billing Codes UST: | No Tanks |
| WG Bill Code: | Oil Changed by Outside Company-No Fee |
| Target Property Bill Cod: | 51 |
| Food Bill Code: | 51 |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | 0 |
| UST Tank Test Date: | Not reported |
| SIC Code: | 5082 |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

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**E39 Target Property** **WEAVER EQUIPMENT CO**
**2850 EL CENTRO ROAD**
**SACRAMENTO, CA 95833**

**HAZNET** **S123763434**
**HWTS** **N/A**

**Site 10 of 13 in cluster E**

**Actual: 14 ft.**

**Focus Map: 8**

HAZNET:

| | |
|---|---|
| Name: | WEAVER EQUIPMENT CO |
| Address: | 2850 EL CENTRO ROAD |
| Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 958330000 |
| Contact: | INACT PER SURVEY |
| Telephone: | -- |
| Mailing Name: | Not reported |
| Mailing Address: | PO BOX 15017-C |
| Year: | 1988 |
| Gepaid: | CAL000005986 |
| TSD EPA ID: | CAD009452657 |
| CA Waste Code: | 212 - Oxygenated solvents (acetone, butanol, ethyl acetate, etc.) |
| Disposal Method: | R01 - Recycler |
| Tons: | 1.6054 |

HWTS:

| | |
|---|---|
| Name: | WEAVER EQUIPMENT CO |
| Address: | 2850 EL CENTRO ROAD |
| Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 958330000 |
| EPA ID: | CAL000005986 |
| Inactive Date: | 01/01/1995 |
| Create Date: | 11/14/1989 |
| Last Act Date: | 06/28/2001 |
| Mailing Name: | Not reported |
| Mailing Address: | PO BOX 15017-C |
| Mailing Address 2: | Not reported |
| Mailing City,State,Zip: | SACRAMENTO, CA 958510000 |
| Owner Name: | -- |
| Owner Address: | -- |

**WEAVER EQUIPMENT CO (Continued)** **S123763434**

Owner Address 2: Not reported
Owner City,State,Zip: --, 99 --
Contact Name: INACT PER SURVEY
Contact Address: --
Contact Address 2: Not reported
City,State,Zip: --, 99 --

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**E40** **49 ER AUTO TRUCK PLAZA** **EDR Hist Auto** **1021702205**
**Target Property** **2848 EL CENTRO RD** **N/A**
**SACRAMENTO, CA 95833**

**Site 11 of 13 in cluster E**

**Actual:** EDR Hist Auto
**14 ft.**

**Focus Map:** Year: Name: Type:
**8** 1986 49 ER AUTO TRUCK PLAZA Gasoline Service Stations
1987 49 ER AUTO TRUCK PLAZA Gasoline Service Stations
1988 49 ER AUTO TRUCK PLAZA Gasoline Service Stations

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**E41** **SACRAMENTO BUILDING TRADES ASSOC** **HAZNET** **S113772697**
**Target Property** **2840 EL CENTRO RD** **HWTS** **N/A**
**SACRAMENTO, CA 95833**

**Site 12 of 13 in cluster E**

**Actual:** HAZNET:
**14 ft.**
Name: SACRAMENTO BUILDING TRADES ASSOC
**Focus Map:** Address: 2840 EL CENTRO RD
**8** Address 2: Not reported
City,State,Zip: SACRAMENTO, CA 95833
Contact: DENNIS CANEVARI EXT 111
Telephone: 9169221133
Mailing Name: Not reported
Mailing Address: 2840 EL CENTRO RD STE 107

Year: 2012
Gepaid: CAC002684898
TSD EPA ID: CAT000646117
CA Waste Code: 352 - Other organic solids
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.2

Year: 2012
Gepaid: CAC002684898
TSD EPA ID: CAD044003556
CA Waste Code: 223 - Unspecified oil-containing waste
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 3.5445

Additional Info:
Year: 2012
Gen EPA ID: CAC002684898

**SACRAMENTO BUILDING TRADES ASSOC (Continued)** **S113772697**

| | |
|---|---|
| Shipment Date: | 20120130 |
| Creation Date: | 3/19/2012 20:30:14 |
| Receipt Date: | 20120131 |
| Manifest ID: | 007278158JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 3.5445 |
| Waste Quantity: | 850 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20120130 |
| Creation Date: | 3/28/2012 20:30:13 |
| Receipt Date: | 20120208 |
| Manifest ID: | 009549922JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | CHEMICAL WASTE MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.2 |
| Waste Quantity: | 400 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

HWTS:

| | |
|---|---|
| Name: | SACRAMENTO BUILDING TRADES ASSOC |
| Address: | 2840 EL CENTRO RD |
| Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| EPA ID: | CAC002684898 |
| Inactive Date: | 07/29/2012 |

**SACRAMENTO BUILDING TRADES ASSOC (Continued)** **S113772697**

| | |
|---|---|
| Create Date: | 01/30/2012 |
| Last Act Date: | 01/30/2012 |
| Mailing Name: | Not reported |
| Mailing Address: | 2840 EL CENTRO RD STE 107 |
| Mailing Address 2: | Not reported |
| Mailing City,State,Zip: | SACRAMENTO, CA 95833 |
| Owner Name: | SACRAMENTO BUILDING TRADES ASSOC |
| Owner Address: | 2840 EL CENTRO RD STE 107 |
| Owner Address 2: | Not reported |
| Owner City,State,Zip: | SACRAMENTO, CA 95833 |
| Contact Name: | DENNIS CANEVARI EXT 111 |
| Contact Address: | 2840 EL CENTRO RD STE 107 |
| Contact Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 95833 |

---

**E42** **T-MOBILE WEST CORP (SC06059A)** **Sacramento Co. ML** **S110041228**
**Target Property** **2840 EL CENTRO RD** **N/A**
**SACRAMENTO, CA 95833**

**Site 13 of 13 in cluster E**

**Actual:** **14 ft.**

**Focus Map:** **8**

Sacramento Co. ML:

| | |
|---|---|
| Name: | T-MOBILE WEST CORP (SC06059A) |
| Address: | 2840 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Facility Id: | Not reported |
| Facility Status: | Not reported |
| FD: | Not reported |
| Billing Codes BP: | I |
| Billing Codes UST: | Not reported |
| WG Bill Code: | Not reported |
| Target Property Bill Cod: | Not reported |
| Food Bill Code: | Not reported |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | Not reported |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

**43** **ERNS** **2002610563**
**Target Property** **2828 EL CENTRO RD** **N/A**
**SACARMENTO, CA**

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

**Actual:**
**14 ft.**

**Focus Map:**
**8**

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**F44** **SACRAMENTO 49ER AUTO/TRUCK PLAZA** **FINDS** **1023253383**
**Target Property** **2828 EL CENTRO RD** **ECHO** **N/A**
**SACRAMENTO, CA 95833**

**Site 1 of 26 in cluster F**

**Actual:**
**14 ft.**

**Focus Map:**
**8**

FINDS:
Registry ID: 110065422037

Click Here:

Environmental Interest/Information System:
STATE MASTER

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

| | |
|---|---|
| Envid: | 1023253383 |
| Registry ID: | 110066600529 |
| DFR URL: | http://echo.epa.gov/detailed-facility-report?fid=110066600529 |
| Name: | SACRAMENTO 49ER AUTO/TRUCK PLAZA |
| Address: | 2828 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |

---

**F45** **FORTY-NINER AUTO #6204** **HIST UST** **U001615945**
**Target Property** **2828 EL CENTRO RD** **N/A**
**SACRAMENTO, CA 95833**

**Site 2 of 26 in cluster F**

**Actual:**
**14 ft.**

**Focus Map:**
**8**

HIST UST:

| | |
|---|---|
| Name: | FORTY-NINER AUTO #6204 |
| Address: | 2828 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| File Number: | Not reported |
| URL: | Not reported |
| Region: | STATE |
| Facility ID: | 00000050568 |
| Facility Type: | Gas Station |
| Other Type: | Not reported |
| Contact Name: | JOHN FULTS |
| Telephone: | 9169274774 |
| Owner Name: | UNOCAL |
| Owner Address: | 911 WILSHIRE BLVD., ROOM 1313 |
| Owner City,St,Zip: | LOS ANGELES, CA 90017 |
| Total Tanks: | 0001 |

**FORTY-NINER AUTO #6204 (Continued)** **U001615945**

| | |
|---|---|
| Tank Num: | 001 |
| Container Num: | 62044 |
| Year Installed: | 1971 |
| Tank Capacity: | 00001200 |
| Tank Used for: | WASTE |
| Type of Fuel: | WASTE OIL |
| Container Construction Thickness: | 6 |
| Leak Detection: | Visual |

---

**F46** **49ER TRUCK STOP** **RGA LUST** **S114566227**
**Target** **2828 EL CENTRO RD** **N/A**
**Property** **SACRAMENTO, CA**

**Site 3 of 26 in cluster F**

**Actual:** **14 ft.**

**Focus Map:** **8**

RGA LUST:

| | | | |
|---|---|---|---|
| Name: | 49ER TRUCK STOP | | |
| Address: | 2828 EL CENTRO RD | | |
| City: | SACRAMENTO | | |
| State: | SACRAMENTO | | |
| | 2012 | 49ER TRUCK STOP | 2828 EL CENTRO RD |
| Name: | 49ER TRUCK STOP | | |
| Address: | 2828 EL CENTRO RD | | |
| City: | SACRAMENTO | | |
| State: | SACRAMENTO | | |
| | 2011 | 49ER TRUCK STOP | 2828 EL CENTRO RD |
| Name: | 49ER TRUCK STOP | | |
| Address: | 2828 EL CENTRO RD | | |
| City: | SACRAMENTO | | |
| State: | SACRAMENTO | | |
| | 2010 | 49ER TRUCK STOP | 2828 EL CENTRO RD |
| Name: | 49ER TRUCK STOP | | |
| Address: | 2828 EL CENTRO RD | | |
| City: | SACRAMENTO | | |
| State: | SACRAMENTO | | |
| | 2009 | 49ER TRUCK STOP | 2828 EL CENTRO RD |
| Name: | 49ER TRUCK STOP | | |
| Address: | 2828 EL CENTRO RD | | |
| City: | SACRAMENTO | | |
| State: | SACRAMENTO | | |
| | 2008 | 49ER TRUCK STOP | 2828 EL CENTRO RD |
| Name: | 49ER TRUCK STOP | | |
| Address: | 2828 EL CENTRO RD | | |
| City: | SACRAMENTO | | |
| State: | SACRAMENTO | | |
| | 2007 | 49ER TRUCK STOP | 2828 EL CENTRO RD |
| Name: | 49ER TRUCK STOP | | |
| Address: | 2828 EL CENTRO RD | | |
| City: | SACRAMENTO | | |
| State: | SACRAMENTO | | |
| | 2006 | 49ER TRUCK STOP | 2828 EL CENTRO RD |
| Name: | 49ER TRUCK STOP | | |
| Address: | 2828 EL CENTRO RD | | |
| City: | SACRAMENTO | | |
| State: | SACRAMENTO | | |
| | 2005 | 49ER TRUCK STOP | 2828 EL CENTRO RD |
| Name: | 49ER TRUCK STOP | | |
| Address: | 2828 EL CENTRO RD | | |

**49ER TRUCK STOP (Continued)** **S114566227**

City: SACRAMENTO
State: SACRAMENTO
2004 49ER TRUCK STOP 2828 EL CENTRO RD
Name: 49ER TRUCK STOP
Address: 2828 EL CENTRO RD
City: SACRAMENTO
State: SACRAMENTO
2003 49ER TRUCK STOP 2828 EL CENTRO RD
Name: 49ER TRUCK STOP
Address: 2828 EL CENTRO RD
City: SACRAMENTO
State: SACRAMENTO
2002 49ER TRUCK STOP 2828 EL CENTRO RD
Name: 49ER TRUCK STOP
Address: 2828 EL CENTRO RD
City: SACRAMENTO
State: SACRAMENTO
2001 49ER TRUCK STOP 2828 EL CENTRO RD
Name: 49ER TRUCK STOP
Address: 2828 EL CENTRO RD
City: SACRAMENTO
State: SACRAMENTO
2000 49ER TRUCK STOP 2828 EL CENTRO RD
Name: 49ER TRUCK STOP
Address: 2828 EL CENTRO RD
City: SACRAMENTO
State: SACRAMENTO
1998 49ER TRUCK STOP 2828 EL CENTRO RD
Name: 49ER TRUCK STOP
Address: 2828 EL CENTRO RD
City: SACRAMENTO
State: SACRAMENTO
1997 49ER TRUCK STOP 2828 EL CENTRO RD
Name: 49ER TRUCK STOP
Address: 2828 EL CENTRO RD
City: SACRAMENTO
State: SACRAMENTO
1996 49ER TRUCK STOP 2828 EL CENTRO RD
Name: 49ER TRUCK STOP
Address: 2828 EL CENTRO RD
City: SACRAMENTO
State: SACRAMENTO
1995 49ER TRUCK STOP 2828 EL CENTRO RD

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**F47** **SACRAMENTO FORTY-NINER TRUCK PLAZA** **HAZNET** **S112841635**
**Target** **2828 EL CENTRO ROAD** **HWTS** **N/A**
**Property** **SACRAMENTO, CA 95833**

**Site 4 of 26 in cluster F**

**Actual:** **14 ft.**
**Focus Map: 8**

HAZNET:
Name: SACRAMENTO FORTY-NINER TRUCK PLAZA
Address: 2828 EL CENTRO ROAD
Address 2: Not reported
City,State,Zip: SACRAMENTO, CA 958330000
Contact: BILL RYAN
Telephone: 9169274774
Mailing Name: Not reported

**SACRAMENTO FORTY-NINER TRUCK PLAZA (Continued)** **S112841635**

| | |
|---|---|
| Mailing Address: | 2828 EL CENTRO ROAD |
| Year: | 1996 |
| Gepaid: | CAC000737760 |
| TSD EPA ID: | CAT000646117 |
| CA Waste Code: | 352 - Other organic solids |
| Disposal Method: | D80 - Disposal, Land Fill |
| Tons: | 0.15 |

Additional Info:

| | |
|---|---|
| Year: | 1996 |
| Gen EPA ID: | CAC000737760 |
| Shipment Date: | 19960112 |
| Creation Date: | 10/9/1996 0:00:00 |
| Receipt Date: | 19960117 |
| Manifest ID: | 95883828 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT000646117 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | CAT000646117 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | D80 - Disposal, Land Fill |
| Quantity Tons: | 0.15 |
| Waste Quantity: | 300 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

HWTS:

| | |
|---|---|
| Name: | SACRAMENTO FORTY-NINER TRUCK PLAZA |
| Address: | 2828 EL CENTRO ROAD |
| Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 958330000 |
| EPA ID: | CAC000737760 |
| Inactive Date: | 10/25/2000 |
| Create Date: | 01/09/1996 |
| Last Act Date: | 10/25/2000 |
| Mailing Name: | Not reported |
| Mailing Address: | 2828 EL CENTRO ROAD |
| Mailing Address 2: | Not reported |
| Mailing City,State,Zip: | SACRAMENTO, CA 958330000 |
| Owner Name: | TERRY RUST |
| Owner Address: | 2828 EL CENTRO ROAD |
| Owner Address 2: | Not reported |
| Owner City,State,Zip: | SACRAMENTO, CA 958330000 |
| Contact Name: | BILL RYAN |

**SACRAMENTO FORTY-NINER TRUCK PLAZA (Continued)** **S112841635**

Contact Address: 2828 EL CENTRO ROAD
Contact Address 2: Not reported
City,State,Zip: SACRAMENTO, CA 958330000

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**F48** **1X UNOCAL 76** **HAZNET** **S112838609**
**Target** **2828 EL CENTRO RD** **HWTS** **N/A**
**Property** **SACRAMENTO, CA 95833**

**Site 5 of 26 in cluster F**

**Actual:** **14 ft.**
**Focus Map:** **8**

HAZNET:
Name: 1X UNOCAL 76
Address: 2828 EL CENTRO RD
Address 2: Not reported
City,State,Zip: SACRAMENTO, CA 958330000
Contact: SMITH, KEN/MGR
Telephone: 9169274774
Mailing Name: Not reported
Mailing Address: --

Year: 1993
Gepaid: CAC000622368
TSD EPA ID: CAD083166728
CA Waste Code: 221 - Waste oil and mixed oil
Disposal Method: -
Tons: 1.35

Year: 1993
Gepaid: CAC000622368
TSD EPA ID: CAD083166728
CA Waste Code: 221 - Waste oil and mixed oil
Disposal Method: R01 - Recycler
Tons: 1.14

Year: 1993
Gepaid: CAC000622368
TSD EPA ID: CAD982446874
CA Waste Code: 221 - Waste oil and mixed oil
Disposal Method: H01 - Transfer Station
Tons: 3.325

Year: 1992
Gepaid: CAC000622368
TSD EPA ID: CAD083166728
CA Waste Code: 221 - Waste oil and mixed oil
Disposal Method: R01 - Recycler
Tons: 26.271

Year: 1991
Gepaid: CAC000622368
TSD EPA ID: CAD083166728
CA Waste Code: 221 - Waste oil and mixed oil
Disposal Method: H01 - Transfer Station
Tons: 47.538

Year: 1991
Gepaid: CAC000622368
TSD EPA ID: CAD980695761

**1X UNOCAL 76 (Continued)** **S112838609**

CA Waste Code: 223 - Unspecified oil-containing waste
Disposal Method: R01 - Recycler
Tons: 1.251

Year: 1991
Gepaid: CAC000622368
TSD EPA ID: CAD982446874
CA Waste Code: 221 - Waste oil and mixed oil
Disposal Method: 14 -
Tons: 0.6255

Year: 1991
Gepaid: CAC000622368
TSD EPA ID: CAD980695761
CA Waste Code: 221 - Waste oil and mixed oil
Disposal Method: R01 - Recycler
Tons: 10.425

Year: 1991
Gepaid: CAC000622368
TSD EPA ID: CAD083166728
CA Waste Code: 221 - Waste oil and mixed oil
Disposal Method: 01 -
Tons: 15.3622

Year: 1991
Gepaid: CAC000622368
TSD EPA ID: CAD980695761
CA Waste Code: 221 - Waste oil and mixed oil
Disposal Method: H01 - Transfer Station
Tons: 5.838

Click this hyperlink while viewing on your computer to access
2 additional CA HAZNET: record(s) in the EDR Site Report.

Additional Info:
Year: 1993
Gen EPA ID: CAC000622368

Shipment Date: 19930810
Creation Date: 9/12/1995 0:00:00
Receipt Date: 19930824
Manifest ID: 92206515
Trans EPA ID: CAD982040206
Trans Name: Not reported
Trans 2 EPA ID: Not reported
Trans 2 Name: Not reported
TSDF EPA ID: CAD083166728
Trans Name: Not reported
TSDF Alt EPA ID: Not reported
TSDF Alt Name: Not reported
Waste Code Description: 221 - Waste oil and mixed oil
RCRA Code: Not reported
Meth Code: R01 - Recycler
Quantity Tons: 1.14
Waste Quantity: 300

**1X UNOCAL 76 (Continued)** **S112838609**

| | |
|---|---|
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 19930701 |
| Creation Date: | 9/8/1995 0:00:00 |
| Receipt Date: | Not reported |
| Manifest ID: | 89745165 |
| Trans EPA ID: | CAD982040206 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD083166728 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 221 - Waste oil and mixed oil |
| RCRA Code: | Not reported |
| Meth Code: | - Not reported |
| Quantity Tons: | 1.35 |
| Waste Quantity: | 2700 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 19930107 |
| Creation Date: | 9/5/1995 0:00:00 |
| Receipt Date: | 19930107 |
| Manifest ID: | 91593156 |
| Trans EPA ID: | CAD982040206 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD982446874 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 221 - Waste oil and mixed oil |
| RCRA Code: | Not reported |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 3.325 |
| Waste Quantity: | 875 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

HWTS:

| | |
|---|---|
| Name: | 1X UNOCAL 76 |

**1X UNOCAL 76 (Continued)** **S112838609**

| | |
|---|---|
| Address: | 2828 EL CENTRO RD |
| Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 958330000 |
| EPA ID: | CAC000622368 |
| Inactive Date: | 10/25/2000 |
| Create Date: | 06/13/1991 |
| Last Act Date: | 10/25/2000 |
| Mailing Name: | Not reported |
| Mailing Address: | -- |
| Mailing Address 2: | Not reported |
| Mailing City,State,Zip: | SACRAMENTO, CA 958330000 |
| Owner Name: | CORP |
| Owner Address: | -- |
| Owner Address 2: | Not reported |
| Owner City,State,Zip: | --, 99 -- |
| Contact Name: | SMITH, KEN/MGR |
| Contact Address: | -- |
| Contact Address 2: | Not reported |
| City,State,Zip: | --, 99 -- |

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**F49** **SACRAMENTO 49ER AUTO/TRUCK PLAZA** **FINDS** **1023362743**
**Target** **2828 EL CENTRO RD** **N/A**
**Property** **SACRAMENTO, CA 95833**

**Site 6 of 26 in cluster F**

**Actual:** **14 ft.**

**Focus Map:** **8**

FINDS:
Registry ID: 110066600529

Click Here:

Environmental Interest/Information System:
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.
STATE MASTER

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

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**F50** **SACRAMENTO 49ER AUTO/TRUCK PLAZA** **HAZNET** **S113051582**
**Target** **2828 EL CENTRO ROAD** **HWTS** **N/A**
**Property** **SACRAMENTO, CA 95833**

**Site 7 of 26 in cluster F**

**Actual:** **14 ft.**

**Focus Map:** **8**

HAZNET:

| | |
|---|---|
| Name: | SACRAMENTO 49ER AUTO/TRUCK PLAZA |
| Address: | 2828 EL CENTRO ROAD |
| Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 958339703 |
| Contact: | JASON RAMIREZ |
| Telephone: | 9169274774 |
| Mailing Name: | Not reported |
| Mailing Address: | 2828 EL CENTRO RD |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Year: | 2019 |
| Gepaid: | CAL000077839 |
| TSD EPA ID: | CAL000330453 |
| CA Waste Code: | 352 - Other organic solids |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 1.47500 |
| Year: | 2019 |
| Gepaid: | CAL000077839 |
| TSD EPA ID: | CAL000330453 |
| CA Waste Code: | 352 - Other organic solids |
| Disposal Method: | H010 - Metals Recovery Including Retoring,Smelting,Chemicals,Ect |
| Tons: | 0.95000 |
| Year: | 2019 |
| Gepaid: | CAL000077839 |
| TSD EPA ID: | AZD081705402 |
| CA Waste Code: | 331 - Off-specification, aged or surplus organics |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 0.75900 |
| Year: | 2019 |
| Gepaid: | CAL000077839 |
| TSD EPA ID: | UTD981552177 |
| CA Waste Code: | 141 - Off-specification, aged or surplus inorganics |
| Disposal Method: | H040 - Incineration--Thermal Destruction Other Than Use As A Fuel |
| Tons: | 0.06000 |
| Year: | 2019 |
| Gepaid: | CAL000077839 |
| TSD EPA ID: | CAL000330453 |
| CA Waste Code: | 352 - Other organic solids |
| Disposal Method: | - |
| Tons: | 0.30000 |
| Year: | 2018 |
| Gepaid: | CAL000077839 |
| TSD EPA ID: | CAL000330453 |
| CA Waste Code: | 352 - Other organic solids |
| Disposal Method: | H010 - Metals Recovery Including Retoring,Smelting,Chemicals,Ect |
| Tons: | 1.30000 |
| Year: | 2018 |
| Gepaid: | CAL000077839 |
| TSD EPA ID: | CAL000330453 |
| CA Waste Code: | 352 - Other organic solids |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 1.60250 |
| Year: | 2018 |
| Gepaid: | CAL000077839 |
| TSD EPA ID: | AZD081705402 |
| CA Waste Code: | 331 - Off-specification, aged or surplus organics |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| | Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 0.62700 |
| Year: | 2017 |
| Gepaid: | CAL000077839 |
| TSD EPA ID: | CAD097030993 |
| CA Waste Code: | 352 - Other organic solids |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 2.4 |
| Year: | 2017 |
| Gepaid: | CAL000077839 |
| TSD EPA ID: | NVT330010000 |
| CA Waste Code: | 343 - Unspecified organic liquid mixture |
| Disposal Method: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Tons: | 0.187 |

Click this hyperlink while viewing on your computer to access
63 additional CA HAZNET: record(s) in the EDR Site Report.

Additional Info:

| | |
|---|---|
| Year: | 2013 |
| Gen EPA ID: | CAL000077839 |
| Shipment Date: | 20131213 |
| Creation Date: | 5/14/2014 22:15:08 |
| Receipt Date: | 20131230 |
| Manifest ID: | 010191228JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | CAR000175422 |
| Trans 2 Name: | WORLDWIDE RECOVERY SYSTEM INC |
| TSDF EPA ID: | NVT330010000 |
| Trans Name: | US ECOLOGY INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.2 |
| Waste Quantity: | 400 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| Shipment Date: | 20131021 |
| Creation Date: | 4/15/2014 22:15:05 |
| Receipt Date: | 20131111 |
| Manifest ID: | 010190823JJK |
| Trans EPA ID: | CAR000171017 |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | CAR000210617 |
| Trans 2 Name: | 21ST CENTURY ENVIRONMENTAL MANAGEMENT OF CA LP |
| TSDF EPA ID: | NVD980895338 |
| Trans Name: | 21ST CENTURY ENVIRONMENTAL MANAGEMENT OF NV LLC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.15 |
| Waste Quantity: | 300 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20131021 |
| Creation Date: | 4/15/2014 22:15:05 |
| Receipt Date: | 20131111 |
| Manifest ID: | 010190823JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | CAR000210617 |
| Trans 2 Name: | 21ST CENTURY ENVIRONMENTAL MANAGEMENT OF CA LP |
| TSDF EPA ID: | NVD980895338 |
| Trans Name: | 21ST CENTURY ENVIRONMENTAL MANAGEMENT OF NV LLC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.187 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20130701 |
| Creation Date: | 8/20/2013 22:15:09 |
| Receipt Date: | 20130709 |
| Manifest ID: | 010198099JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD980884183 |
| Trans Name: | GEM OF RANCHO CORDOVA LLC DBA PSC ENV S |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.075 |
| Waste Quantity: | 150 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20130617 |
| Creation Date: | 8/12/2013 22:15:16 |
| Receipt Date: | 20130705 |
| Manifest ID: | 010197920JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | CAR000210617 |
| Trans 2 Name: | 21ST CENTURY ENVIRONMENTAL MANAGEMENT OF CA LP |
| TSDF EPA ID: | CAD980884183 |
| Trans Name: | GEM OF RANCHO CORDOVA LLC DBA PSC ENV S |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.15 |
| Waste Quantity: | 300 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20130521 |
| Creation Date: | 7/15/2013 22:15:07 |
| Receipt Date: | 20130528 |
| Manifest ID: | 010197769JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES, INC. |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD980884183 |
| Trans Name: | GEM OF RANCHO CORDOVA, LLC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.25 |
| Waste Quantity: | 500 |
| Quantity Unit: | P |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20130207 |
| Creation Date: | 8/21/2013 22:15:07 |
| Receipt Date: | 20130212 |
| Manifest ID: | 010189128JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | CAR000179382 |
| Trans 2 Name: | ENV ENVIRONMENTAL INTERNATIONAL |
| TSDF EPA ID: | NVT330010000 |
| Trans Name: | US ECOLOGY INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.15 |
| Waste Quantity: | 300 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 1999 |
| Gen EPA ID: | CAL000077839 |
| | |
| Shipment Date: | 19991101 |
| Creation Date: | 1/19/2000 0:00:00 |
| Receipt Date: | 19991102 |
| Manifest ID: | 99565440 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 1.251 |
| Waste Quantity: | 300 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 19990206 |
| Creation Date: | 4/20/1999 0:00:00 |
| Receipt Date: | 19990208 |
| Manifest ID: | 98454233 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 222 - Oil/water separation sludge |
| RCRA Code: | Not reported |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.834 |
| Waste Quantity: | 200 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2001 |
| Gen EPA ID: | CAL000077839 |
| | |
| Shipment Date: | 20010214 |
| Creation Date: | 4/30/2001 0:00:00 |
| Receipt Date: | 20010220 |
| Manifest ID: | 20735078 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD008252405 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D001 |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.099 |
| Waste Quantity: | 30 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20010214 |
| Creation Date: | 4/30/2001 0:00:00 |
| Receipt Date: | 20010220 |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Manifest ID: | 20735077 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080033681 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | D80 - Disposal, Land Fill |
| Quantity Tons: | 0.125 |
| Waste Quantity: | 250 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 1996 |
| Gen EPA ID: | CAL000077839 |
| Shipment Date: | 19961029 |
| Creation Date: | 5/20/1997 0:00:00 |
| Receipt Date: | 19961029 |
| Manifest ID: | 96430559 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 4.17 |
| Waste Quantity: | 1000 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| Shipment Date: | 19960202 |
| Creation Date: | 10/10/1996 0:00:00 |
| Receipt Date: | 19960202 |
| Manifest ID: | 96213604 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

TSDF EPA ID: CAD044003556
Trans Name: Not reported
TSDF Alt EPA ID: Not reported
TSDF Alt Name: Not reported
Waste Code Description: 222 - Oil/water separation sludge
RCRA Code: Not reported
Meth Code: H01 - Transfer Station
Quantity Tons: 9.174
Waste Quantity: 2200
Quantity Unit: G
Additional Code 1: Not reported
Additional Code 2: Not reported
Additional Code 3: Not reported
Additional Code 4: Not reported
Additional Code 5: Not reported

Shipment Date: 19960202
Creation Date: 10/10/1996 0:00:00
Receipt Date: 19960202
Manifest ID: 96213610
Trans EPA ID: CAD044003556
Trans Name: Not reported
Trans 2 EPA ID: Not reported
Trans 2 Name: Not reported
TSDF EPA ID: CAD044003556
Trans Name: Not reported
TSDF Alt EPA ID: Not reported
TSDF Alt Name: Not reported
Waste Code Description: 222 - Oil/water separation sludge
RCRA Code: Not reported
Meth Code: H01 - Transfer Station
Quantity Tons: 5.004
Waste Quantity: 1200
Quantity Unit: G
Additional Code 1: Not reported
Additional Code 2: Not reported
Additional Code 3: Not reported
Additional Code 4: Not reported
Additional Code 5: Not reported

Additional Info:
Year: 2009
Gen EPA ID: CAL000077839

Shipment Date: 20091218
Creation Date: 2/3/2010 18:31:10
Receipt Date: 20091221
Manifest ID: 006069146JJK
Trans EPA ID: CAR000171017
Trans Name: FREMOUW ENVIRONMENTAL SERVICES INC
Trans 2 EPA ID: Not reported
Trans 2 Name: Not reported
TSDF EPA ID: CAD980887418
Trans Name: EVERGREEN OIL INC
TSDF Alt EPA ID: Not reported
TSDF Alt Name: Not reported
Waste Code Description: 223 - Unspecified oil-containing waste

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 7.7145 |
| Waste Quantity: | 1850 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20090911 |
| Creation Date: | 3/5/2010 18:31:07 |
| Receipt Date: | 20090917 |
| Manifest ID: | 006068377JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | CAR000164012 |
| Trans 2 Name: | 21ST CENTURY ENVIRONMENTAL MANAGEMENT OF NEVADA LLC |
| TSDF EPA ID: | NVD980895338 |
| Trans Name: | 21ST CENTURY EMI |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.4 |
| Waste Quantity: | 800 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20090810 |
| Creation Date: | 9/23/2009 18:30:38 |
| Receipt Date: | 20090818 |
| Manifest ID: | 005549279JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | SIEMENS WATER TECHNOLOGIES CORP |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.4 |
| Waste Quantity: | 800 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20090810 |
| Creation Date: | 10/12/2009 18:30:08 |
| Receipt Date: | 20090817 |
| Manifest ID: | 005549280JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO / KERDOON |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 135 - Unspecified aqueous solution |
| RCRA Code: | D001 |
| Meth Code: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Quantity Tons: | 0.21 |
| Waste Quantity: | 50 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20090710 |
| Creation Date: | 8/28/2009 18:30:09 |
| Receipt Date: | 20090721 |
| Manifest ID: | 004536174JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | SIEMENS WATER TECHNOLOGIES CORP |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.3 |
| Waste Quantity: | 600 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20090710 |
| Creation Date: | 8/25/2009 18:30:08 |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Receipt Date: | 20090713 |
| Manifest ID: | 004536177JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO / KERDOON |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Quantity Tons: | 10.6335 |
| Waste Quantity: | 2550 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20090306 |
| Creation Date: | 4/14/2009 18:30:09 |
| Receipt Date: | 20090316 |
| Manifest ID: | 005547932JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | SIEMENS WATER TECHNOLOGIES CORP |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.3 |
| Waste Quantity: | 600 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2002 |
| Gen EPA ID: | CAL000077839 |

| | |
|---|---|
| Shipment Date: | 20021114 |
| Creation Date: | 2/21/2003 10:42:43 |
| Receipt Date: | 20021117 |
| Manifest ID: | 22089209 |
| Trans EPA ID: | CAR000118992 |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD028409019 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | D001 |
| Meth Code: | T01 - Treatment, Tank |
| Quantity Tons: | 0.374 |
| Waste Quantity: | 110 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 1994 |
| Gen EPA ID: | CAL000077839 |
| Shipment Date: | 19940825 |
| Creation Date: | 10/17/1995 0:00:00 |
| Receipt Date: | 19940826 |
| Manifest ID: | 93071368 |
| Trans EPA ID: | CAD102827599 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD980883177 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.834 |
| Waste Quantity: | 200 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| Shipment Date: | 19940604 |
| Creation Date: | 10/10/1995 0:00:00 |
| Receipt Date: | 19940606 |
| Manifest ID: | 93071274 |
| Trans EPA ID: | CAD102827599 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD083166728 |
| Trans Name: | Not reported |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

TSDF Alt EPA ID: CAD083166728
TSDF Alt Name: Not reported
Waste Code Description: 223 - Unspecified oil-containing waste
RCRA Code: Not reported
Meth Code: R01 - Recycler
Quantity Tons: 2.919
Waste Quantity: 700
Quantity Unit: G
Additional Code 1: Not reported
Additional Code 2: Not reported
Additional Code 3: Not reported
Additional Code 4: Not reported
Additional Code 5: Not reported

Shipment Date: 19940228
Creation Date: 9/15/1995 0:00:00
Receipt Date: 19940301
Manifest ID: 93393722
Trans EPA ID: CAD982417255
Trans Name: Not reported
Trans 2 EPA ID: Not reported
Trans 2 Name: Not reported
TSDF EPA ID: CAD083166728
Trans Name: Not reported
TSDF Alt EPA ID: Not reported
TSDF Alt Name: Not reported
Waste Code Description: 223 - Unspecified oil-containing waste
RCRA Code: Not reported
Meth Code: R01 - Recycler
Quantity Tons: 3.1275
Waste Quantity: 750
Quantity Unit: G
Additional Code 1: Not reported
Additional Code 2: Not reported
Additional Code 3: Not reported
Additional Code 4: Not reported
Additional Code 5: Not reported

Additional Info:
Year: 1998
Gen EPA ID: CAL000077839

Shipment Date: 19981222
Creation Date: 2/2/1999 0:00:00
Receipt Date: 19981222
Manifest ID: 98454812
Trans EPA ID: CAD982484370
Trans Name: Not reported
Trans 2 EPA ID: Not reported
Trans 2 Name: Not reported
TSDF EPA ID: CAD009466392
Trans Name: Not reported
TSDF Alt EPA ID: Not reported
TSDF Alt Name: Not reported
Waste Code Description: 512 - Other empty containers 30 gallons or more
RCRA Code: Not reported
Meth Code: R01 - Recycler

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Quantity Tons: | 0.5 |
| Waste Quantity: | 1000 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 19981204 |
| Creation Date: | 2/8/1999 0:00:00 |
| Receipt Date: | 19981207 |
| Manifest ID: | 98290132 |
| Trans EPA ID: | CAD102827599 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | CAT080013352 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D001 |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 2.8743 |
| Waste Quantity: | 871 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 19981204 |
| Creation Date: | 1/21/1999 0:00:00 |
| Receipt Date: | 19981204 |
| Manifest ID: | 98617331 |
| Trans EPA ID: | CAD055559678 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD009466392 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 512 - Other empty containers 30 gallons or more |
| RCRA Code: | Not reported |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 5 |
| Waste Quantity: | 10000 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Shipment Date: | 19981204 |
| Creation Date: | 1/21/1999 0:00:00 |
| Receipt Date: | 19981204 |
| Manifest ID: | 98617335 |
| Trans EPA ID: | CAD055559678 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD009466392 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 512 - Other empty containers 30 gallons or more |
| RCRA Code: | Not reported |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 10 |
| Waste Quantity: | 20000 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 19981204 |
| Creation Date: | 2/2/1999 0:00:00 |
| Receipt Date: | 19981204 |
| Manifest ID: | 98617330 |
| Trans EPA ID: | CAD055559678 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD009466392 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | CAD009466392 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 512 - Other empty containers 30 gallons or more |
| RCRA Code: | Not reported |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 10 |
| Waste Quantity: | 20000 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 19981204 |
| Creation Date: | 1/28/1999 0:00:00 |
| Receipt Date: | 19981207 |
| Manifest ID: | 98083434 |
| Trans EPA ID: | CAD055559678 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD009466392 |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 512 - Other empty containers 30 gallons or more |
| RCRA Code: | Not reported |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 1 |
| Waste Quantity: | 2000 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 19981204 |
| Creation Date: | 1/21/1999 0:00:00 |
| Receipt Date: | 19981204 |
| Manifest ID: | 98617332 |
| Trans EPA ID: | CAD055559678 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD009466392 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 512 - Other empty containers 30 gallons or more |
| RCRA Code: | Not reported |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 10 |
| Waste Quantity: | 20000 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 19981015 |
| Creation Date: | 12/7/1998 0:00:00 |
| Receipt Date: | 19981015 |
| Manifest ID: | 98079789 |
| Trans EPA ID: | CAD982484370 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD009466392 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 512 - Other empty containers 30 gallons or more |
| RCRA Code: | Not reported |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 5 |
| Waste Quantity: | 10000 |
| Quantity Unit: | P |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 19980909 |
| Creation Date: | 12/10/1998 0:00:00 |
| Receipt Date: | 19980909 |
| Manifest ID: | 98540416 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 222 - Oil/water separation sludge |
| RCRA Code: | Not reported |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 1.4595 |
| Waste Quantity: | 350 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2003 |
| Gen EPA ID: | CAL000077839 |
| | |
| Shipment Date: | 20030903 |
| Creation Date: | 7/13/2004 10:48:19 |
| Receipt Date: | 20030904 |
| Manifest ID: | 22084887 |
| Trans EPA ID: | NVD982358483 |
| Trans Name: | AMERICLEAN INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | NVD982358483 |
| Trans Name: | AMERICLEAN INC |
| TSDF Alt EPA ID: | NVD982358483 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 221 - Waste oil and mixed oil |
| RCRA Code: | Not reported |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 1.71 |
| Waste Quantity: | 450 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

Additional Info:

| | |
|---|---|
| Year: | 2008 |
| Gen EPA ID: | CAL000077839 |
| Shipment Date: | 20081104 |
| Creation Date: | 12/22/2008 18:30:21 |
| Receipt Date: | 20081111 |
| Manifest ID: | 005106786JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | SIEMENS WATER TECHNOLOGIES CORP |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.25 |
| Waste Quantity: | 500 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| Shipment Date: | 20081024 |
| Creation Date: | 12/11/2008 18:30:37 |
| Receipt Date: | 20081103 |
| Manifest ID: | 005101292JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | SIEMENS WATER TECHNOLOGIES CORP |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.25 |
| Waste Quantity: | 500 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| Shipment Date: | 20080929 |
| Creation Date: | 11/17/2008 18:30:08 |
| Receipt Date: | 20081007 |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Manifest ID: | 005102585JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | SIEMENS WATER TECHNOLOGIES CORP |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.35 |
| Waste Quantity: | 700 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20080813 |
| Creation Date: | 10/1/2008 18:30:38 |
| Receipt Date: | 20080825 |
| Manifest ID: | 005105841JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | SIEMENS WATER TECHNOLOGIES CORP |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.4 |
| Waste Quantity: | 800 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20080612 |
| Creation Date: | 8/11/2008 18:30:30 |
| Receipt Date: | 20080623 |
| Manifest ID: | 004544929JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | SIEMENS WATER TECHNOLOGIES CORP |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

TSDF Alt EPA ID: Not reported
TSDF Alt Name: Not reported
Waste Code Description: 352 - Other organic solids
RCRA Code: Not reported
Meth Code: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons: 0.15
Waste Quantity: 300
Quantity Unit: P
Additional Code 1: Not reported
Additional Code 2: Not reported
Additional Code 3: Not reported
Additional Code 4: Not reported
Additional Code 5: Not reported

Shipment Date: 20080220
Creation Date: 4/22/2008 18:30:30
Receipt Date: 20080303
Manifest ID: 003179315JJK
Trans EPA ID: CAD028277036
Trans Name: ASBURY ENVIRONMENTAL SERVICES
Trans 2 EPA ID: Not reported
Trans 2 Name: Not reported
TSDF EPA ID: CAD097030993
Trans Name: SIEMENS WATER TECHNOLOGIES CORP
TSDF Alt EPA ID: Not reported
TSDF Alt Name: Not reported
Waste Code Description: 352 - Other organic solids
RCRA Code: Not reported
Meth Code: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons: 0.3
Waste Quantity: 600
Quantity Unit: P
Additional Code 1: Not reported
Additional Code 2: Not reported
Additional Code 3: Not reported
Additional Code 4: Not reported
Additional Code 5: Not reported

Additional Info:
Year: 2005
Gen EPA ID: CAL000077839

Shipment Date: 20051229
Creation Date: 3/22/2006 18:32:45
Receipt Date: 20051229
Manifest ID: 24775155
Trans EPA ID: CAR000007013
Trans Name: CLEARWATER ENVIRONMENTAL
Trans 2 EPA ID: Not reported
Trans 2 Name: Not reported
TSDF EPA ID: CAL000161743
Trans Name: ALVISO INDEPENDENT OIL
TSDF Alt EPA ID: CAL000161743
TSDF Alt Name: Not reported
Waste Code Description: 352 - Other organic solids

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

RCRA Code: Not reported
Meth Code: H01 - Transfer Station
Quantity Tons: 0.2
Waste Quantity: 400
Quantity Unit: P
Additional Code 1: Not reported
Additional Code 2: Not reported
Additional Code 3: Not reported
Additional Code 4: Not reported
Additional Code 5: Not reported

Shipment Date: 20050928
Creation Date: 3/12/2006 18:30:40
Receipt Date: 20050929
Manifest ID: 24546018
Trans EPA ID: CAR000007013
Trans Name: CLEARWATER ENVIRONMENTAL
Trans 2 EPA ID: Not reported
Trans 2 Name: Not reported
TSDF EPA ID: CAL000161743
Trans Name: ALVISO INDEPENDENT OIL
TSDF Alt EPA ID: CAL000161743
TSDF Alt Name: Not reported
Waste Code Description: 352 - Other organic solids
RCRA Code: Not reported
Meth Code: H01 - Transfer Station
Quantity Tons: 0.05
Waste Quantity: 100
Quantity Unit: P
Additional Code 1: Not reported
Additional Code 2: Not reported
Additional Code 3: Not reported
Additional Code 4: Not reported
Additional Code 5: Not reported

Additional Info:
Year: 2016
Gen EPA ID: CAL000077839

Shipment Date: 20151005
Creation Date: 12/22/2015 22:15:38
Receipt Date: 20151009
Manifest ID: 005089945SKS
Trans EPA ID: TXR000081205
Trans Name: SAFETY-KLEEN SYSTEMS INC
Trans 2 EPA ID: Not reported
Trans 2 Name: Not reported
TSDF EPA ID: CAD059494310
Trans Name: CLEAN HARBORS SAN JOSE LLC
TSDF Alt EPA ID: Not reported
TSDF Alt Name: Not reported
Waste Code Description: 352 - Other organic solids
RCRA Code: Not reported
Meth Code: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons: 0.45
Waste Quantity: 900

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20150908 |
| Creation Date: | 2/5/2016 22:15:23 |
| Receipt Date: | 20150918 |
| Manifest ID: | 014520462JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | CAR000175422 |
| Trans 2 Name: | WORLDWIDE RECOVERY SYSTEM INC |
| TSDF EPA ID: | AZR000515924 |
| Trans Name: | YUMA YES LLC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.35445 |
| Waste Quantity: | 85 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 1993 |
| Gen EPA ID: | CAL000077839 |
| | |
| Shipment Date: | 19931008 |
| Creation Date: | 9/13/1995 0:00:00 |
| Receipt Date: | 19931008 |
| Manifest ID: | 89745440 |
| Trans EPA ID: | CAD981694722 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | CAD940370645 |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 221 - Waste oil and mixed oil |
| RCRA Code: | Not reported |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 1.71 |
| Waste Quantity: | 450 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 19930817 |
| Creation Date: | 9/12/1995 0:00:00 |
| Receipt Date: | 19930821 |
| Manifest ID: | 89745454 |
| Trans EPA ID: | CAD981694722 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | CAD940370645 |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 222 - Oil/water separation sludge |
| RCRA Code: | Not reported |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 2.502 |
| Waste Quantity: | 600 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2014 |
| Gen EPA ID: | CAL000077839 |
| | |
| Shipment Date: | 20141229 |
| Creation Date: | 6/25/2015 22:16:11 |
| Receipt Date: | 20150106 |
| Manifest ID: | 012778313JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | NVT330010000 |
| Trans Name: | US ECOLOGY INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.175 |
| Waste Quantity: | 350 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20141130 |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Creation Date: | 3/9/2015 22:15:06 |
| Receipt Date: | 20141203 |
| Manifest ID: | 008484241JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC TRANS |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080012602 |
| Trans Name: | DK DIXON |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 12.6351 |
| Waste Quantity: | 3030 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20141130 |
| Creation Date: | 3/3/2015 22:14:59 |
| Receipt Date: | 20141202 |
| Manifest ID: | 008484257JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC TRANS |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080012602 |
| Trans Name: | DK DIXON |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 22.935 |
| Waste Quantity: | 5500 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20141124 |
| Creation Date: | 5/5/2015 22:15:14 |
| Receipt Date: | 20141202 |
| Manifest ID: | 012778127JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| TSDF EPA ID: | NVT330010000 |
| Trans Name: | US ECOLOGY INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.5 |
| Waste Quantity: | 1000 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20141124 |
| Creation Date: | 3/3/2015 22:14:59 |
| Receipt Date: | 20141215 |
| Manifest ID: | 012778126JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | MAD039322250 |
| Trans 2 Name: | CLEAN HARBORS ENVIRONMENTAL SERVICES INC |
| TSDF EPA ID: | CAD059494310 |
| Trans Name: | CLEAN HARBORS |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | D018 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.119 |
| Waste Quantity: | 35 |
| Quantity Unit: | G |
| Additional Code 1: | D001 |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20140725 |
| Creation Date: | 6/24/2015 22:15:06 |
| Receipt Date: | 20140729 |
| Manifest ID: | 012775917JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | NVT330010000 |
| Trans Name: | US ECOLOGY INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| | Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.3 |
| Waste Quantity: | 600 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20140324 |
| Creation Date: | 8/17/2014 22:15:12 |
| Receipt Date: | 20140403 |
| Manifest ID: | 010198934JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | CAR000175422 |
| Trans 2 Name: | WORLDWIDE RECOVERY SYSTEM INC |
| TSDF EPA ID: | NVT330010000 |
| Trans Name: | US ECOLOGY INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.15 |
| Waste Quantity: | 300 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2012 |
| Gen EPA ID: | CAL000077839 |
| | |
| Shipment Date: | 20121217 |
| Creation Date: | 6/5/2013 22:15:06 |
| Receipt Date: | 20130107 |
| Manifest ID: | 010188799JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | CAR000179382 |
| Trans 2 Name: | ENV ENVIRONMENTAL INTERNATIONAL |
| TSDF EPA ID: | NVT330010000 |
| Trans Name: | US ECOLOGY INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.15 |
| Waste Quantity: | 300 |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20121024 |
| Creation Date: | 12/24/2012 22:15:13 |
| Receipt Date: | 20121025 |
| Manifest ID: | 010187885JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080012602 |
| Trans Name: | DK DIXON |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 5.838 |
| Waste Quantity: | 1400 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20121024 |
| Creation Date: | 4/6/2013 22:15:15 |
| Receipt Date: | 20121107 |
| Manifest ID: | 010187884JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | CAR000179382 |
| Trans 2 Name: | ENV ENVIRONMENTAL INTERNATIONAL |
| TSDF EPA ID: | NVT330010000 |
| Trans Name: | US ECOLOGY INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.1375 |
| Waste Quantity: | 275 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Shipment Date: | 20121024 |
| Creation Date: | 4/6/2013 22:15:15 |
| Receipt Date: | 20121107 |
| Manifest ID: | 010187884JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | CAR000179382 |
| Trans 2 Name: | ENV ENVIRONMENTAL INTERNATIONAL |
| TSDF EPA ID: | NVT330010000 |
| Trans Name: | US ECOLOGY INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | Not reported |
| Meth Code: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Quantity Tons: | 0.935 |
| Waste Quantity: | 275 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20120918 |
| Creation Date: | 8/18/2013 22:15:21 |
| Receipt Date: | 20121005 |
| Manifest ID: | 010187554JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | CAR000179382 |
| Trans 2 Name: | ENV ENVIRONMENTAL INTERNATIONAL |
| TSDF EPA ID: | NVT330010000 |
| Trans Name: | US ECOLOGY INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.6 |
| Waste Quantity: | 1200 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20120918 |
| Creation Date: | 8/18/2013 22:15:21 |
| Receipt Date: | 20121005 |
| Manifest ID: | 010187554JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | CAR000179382 |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Trans 2 Name: | ENV ENVIRONMENTAL INTERNATIONAL |
| TSDF EPA ID: | NVT330010000 |
| Trans Name: | US ECOLOGY INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | Not reported |
| Meth Code: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Quantity Tons: | 0.1802 |
| Waste Quantity: | 53 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20120820 |
| Creation Date: | 2/3/2013 22:15:07 |
| Receipt Date: | 20120904 |
| Manifest ID: | 009816915JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC TRANS |
| Trans 2 EPA ID: | CAR000179382 |
| Trans 2 Name: | ENV ENVIRONMENTAL INTERNATIONAL |
| TSDF EPA ID: | NVT330010000 |
| Trans Name: | US ECOLOGY INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.15 |
| Waste Quantity: | 300 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20120405 |
| Creation Date: | 10/15/2012 22:15:38 |
| Receipt Date: | 20120417 |
| Manifest ID: | 009816676JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC TRANS |
| Trans 2 EPA ID: | CAR000179382 |
| Trans 2 Name: | ENV ENVIRONMENTAL INTERNATIONAL |
| TSDF EPA ID: | NVT330010000 |
| Trans Name: | US ECOLOGY INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.15 |
| Waste Quantity: | 300 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20120315 |
| Creation Date: | 8/29/2012 22:15:11 |
| Receipt Date: | 20120327 |
| Manifest ID: | 008484162JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC TRANS |
| Trans 2 EPA ID: | CAR000179382 |
| Trans 2 Name: | ENV ENVIRONMENTAL INTERNATIONAL |
| TSDF EPA ID: | NVT330010000 |
| Trans Name: | US ECOLOGY INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.15 |
| Waste Quantity: | 300 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20120315 |
| Creation Date: | 8/29/2012 22:15:11 |
| Receipt Date: | 20120327 |
| Manifest ID: | 008484162JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC TRANS |
| Trans 2 EPA ID: | CAR000179382 |
| Trans 2 Name: | ENV ENVIRONMENTAL INTERNATIONAL |
| TSDF EPA ID: | NVT330010000 |
| Trans Name: | US ECOLOGY INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | Not reported |
| Meth Code: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Quantity Tons: | 0.187 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2011 |
| Gen EPA ID: | CAL000077839 |
| Shipment Date: | 20111014 |
| Creation Date: | 3/23/2012 20:30:11 |
| Receipt Date: | 20111025 |
| Manifest ID: | 008483899JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC TRANS |
| Trans 2 EPA ID: | CAR000179382 |
| Trans 2 Name: | ENV ENVIRONMENTAL INTERNATIONAL |
| TSDF EPA ID: | NVT330010000 |
| Trans Name: | US ECOLOGY INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.2 |
| Waste Quantity: | 400 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| Shipment Date: | 20110711 |
| Creation Date: | 12/20/2011 18:30:15 |
| Receipt Date: | 20110719 |
| Manifest ID: | 007885573JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC TRANS |
| Trans 2 EPA ID: | CAR000179382 |
| Trans 2 Name: | ENV ENVIRONMENTAL INTERNATIONAL |
| TSDF EPA ID: | NVT330010000 |
| Trans Name: | US ECOLOGY INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization) |
| Quantity Tons: | 0.2 |
| Waste Quantity: | 400 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Shipment Date: | 20110706 |
| Creation Date: | 9/1/2011 18:31:53 |
| Receipt Date: | 20110708 |
| Manifest ID: | 008481522JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC TRANS |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD980887418 |
| Trans Name: | EVERGREEN OIL INC NEWARK |
| TSDF Alt EPA ID: | NVT330010000 |
| TSDF Alt Name: | US ECOLOGY NEVADA INC |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 7.923 |
| Waste Quantity: | 1900 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20110601 |
| Creation Date: | 11/12/2011 18:30:11 |
| Receipt Date: | 20110611 |
| Manifest ID: | 007400284JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | CAR000179382 |
| Trans 2 Name: | ENV ENVIRONMENTAL INTERNATIONAL |
| TSDF EPA ID: | ARD981057870 |
| Trans Name: | RINECO CHEMICAL INDUSTRIES |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H111 - Stabilization Or Chemical Fixation Prior To Disposal At Another Site |
| Quantity Tons: | 0.15 |
| Waste Quantity: | 300 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20110329 |
| Creation Date: | 5/5/2011 18:30:12 |
| Receipt Date: | 20110330 |
| Manifest ID: | 008482018JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC TRANS |
| Trans 2 EPA ID: | Not reported |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD982446874 |
| Trans Name: | EVERGREEN OIL INC DAVIS |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.10425 |
| Waste Quantity: | 25 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20110304 |
| Creation Date: | 5/19/2011 18:30:10 |
| Receipt Date: | 20110314 |
| Manifest ID: | 007883698JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | MAD039322250 |
| Trans 2 Name: | CLEAN HARBORS ENVIRONMENTAL SERVICES INC |
| TSDF EPA ID: | CAD059494310 |
| Trans Name: | CLEAN HARBORS SAN JOSE LLC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.175 |
| Waste Quantity: | 350 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2010 |
| Gen EPA ID: | CAL000077839 |

| | |
|---|---|
| Shipment Date: | 20101013 |
| Creation Date: | 1/3/2011 18:30:46 |
| Receipt Date: | 20101018 |
| Manifest ID: | 007400238JJK |
| Trans EPA ID: | CAR000183152 |
| Trans Name: | LD TRANSPORTATION LLC |
| Trans 2 EPA ID: | MAD039322250 |
| Trans 2 Name: | CLEAN HARBORS ENVIRONMENTAL SERVICES INC |
| TSDF EPA ID: | CAD059494310 |
| Trans Name: | CLEAN HARBORS SAN JOSE LLC |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 291 - Latex waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.2085 |
| Waste Quantity: | 50 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20100910 |
| Creation Date: | 12/30/2010 18:30:30 |
| Receipt Date: | 20100920 |
| Manifest ID: | 007400099JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | MAD039322250 |
| Trans 2 Name: | CLEAN HARBORS ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAD059494310 |
| Trans Name: | CLEAN HARBORS SAN JOSE LLC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D018 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.132 |
| Waste Quantity: | 40 |
| Quantity Unit: | G |
| Additional Code 1: | D001 |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20100910 |
| Creation Date: | 12/30/2010 18:30:30 |
| Receipt Date: | 20100920 |
| Manifest ID: | 007400099JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | MAD039322250 |
| Trans 2 Name: | CLEAN HARBORS ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAD059494310 |
| Trans Name: | CLEAN HARBORS SAN JOSE LLC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.34 |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Waste Quantity: | 100 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20100625 |
| Creation Date: | 9/10/2010 18:30:47 |
| Receipt Date: | 20100706 |
| Manifest ID: | 007399940JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | MAD039322250 |
| Trans 2 Name: | CLEAN HARBORS ENVIRONMENTAL SERVICES INC |
| TSDF EPA ID: | CAD059494310 |
| Trans Name: | CLEAN HARBORS SAN JOSE LLC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.35 |
| Waste Quantity: | 700 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20100304 |
| Creation Date: | 12/3/2010 18:30:29 |
| Receipt Date: | 20100315 |
| Manifest ID: | 006069778JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | CAR000164012 |
| Trans 2 Name: | 21ST CENTURY ENVIRONMENTAL MANAGEMENT OF NEVADA LLC |
| TSDF EPA ID: | NVD980895338 |
| Trans Name: | 21ST CENTURY ENVIRONMENTAL MANAGEMENT INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.4 |
| Waste Quantity: | 800 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

Additional Info:

| | |
|---|---|
| Year: | 1997 |
| Gen EPA ID: | CAL000077839 |
| Shipment Date: | 19971010 |
| Creation Date: | 7/23/1998 0:00:00 |
| Receipt Date: | 19971010 |
| Manifest ID: | 96674771 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 222 - Oil/water separation sludge |
| RCRA Code: | Not reported |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 1.251 |
| Waste Quantity: | 300 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 1995 |
| Gen EPA ID: | CAL000077839 |
| Shipment Date: | 19950518 |
| Creation Date: | 10/24/1995 0:00:00 |
| Receipt Date: | 19950518 |
| Manifest ID: | 95451952 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 3.1817 |
| Waste Quantity: | 763 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Shipment Date: | 19950122 |
| Creation Date: | 10/20/1995 0:00:00 |
| Receipt Date: | 19950123 |
| Manifest ID: | 93459319 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.1668 |
| Waste Quantity: | 40 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2006 |
| Gen EPA ID: | CAL000077839 |
| | |
| Shipment Date: | 20061122 |
| Creation Date: | 3/30/2007 13:33:47 |
| Receipt Date: | 20061127 |
| Manifest ID: | 000925270JJK |
| Trans EPA ID: | CAR000007013 |
| Trans Name: | CLEARWATER ENVIRONMENTAL |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAL000161743 |
| Trans Name: | ALVISO INDEPENDENT OIL |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.125 |
| Waste Quantity: | 250 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20061122 |
| Creation Date: | 3/30/2007 13:33:47 |
| Receipt Date: | 20061127 |
| Manifest ID: | 000925270JJK |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Trans EPA ID: | CAR000007013 |
| Trans Name: | CLEARWATER ENVIRONMENTAL |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAL000161743 |
| Trans Name: | ALVISO INDEPENDENT OIL |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.22935 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20061020 |
| Creation Date: | 3/30/2007 13:31:59 |
| Receipt Date: | 20061023 |
| Manifest ID: | 000923782JJK |
| Trans EPA ID: | CAR000007013 |
| Trans Name: | CLEARWATER ENVIRONMENTAL |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAL000161743 |
| Trans Name: | ALVISO INDEPENDENT OIL |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.1 |
| Waste Quantity: | 200 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20061020 |
| Creation Date: | 3/30/2007 13:31:59 |
| Receipt Date: | 20061023 |
| Manifest ID: | 000923782JJK |
| Trans EPA ID: | CAR000007013 |
| Trans Name: | CLEARWATER ENVIRONMENTAL |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAL000161743 |
| Trans Name: | ALVISO INDEPENDENT OIL |
| TSDF Alt EPA ID: | Not reported |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.1251 |
| Waste Quantity: | 30 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20061020 |
| Creation Date: | 3/30/2007 13:31:59 |
| Receipt Date: | 20061023 |
| Manifest ID: | 000923782JJK |
| Trans EPA ID: | CAR000007013 |
| Trans Name: | CLEARWATER ENVIRONMENTAL |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAL000161743 |
| Trans Name: | ALVISO INDEPENDENT OIL |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.2 |
| Waste Quantity: | 400 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20060607 |
| Creation Date: | 9/8/2006 18:32:18 |
| Receipt Date: | 20060621 |
| Manifest ID: | 24976539 |
| Trans EPA ID: | CAR000007013 |
| Trans Name: | CLEARWATER ENVIRONMENTAL |
| Trans 2 EPA ID: | CAD028277036 |
| Trans 2 Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO KERDOON |
| TSDF Alt EPA ID: | CAT080161743 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D001 |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.099 |
| Waste Quantity: | 30 |
| Quantity Unit: | G |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20060607 |
| Creation Date: | 9/8/2006 18:32:18 |
| Receipt Date: | 20060621 |
| Manifest ID: | 24976537 |
| Trans EPA ID: | CAR000007013 |
| Trans Name: | CLEARWATER ENVIRONMENTAL |
| Trans 2 EPA ID: | CAD028277036 |
| Trans 2 Name: | ASBURY ENVIRONMENTAL SERVICES |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO KERDOON |
| TSDF Alt EPA ID: | CAT080161743 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 214 - Unspecified solvent mixture |
| RCRA Code: | D001 |
| Meth Code: | R01 - Recycler |
| Quantity Tons: | 0.108 |
| Waste Quantity: | 30 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20060607 |
| Creation Date: | 8/25/2006 18:36:37 |
| Receipt Date: | 20060612 |
| Manifest ID: | 24976541 |
| Trans EPA ID: | CAR000007013 |
| Trans Name: | CLEARWATER ENVIRONMENTAL |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAL000161743 |
| Trans Name: | ALVISO INDEPENDENT OIL |
| TSDF Alt EPA ID: | CAL000161743 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.25 |
| Waste Quantity: | 500 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20060607 |
| Creation Date: | 8/25/2006 18:36:37 |
| Receipt Date: | 20060612 |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Manifest ID: | 24976538 |
| Trans EPA ID: | CAR000007013 |
| Trans Name: | CLEARWATER ENVIRONMENTAL |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAL000161743 |
| Trans Name: | ALVISO INDEPENDENT OIL |
| TSDF Alt EPA ID: | CAL000161743 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.1 |
| Waste Quantity: | 200 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20060607 |
| Creation Date: | 8/25/2006 18:36:37 |
| Receipt Date: | 20060612 |
| Manifest ID: | 24976541 |
| Trans EPA ID: | CAR000007013 |
| Trans Name: | CLEARWATER ENVIRONMENTAL |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAL000161743 |
| Trans Name: | ALVISO INDEPENDENT OIL |
| TSDF Alt EPA ID: | CAL000161743 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 0.75 |
| Waste Quantity: | 1500 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2007 |
| Gen EPA ID: | CAL000077839 |

| | |
|---|---|
| Shipment Date: | 20071108 |
| Creation Date: | 3/4/2008 18:31:09 |
| Receipt Date: | 20071119 |
| Manifest ID: | 002960266JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO / KERDOON |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Quantity Tons: | 0.2085 |
| Waste Quantity: | 50 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20070913 |
| Creation Date: | 12/28/2007 18:30:46 |
| Receipt Date: | 20070924 |
| Manifest ID: | 003179929JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | SIEMENS WATER TECHNOLOGIES CORP |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.15 |
| Waste Quantity: | 300 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20070824 |
| Creation Date: | 11/5/2007 18:30:51 |
| Receipt Date: | 20070904 |
| Manifest ID: | 003174650JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | SIEMENS WATER TECHNOLOGIES CORP |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| | Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.35 |
| Waste Quantity: | 700 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20070816 |
| Creation Date: | 11/6/2007 18:30:06 |
| Receipt Date: | 20070827 |
| Manifest ID: | 003178895JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | SIEMENS WATER TECHNOLOGIES CORP |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.075 |
| Waste Quantity: | 150 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20070405 |
| Creation Date: | 8/29/2007 18:30:21 |
| Receipt Date: | 20070417 |
| Manifest ID: | 002099878JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080013352 |
| Trans Name: | DEMENNO / KERDOON |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 331 - Off-specification, aged, or surplus organics |
| RCRA Code: | D001 |
| Meth Code: | H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect |
| Quantity Tons: | 0.1485 |
| Waste Quantity: | 45 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20070405 |
| Creation Date: | 8/23/2007 18:30:34 |
| Receipt Date: | 20070409 |
| Manifest ID: | 002101202JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIORMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAL000161743 |
| Trans Name: | ALVISO INDEPENDENT OIL |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.15 |
| Waste Quantity: | 300 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20070214 |
| Creation Date: | 8/19/2007 18:30:21 |
| Receipt Date: | 20070215 |
| Manifest ID: | 002098607JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAL000161743 |
| Trans Name: | ALVISO INDEPENDENT OIL |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.1 |
| Waste Quantity: | 200 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2015 |
| Gen EPA ID: | CAL000077839 |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Shipment Date: | 20151005 |
| Creation Date: | 12/22/2015 22:15:38 |
| Receipt Date: | 20151009 |
| Manifest ID: | 005089945SKS |
| Trans EPA ID: | TXR000081205 |
| Trans Name: | SAFETY-KLEEN SYSTEMS INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD059494310 |
| Trans Name: | CLEAN HARBORS SAN JOSE LLC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.45 |
| Waste Quantity: | 900 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20150908 |
| Creation Date: | 2/5/2016 22:15:23 |
| Receipt Date: | 20150918 |
| Manifest ID: | 014520462JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | CAR000175422 |
| Trans 2 Name: | WORLDWIDE RECOVERY SYSTEM INC |
| TSDF EPA ID: | AZR000515924 |
| Trans Name: | YUMA YES LLC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.35445 |
| Waste Quantity: | 85 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2017 |
| Gen EPA ID: | CAL000077839 |

| | |
|---|---|
| Shipment Date: | 20171220 |
| Creation Date: | 8/3/2018 18:30:42 |
| Receipt Date: | 20180103 |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Manifest ID: | 018240536JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | US ECOLOGY VERNON INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.05 |
| Waste Quantity: | 100 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20171207 |
| Creation Date: | 8/7/2018 18:30:18 |
| Receipt Date: | 20171218 |
| Manifest ID: | 017695796JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | US ECOLOGY VERNON INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.15 |
| Waste Quantity: | 300 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20171026 |
| Creation Date: | 6/20/2018 18:31:41 |
| Receipt Date: | 20171107 |
| Manifest ID: | 017693762JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | US ECOLOGY VERNON INC |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.075 |
| Waste Quantity: | 150 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20171009 |
| Creation Date: | 5/30/2018 18:31:28 |
| Receipt Date: | 20171019 |
| Manifest ID: | 017695806JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | US ECOLOGY VERNON INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.15 |
| Waste Quantity: | 300 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20170922 |
| Creation Date: | 5/30/2018 18:34:06 |
| Receipt Date: | 20171002 |
| Manifest ID: | 016873980JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | US ECOLOGY VERNON INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.05 |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Waste Quantity: | 100 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20170830 |
| Creation Date: | 6/20/2018 18:31:06 |
| Receipt Date: | 20170908 |
| Manifest ID: | 017698074JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | US ECOLOGY VERNON INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.1 |
| Waste Quantity: | 200 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20170830 |
| Creation Date: | 6/20/2018 18:31:06 |
| Receipt Date: | 20170908 |
| Manifest ID: | 017698074JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | US ECOLOGY VERNON INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.75 |
| Waste Quantity: | 1500 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Shipment Date: | 20170825 |
| Creation Date: | 5/21/2018 18:34:34 |
| Receipt Date: | 20170907 |
| Manifest ID: | 017698023JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | US ECOLOGY VERNON INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.05 |
| Waste Quantity: | 100 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20170705 |
| Creation Date: | 5/17/2018 18:32:00 |
| Receipt Date: | 20170719 |
| Manifest ID: | 016764442JJK |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | ASBURY ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD097030993 |
| Trans Name: | US ECOLOGY VERNON INC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.0625 |
| Waste Quantity: | 125 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20170613 |
| Creation Date: | 7/12/2018 18:30:13 |
| Receipt Date: | 20170622 |
| Manifest ID: | 016711449JJK |
| Trans EPA ID: | CAR000171017 |
| Trans Name: | FREMOUW ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | CAR000175422 |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **S113051582**

| | |
|---|---|
| Trans 2 Name: | WORLDWIDE RECOVERY SYSTEM INC |
| TSDF EPA ID: | AZR000515924 |
| Trans Name: | YUMA YES LLC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.417 |
| Waste Quantity: | 100 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

HWTS:

| | |
|---|---|
| Name: | SACRAMENTO 49ER AUTO/TRUCK PLAZA |
| Address: | 2828 EL CENTRO ROAD |
| Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 958330000 |
| EPA ID: | CAL000077839 |
| Inactive Date: | Not reported |
| Create Date: | 07/22/1992 |
| Last Act Date: | 07/21/2020 |
| Mailing Name: | Not reported |
| Mailing Address: | 2828 EL CENTRO RD |
| Mailing Address 2: | Not reported |
| Mailing City,State,Zip: | SACRAMENTO, CA 958339703 |
| Owner Name: | 49ER TRUCK PLAZA |
| Owner Address: | 2828 EL CENTRO RD |
| Owner Address 2: | Not reported |
| Owner City,State,Zip: | SACRAMENTO, CA 958339703 |
| Contact Name: | TRISTEN GRIFFITH |
| Contact Address: | 2828 EL CENTRO RD |
| Contact Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 95833 |

NAICS:

| | |
|---|---|
| EPA ID: | CAL000077839 |
| Create Date: | 2009-12-03 12:41:18.000 |
| NAICS Code: | 811198 |
| NAICS Description: | All Other Automotive Repair and Maintenance |
| Issued EPA ID Date: | 1992-07-22 00:00:00 |
| Inactive Date: | Not reported |
| Facility Name: | SACRAMENTO 49ER AUTO/TRUCK PLAZA |
| Facility Address: | 2828 EL CENTRO ROAD |
| Facility Address 2: | Not reported |
| Facility City: | SACRAMENTO |
| Facility County: | Not reported |
| Facility State: | CA |
| Facility Zip: | 958330000 |

**F51** **CRST INTERNATIONAL** **HAZNET** **S112963003**
**Target** **2828 EL CENTRO RD** **HWTS** **N/A**
**Property** **SACRAMENTO, CA 95833**

**Site 8 of 26 in cluster F**

**Actual:**
**14 ft.**

**Focus Map:**
**8**

HAZNET:

| | |
|---|---|
| Name: | CRST INTERNATIONAL |
| Address: | 2828 EL CENTRO RD |
| Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Contact: | RAMONA HUGHES |
| Telephone: | 3193964400 |
| Mailing Name: | Not reported |
| Mailing Address: | PO BOX 68 |
| Year: | 2007 |
| Gepaid: | CAC002619140 |
| TSD EPA ID: | CAD028409019 |
| CA Waste Code: | 352 - Other organic solids |
| Disposal Method: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Tons: | 0.1 |

Additional Info:

| | |
|---|---|
| Year: | 2007 |
| Gen EPA ID: | CAC002619140 |
| Shipment Date: | 20070718 |
| Creation Date: | 12/10/2007 18:30:07 |
| Receipt Date: | 20070726 |
| Manifest ID: | 000232593JJK |
| Trans EPA ID: | CAR000030114 |
| Trans Name: | NRC ENVIRONMENTAL SERVICES INC |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD028409019 |
| Trans Name: | CROSBY & OVERTON |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.1 |
| Waste Quantity: | 200 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

HWTS:

| | |
|---|---|
| Name: | CRST INTERNATIONAL |
| Address: | 2828 EL CENTRO RD |
| Address 2: | Not reported |

**CRST INTERNATIONAL (Continued)** **S112963003**

| | |
|---|---|
| City,State,Zip: | SACRAMENTO, CA 95833 |
| EPA ID: | CAC002619140 |
| Inactive Date: | 01/15/2008 |
| Create Date: | 07/18/2007 |
| Last Act Date: | 01/15/2008 |
| Mailing Name: | Not reported |
| Mailing Address: | PO BOX 68 |
| Mailing Address 2: | Not reported |
| Mailing City,State,Zip: | CEDAR RAPIDS, IA 52406 |
| Owner Name: | CRST INT'L |
| Owner Address: | 3930 16TH AVE SW |
| Owner Address 2: | Not reported |
| Owner City,State,Zip: | CEDAR RAPIDS, IA 524042332 |
| Contact Name: | RAMONA HUGHES |
| Contact Address: | PO BOX 68 |
| Contact Address 2: | Not reported |
| City,State,Zip: | CEDAR RAPIDS, IA 52406 |

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**F52** **FORTY NINER TRAVEL PLAZA** **CIWQS** **S121639473**
**Target** **2828 EL CENTRO RD** **N/A**
**Property** **SACRAMENTO, CA 95833**

**Site 9 of 26 in cluster F**

**Actual:** **14 ft.**

**Focus Map:** **8**

CIWQS:

| | |
|---|---|
| Name: | FORTY NINER TRAVEL PLAZA |
| Address: | 2828 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Agency: | FNTP Inv Co LLC |
| Agency Address: | 2828 El Centro Rd, Sacramento, CA 95833 |
| Place/Project Type: | Construction - Commercial, Utility |
| SIC/NAICS: | Not reported |
| Region: | 5S |
| Program: | CONSTW |
| Regulatory Measure Status: | Terminated |
| Regulatory Measure Type: | Storm water construction |
| Order Number: | 99-08DW |
| WDID: | 5S34C312519 |
| NPDES Number: | CAS000002 |
| Adoption Date: | Not reported |
| Effective Date: | 02/01/2000 |
| Termination Date: | 11/04/2009 |
| Expiration/Review Date: | Not reported |
| Design Flow: | Not reported |
| Major/Minor: | Not reported |
| Complexity: | Not reported |
| TTWQ: | Not reported |
| Enforcement Actions within 5 years: | 0 |
| Violations within 5 years: | 0 |
| Latitude: | 38.617489 |
| Longitude: | -121.539475 |

**F53** **JIMICO** **Sacramento Co. ML** **S123292070**
**Target** **2828 EL CENTRO RD** **N/A**
**Property** **SACRAMENTO, CA 95833**

**Site 10 of 26 in cluster F**

**Actual:** **14 ft.**
**Focus Map: 8**

Sacramento Co. ML:

| | |
|---|---|
| Name: | JIMICO |
| Address: | 2828 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Facility Id: | Not reported |
| Facility Status: | Inactive. Included on a listing no longer updated. |
| FD: | U |
| Billing Codes BP: | Out of Business |
| Billing Codes UST: | No Tanks |
| WG Bill Code: | Oil Changed by Outside Company-No Fee |
| Target Property Bill Cod: | 51 |
| Food Bill Code: | 51 |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | 0 |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

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**F54** **49ER AUTO/TRUCK PLAZA** **Sacramento Co. ML** **S123288617**
**Target** **2828 EL CENTRO RD** **N/A**
**Property** **SACRAMENTO, CA 95833**

**Site 11 of 26 in cluster F**

**Actual:** **14 ft.**
**Focus Map: 8**

Sacramento Co. ML:

| | |
|---|---|
| Name: | 49ER AUTO/TRUCK PLAZA |
| Address: | 2828 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Facility Id: | U0018886 |
| Facility Status: | Inactive. Included on a listing no longer updated. |
| FD: | U |
| Billing Codes BP: | Out of Business |
| Billing Codes UST: | No Tanks |
| WG Bill Code: | Oil Changed by Outside Company-No Fee |
| Target Property Bill Cod: | 51 |
| Food Bill Code: | 51 |
| CUPA Permit Date: | 01/27/1998 |
| HAZMAT Permit Date: | 06/01/1995 |
| HAZMAT Inspection Date: | 05/21/1997 |
| Hazmat Date BP Received: | 08/11/1997 |
| UST Permit Dt: | 06/15/1997 |
| UST Inspection Date: | 05/21/1997 |
| UST Tank Test Date: | 11/29/1995 |
| Number of Tanks: | 0 |
| UST Tank Test Date: | 05/21/1997 |
| SIC Code: | 5541 |

**49ER AUTO/TRUCK PLAZA (Continued)** **S123288617**

| | |
|---|---|
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

---

**F55** **SACRAMENTO 49ER TRAVEL PLAZA** **Sacramento Co. ML** **S123293990**
**Target** **2828 EL CENTRO RD** **N/A**
**Property** **SACRAMENTO, CA 95833**

**Site 12 of 26 in cluster F**

**Actual:** **14 ft.**
**Focus Map:** **8**

Sacramento Co. ML:

| | |
|---|---|
| Name: | SACRAMENTO 49ER TRAVEL PLAZA |
| Address: | 2828 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Facility Id: | Not reported |
| Facility Status: | Not reported |
| FD: | Not reported |
| Billing Codes BP: | A |
| Billing Codes UST: | A |
| WG Bill Code: | A |
| Target Property Bill Cod: | Not reported |
| Food Bill Code: | Not reported |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | 5 |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

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**F56** **SACRAMENTO 49ER TRAVEL PLAZA** **UST** **U003804986**
**Target** **2828 EL CENTRO RD** **N/A**
**Property** **SACRAMENTO, CA 95833**

**Site 13 of 26 in cluster F**

**Actual:** **14 ft.**
**Focus Map:** **8**

UST:

| | |
|---|---|
| Name: | SACRAMENTO (49ER) AUTO/TRUCK PLAZA |
| Address: | 2828 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Facility ID: | FA0002616 |
| Permitting Agency: | SACRAMENTO COUNTY |
| Latitude: | 38.6180951 |
| Longitude: | -121.536816 |

| | |
|---|---|
| Name: | SACRAMENTO 49ER TRAVEL PLAZA |
| Address: | 2828 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Facility ID: | FA0002616 |
| Permitting Agency: | Sacramento County Environmental Management Department |

**SACRAMENTO 49ER TRAVEL PLAZA (Continued)** **U003804986**

Latitude: 38.6181
Longitude: -121.53819

---

**F57** **SACRAMENTO 49ER TRAVEL PLAZA** **HWTS** **S124715394**
**Target** **2828 EL CENTRO RD.** **N/A**
**Property** **SACRAMENTO, CA 95833**

**Site 14 of 26 in cluster F**

**Actual:** **14 ft.**

**Focus Map:** **8**

HWTS:

| | |
|---|---|
| Name: | SACRAMENTO 49ER TRAVEL PLAZA |
| Address: | 2828 EL CENTRO RD. |
| Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| EPA ID: | CAC002997486 |
| Inactive Date: | 04/22/2019 |
| Create Date: | 01/21/2019 |
| Last Act Date: | 10/12/2020 |
| Mailing Name: | Not reported |
| Mailing Address: | 2828 EL CENTRO RD. |
| Mailing Address 2: | Not reported |
| Mailing City,State,Zip: | SACRAMENTO, CA 95833 |
| Owner Name: | TERRY RUST |
| Owner Address: | 348 JAMES MCIVER |
| Owner Address 2: | Not reported |
| Owner City,State,Zip: | TRUCKEE, CA 96161 |
| Contact Name: | TRISTEN GRIFFITH |
| Contact Address: | 2828 EL CENTRO RD. |
| Contact Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 95833 |

NAICS:

| | |
|---|---|
| EPA ID: | CAC002997486 |
| Create Date: | 2019-01-21 16:52:46.920 |
| NAICS Code: | 722514 |
| NAICS Description: | Cafeterias, Grill Buffets, and Buffets |
| Issued EPA ID Date: | 2019-01-21 16:52:46.92000 |
| Inactive Date: | 2019-04-22 16:52:46.92000 |
| Facility Name: | SACRAMENTO 49ER TRAVEL PLAZA |
| Facility Address: | 2828 EL CENTRO RD. |
| Facility Address 2: | Not reported |
| Facility City: | SACRAMENTO |
| Facility County: | Not reported |
| Facility State: | CA |
| Facility Zip: | 95833 |

**F58** **SEVENTY-SIX AUTO-TRUCK STOP*** **EDR Hist Auto** **1020276201**
**Target** **2828 EL CENTRO RD** **N/A**
**Property** **SACRAMENTO, CA 95835**

**Site 15 of 26 in cluster F**

**Actual:** EDR Hist Auto
**14 ft.**

**Focus Map:**
**8**

| Year: | Name: | Type: |
|---|---|---|
| 1972 | SEVENTY-SIX AUTO-TRUCK STOP* | Gasoline Service Stations |
| 1973 | SEVENTY-SIX AUTO-TRUCK STOP* | Gasoline Service Stations |
| 1974 | SEVENTY-SIX AUTO TRUCK STOP* | Gasoline Service Stations |
| 1975 | SEVENTY-SIX AUTO TRUCK STOP* | Gasoline Service Stations |
| 1976 | SEVENTY-SIX AUTO TRUCK STOP* | Gasoline Service Stations |
| 1977 | FORTY-NINER TRUCK INC | Gasoline Service Stations |
| 1978 | FORTY-NINER TRUCK INC | Gasoline Service Stations |
| 1979 | FORTY-NINER TRUCK INC | Gasoline Service Stations |
| 1980 | FORTY-NINER TRUCK STOP INC | Gasoline Service Stations |
| 1982 | FORTY-NINER TRUCK PLAZA INC | Gasoline Service Stations |
| 1983 | FORTY-NINER TRUCK PLAZA INC | Gasoline Service Stations |
| 1985 | FORTY NINER CORP | Gasoline Service Stations |
| 1986 | FORTY NINER CORP | Gasoline Service Stations |
| 1986 | FORTY NINER CORP | Gasoline Service Stations |
| 1987 | FORTY NINER CORP | Gasoline Service Stations |
| 1987 | FORTY NINER CORP | Gasoline Service Stations |
| 1987 | FORTY-NINER TRUCK PLAZA INC | Gasoline Service Stations |
| 1988 | FORTY NINER CORP | Gasoline Service Stations |
| 1988 | FORTY-NINER TRUCK PLAZA INC | Gasoline Service Stations |
| 1988 | FORTY NINER CORP | Gasoline Service Stations |
| 1989 | FORTY NINER CORP | Gasoline Service Stations, NEC |
| 1989 | SACRAMENTO 76 TRUCK AUTO | Gasoline Service Stations, NEC |
| 1989 | FORTY-NINER TRUCK PLAZA INC | Gasoline Service Stations, NEC |
| 1989 | FORTY NINER CORP | Gasoline Service Stations, NEC |
| 1990 | SACRAMENTO 76 TRUCK AUTO | Gasoline Service Stations, NEC |
| 1991 | SACRAMENTO 76 TRUCK AUTO | Gasoline Service Stations, NEC |
| 1992 | SACRAMENTO 76 TRUCK AUTO | Gasoline Service Stations, NEC |
| 1993 | SACRAMENTO 76 TRUCK AUTO | Gasoline Service Stations, NEC |
| 1994 | FORTY NINER TRUCK PLAZA | Gasoline Service Stations, NEC |
| 1995 | FORTY NINER TRUCK PLAZA | Gasoline Service Stations, NEC |
| 1996 | FORTY NINER TRUCK PLAZA | Gasoline Service Stations, NEC |
| 1997 | FORTY NINER TRUCK PLAZA | Gasoline Service Stations, NEC |
| 1998 | FORTY NINER TRUCK PLAZA | Gasoline Service Stations, NEC |
| 1999 | SILVER SKILLET RESTAURANT INC | Gasoline Service Stations, NEC |
| 1999 | FORTY NINER TRUCK PLAZA | Gasoline Service Stations, NEC |
| 2000 | SILVER SKILLET RESTAURANT INC | Gasoline Service Stations, NEC |
| 2000 | FORTY NINER TRUCK PLAZA | Gasoline Service Stations, NEC |
| 2001 | SILVER SKILLET RESTAURANT INC | Gasoline Service Stations, NEC |
| 2001 | FORTY NINER TRUCK PLAZA | Gasoline Service Stations, NEC |
| 2002 | SILVER SKILLET RESTAURANT INC | Gasoline Service Stations, NEC |
| 2002 | FORTY NINER TRUCK PLAZA | Gasoline Service Stations, NEC |
| 2003 | SACRAMNTO FORTY NINER TRVL PLZ | Gasoline Service Stations, NEC |
| 2003 | SILVER SKILLET RESTAURANT INC | Gasoline Service Stations, NEC |
| 2004 | SACRAMNTO FORTY NINER TRVL PLZ | Gasoline Service Stations, NEC |
| 2004 | SILVER SKILLET RESTAURANT INC | Gasoline Service Stations, NEC |
| 2005 | SILVER SKILLET RESTAURANT INC | Gasoline Service Stations, NEC |
| 2005 | SACRAMNTO FORTY NINER TRVL PLZ | Gasoline Service Stations, NEC |
| 2006 | SACRAMNTO FORTY NINER TRVL PLZ | Motels |
| 2007 | SACRAMNTO FORTY NINER TRVL PLZ | Motels |
| 2008 | SACRAMNTO FORTY NINER TRVL PLZ | Motels |

**SEVENTY-SIX AUTO-TRUCK STOP* (Continued)** **1020276201**

| | | |
|---|---|---|
| 2009 | SACRAMNTO FORTY NINER TRVL PLZ | Motels |
| 2010 | SACRAMNTO FORTY NINER TRVL PLZ | Motels |
| 2011 | SACRAMNTO FORTY NINER TRVL PLZ | Motels |
| 2012 | SACRAMNTO FORTY NINER TRVL PLZ | Motels |
| 2013 | SACAMENTO 49ER | General Automotive Repair Shops |
| 2013 | SACRAMNTO FORTY NINER TRVL PLZ | Motels |
| 2014 | SACRAMNTO FORTY NINER TRVL PLZ | Motels |
| 2014 | SACAMENTO 49ER | General Automotive Repair Shops |

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**F59** **FORTY-NINER AUTO/TRUCK PLAZA #** **HIST UST** **U001615946**
**Target** **2828 EL CENTRO RD** **N/A**
**Property** **SACRAMENTO, CA 95833**

**Site 16 of 26 in cluster F**

**Actual:** **14 ft.**
**Focus Map:** **8**

HIST UST:

| | |
|---|---|
| Name: | FORTY-NINER AUTO/TRUCK PLAZA # |
| Address: | 2828 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| File Number: | Not reported |
| URL: | Not reported |
| Region: | STATE |
| Facility ID: | 00000010674 |
| Facility Type: | Gas Station |
| Other Type: | Not reported |
| Contact Name: | MR. JOHN FULTS |
| Telephone: | 9169274774 |
| Owner Name: | UNOCAL CORPORATION |
| Owner Address: | 911 WILSHIRE BLVD., ROOM 1313 |
| Owner City,St,Zip: | LOS ANGELES, CA 90017 |
| Total Tanks: | 0008 |
| | |
| Tank Num: | 001 |
| Container Num: | 620431 |
| Year Installed: | 1971 |
| Tank Capacity: | 00020000 |
| Tank Used for: | PRODUCT |
| Type of Fuel: | DIESEL |
| Container Construction Thickness: | Not reported |
| Leak Detection: | Visual, Stock Inventor, Pressure Test, 10 |
| | |
| Tank Num: | 002 |
| Container Num: | 62042 |
| Year Installed: | 1971 |
| Tank Capacity: | 00020000 |
| Tank Used for: | PRODUCT |
| Type of Fuel: | DIESEL |
| Container Construction Thickness: | Not reported |
| Leak Detection: | Visual, Stock Inventor, Pressure Test, 10 |
| | |
| Tank Num: | 003 |
| Container Num: | 620433 |
| Year Installed: | 1971 |
| Tank Capacity: | 00020000 |
| Tank Used for: | PRODUCT |
| Type of Fuel: | DIESEL |
| Container Construction Thickness: | Not reported |
| Leak Detection: | Visual, Stock Inventor, Pressure Test, 10 |

**FORTY-NINER AUTO/TRUCK PLAZA # (Continued)** **U001615946**

| | |
|---|---|
| Tank Num: | 004 |
| Container Num: | 62041 |
| Year Installed: | 1971 |
| Tank Capacity: | 00020000 |
| Tank Used for: | PRODUCT |
| Type of Fuel: | UNLEADED |
| Container Construction Thickness: | Not reported |
| Leak Detection: | Visual, Stock Inventor, Pressure Test, 10 |

| | |
|---|---|
| Tank Num: | 005 |
| Container Num: | 62042 |
| Year Installed: | 1971 |
| Tank Capacity: | 00010000 |
| Tank Used for: | PRODUCT |
| Type of Fuel: | PREMIUM |
| Container Construction Thickness: | Not reported |
| Leak Detection: | Visual, Stock Inventor, Pressure Test, 10 |

| | |
|---|---|
| Tank Num: | 006 |
| Container Num: | 62048 |
| Year Installed: | 1977 |
| Tank Capacity: | 00008000 |
| Tank Used for: | PRODUCT |
| Type of Fuel: | Not reported |
| Container Construction Thickness: | Not reported |
| Leak Detection: | Visual, Stock Inventor, Pressure Test |

| | |
|---|---|
| Tank Num: | 007 |
| Container Num: | 62044 |
| Year Installed: | 1971 |
| Tank Capacity: | 00001000 |
| Tank Used for: | WASTE |
| Type of Fuel: | WASTE OIL |
| Container Construction Thickness: | Not reported |
| Leak Detection: | Visual |

| | |
|---|---|
| Tank Num: | 008 |
| Container Num: | 620410 |
| Year Installed: | 1971 |
| Tank Capacity: | 00005000 |
| Tank Used for: | WASTE |
| Type of Fuel: | WASTE OIL |
| Container Construction Thickness: | 8 |
| Leak Detection: | Visual |

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**F60** **SACRAMENTO 49ER TRAVEL PLAZA** **HAZNET S124690693**
**Target** **2828 EL CENTRO RD.** **HWTS N/A**
**Property** **SACRAMENTO, CA 95833**

**Site 17 of 26 in cluster F**

**Actual:** **14 ft.**

**Focus Map:** **8**

HAZNET:

| | |
|---|---|
| Name: | SACRAMENTO 49ER TRAVEL PLAZA |
| Address: | 2828 EL CENTRO RD. |
| Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Contact: | TRISTEN GRIFFITH |
| Telephone: | 7608453778 |

**SACRAMENTO 49ER TRAVEL PLAZA (Continued)** **S124690693**

Mailing Name: Not reported
Mailing Address: 2828 EL CENTRO RD.

Year: 2019
Gepaid: CAC002997486
TSD EPA ID: CAD982042475
CA Waste Code: 151 - Asbestos containing waste
Disposal Method: H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill( To Include On-Site Treatment And/Or Stabilization)
Tons: 0.46000

HWTS:
Name: SACRAMENTO 49ER TRAVEL PLAZA
Address: 2828 EL CENTRO RD.
Address 2: Not reported
City,State,Zip: SACRAMENTO, CA 95833
EPA ID: CAC002972008
Inactive Date: 10/19/2018
Create Date: 07/20/2018
Last Act Date: 10/21/2018
Mailing Name: Not reported
Mailing Address: 2828 EL CENTRO RD.
Mailing Address 2: Not reported
Mailing City,State,Zip: SACRAMENTO, CA 95833
Owner Name: TERRY RUST
Owner Address: 348 JAMES MCIVER
Owner Address 2: Not reported
Owner City,State,Zip: TRUCKEE, CA 96161
Contact Name: TRISTEN GRIFFITH
Contact Address: 2828 EL CENTRO RD.
Contact Address 2: Not reported
City,State,Zip: SACRAMENTO, CA 95833

NAICS:
EPA ID: CAC002972008
Create Date: 2018-07-20 14:29:25.800
NAICS Code: 99999
NAICS Description: Not Otherwise Specified
Issued EPA ID Date: 2018-07-20 14:29:25.81300
Inactive Date: 2018-10-19 14:29:25.80000
Facility Name: SACRAMENTO 49ER TRAVEL PLAZA
Facility Address: 2828 EL CENTRO RD.
Facility Address 2: Not reported
Facility City: SACRAMENTO
Facility County: Not reported
Facility State: CA
Facility Zip: 95833

**F61 FORTY-NINER AUTO/TRUCK PLAZA # SWEEPS UST S101628539**
**Target 2828 EL CENTRO RD CA FID UST N/A**
**Property SACRAMENTO, CA 95833**

**Site 18 of 26 in cluster F**

**Actual:**
**14 ft.**

**Focus Map:**
**8**

SWEEPS UST:

| | |
|---|---|
| Name: | FORTY-NINER AUTO/TRUCK PLAZA # |
| Address: | 2828 EL CENTRO RD |
| City: | SACRAMENTO |
| Status: | Active |
| Comp Number: | 10674 |
| Number: | 9 |
| Board Of Equalization: | 44-018880 |
| Referral Date: | 07-01-85 |
| Action Date: | Not reported |
| Created Date: | 02-29-88 |
| Owner Tank Id: | 620431 |
| SWRCB Tank Id: | 34-000-010674-000001 |
| Tank Status: | A |
| Capacity: | 20000 |
| Active Date: | 07-01-85 |
| Tank Use: | M.V. FUEL |
| STG: | P |
| Content: | DIESEL |
| Number Of Tanks: | 7 |

| | |
|---|---|
| Name: | FORTY-NINER AUTO/TRUCK PLAZA # |
| Address: | 2828 EL CENTRO RD |
| City: | SACRAMENTO |
| Status: | Active |
| Comp Number: | 10674 |
| Number: | 9 |
| Board Of Equalization: | 44-018880 |
| Referral Date: | 07-01-85 |
| Action Date: | Not reported |
| Created Date: | 02-29-88 |
| Owner Tank Id: | 620432 |
| SWRCB Tank Id: | 34-000-010674-000002 |
| Tank Status: | A |
| Capacity: | 20000 |
| Active Date: | 07-01-85 |
| Tank Use: | M.V. FUEL |
| STG: | P |
| Content: | DIESEL |
| Number Of Tanks: | Not reported |

| | |
|---|---|
| Name: | FORTY-NINER AUTO/TRUCK PLAZA # |
| Address: | 2828 EL CENTRO RD |
| City: | SACRAMENTO |
| Status: | Active |
| Comp Number: | 10674 |
| Number: | 9 |
| Board Of Equalization: | 44-018880 |
| Referral Date: | 07-01-85 |
| Action Date: | Not reported |
| Created Date: | 02-29-88 |
| Owner Tank Id: | 620433 |
| SWRCB Tank Id: | 34-000-010674-000003 |

**FORTY-NINER AUTO/TRUCK PLAZA # (Continued)** **S101628539**

Tank Status: A
Capacity: 20000
Active Date: 07-01-85
Tank Use: M.V. FUEL
STG: P
Content: DIESEL
Number Of Tanks: Not reported

Name: FORTY-NINER AUTO/TRUCK PLAZA #
Address: 2828 EL CENTRO RD
City: SACRAMENTO
Status: Active
Comp Number: 10674
Number: 9
Board Of Equalization: 44-018880
Referral Date: 07-01-85
Action Date: Not reported
Created Date: 02-29-88
Owner Tank Id: 62041
SWRCB Tank Id: 34-000-010674-000004
Tank Status: A
Capacity: 20000
Active Date: 07-01-85
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: Not reported

Name: FORTY-NINER AUTO/TRUCK PLAZA #
Address: 2828 EL CENTRO RD
City: SACRAMENTO
Status: Active
Comp Number: 10674
Number: 9
Board Of Equalization: 44-018880
Referral Date: 07-01-85
Action Date: Not reported
Created Date: 02-29-88
Owner Tank Id: 62042
SWRCB Tank Id: 34-000-010674-000005
Tank Status: A
Capacity: 8000
Active Date: 07-01-85
Tank Use: UNKNOWN
STG: P
Content: Not reported
Number Of Tanks: Not reported

Name: FORTY-NINER AUTO/TRUCK PLAZA #
Address: 2828 EL CENTRO RD
City: SACRAMENTO
Status: Active
Comp Number: 10674
Number: 9
Board Of Equalization: 44-018880
Referral Date: 07-01-85
Action Date: Not reported

**FORTY-NINER AUTO/TRUCK PLAZA # (Continued)** **S101628539**

Created Date: 02-29-88
Owner Tank Id: 62048
SWRCB Tank Id: 34-000-010674-000006
Tank Status: A
Capacity: 8000
Active Date: 07-01-85
Tank Use: UNKNOWN
STG: P
Content: Not reported
Number Of Tanks: Not reported

Name: FORTY-NINER AUTO/TRUCK PLAZA #
Address: 2828 EL CENTRO RD
City: SACRAMENTO
Status: Active
Comp Number: 10674
Number: 9
Board Of Equalization: 44-018880
Referral Date: 07-01-85
Action Date: Not reported
Created Date: 02-29-88
Owner Tank Id: 62044
SWRCB Tank Id: 34-000-010674-000007
Tank Status: A
Capacity: 1000
Active Date: 07-01-85
Tank Use: OIL
STG: W
Content: WASTE OIL
Number Of Tanks: Not reported

CA FID UST:
Facility ID: 34000884
Regulated By: UTNKA
Regulated ID: 00010674
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 9169274774
Mail To: Not reported
Mailing Address: 911 WILSHIRE BLVD
Mailing Address 2: Not reported
Mailing City,St,Zip: SACRAMENTO 95833
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

**F62** **CHMIRS** **S100278117**
**Target Property** **2828 EL CENTRO ROAD**
**SACRAMENTO, CA 95834** **N/A**

**Site 19 of 26 in cluster F**

**Actual:** **14 ft.**

**Focus Map: 8**

CHMIRS:

| | |
|---|---|
| Name: | Not reported |
| Address: | 2828 EL CENTRO ROAD |
| City,State,Zip: | SACRAMENTO, CA 95834 |
| OES Incident Number: | 118908 |
| OES notification: | Not reported |
| OES Date: | Not reported |
| OES Time: | Not reported |
| **Date Completed:** | **30-AUG-91** |
| Property Use: | 965 |
| Agency Id Number: | 34080 |
| Agency Incident Number: | 91029247 |
| Time Notified: | 1150 |
| Time Completed: | 1448 |
| Surrounding Area: | 650 |
| Estimated Temperature: | 85 |
| Property Management: | P |
| More Than Two Substances Involved?: | N |
| Resp Agncy Personel # Of Decontaminated: | 0 |
| Responding Agency Personel # Of Injuries: | 0 |
| Responding Agency Personel # Of Fatalities: | 0 |
| Others Number Of Decontaminated: | 0 |
| Others Number Of Injuries: | 0 |
| Others Number Of Fatalities: | 0 |
| Vehicle Make/year: | FREIGHTLINER |
| Vehicle License Number: | MNJ754 |
| Vehicle State: | OR |
| Vehicle Id Number: | Not reported |
| CA DOT PUC/ICC Number: | Not reported |
| Company Name: | MNX |
| Reporting Officer Name/ID: | MALASPINO M2722 |
| Report Date: | 30-AUG-91 |
| Facility Telephone: | 916 449-5266 |
| Waterway Involved: | Not reported |
| Waterway: | Not reported |
| Spill Site: | Not reported |
| Cleanup By: | Not reported |
| Containment: | Not reported |
| What Happened: | Not reported |
| Type: | Not reported |
| Measure: | Not reported |
| Other: | Not reported |
| Date/Time: | Not reported |
| Year: | 88-92 |
| Agency: | Not reported |
| Incident Date: | 30-AUG-91 |
| Admin Agency: | Not reported |
| Amount: | Not reported |
| Contained: | Not reported |
| Site Type: | Not reported |
| E Date: | 28-JUL-92 |
| Substance: | Not reported |
| Unknown: | Not reported |

**(Continued)** **S100278117**

| | |
|---|---|
| Substance #2: | Not reported |
| Substance #3: | Not reported |
| Evacuations: | Not reported |
| Number of Injuries: | Not reported |
| Number of Fatalities: | Not reported |
| #1 Pipeline: | Not reported |
| #2 Pipeline: | Not reported |
| #3 Pipeline: | Not reported |
| #1 Vessel >= 300 Tons: | Not reported |
| #2 Vessel >= 300 Tons: | Not reported |
| #3 Vessel >= 300 Tons: | Not reported |
| Evacs: | Not reported |
| Injuries: | Not reported |
| Fatals: | Not reported |
| Comments: | N |
| Description: | Not reported |

---

**F63** **CHMIRS** **S105672804**
**Target Property** **2828 EL CENTRO RD.** **SACRAMENTO, CA** **N/A**

**Site 20 of 26 in cluster F**

**Actual:** **14 ft.**

**Focus Map:** **8**

CHMIRS:

| | |
|---|---|
| Name: | Not reported |
| Address: | 2828 EL CENTRO RD. |
| City,State,Zip: | SACRAMENTO, CA |
| OES Incident Number: | 2-3247 |
| OES notification: | 06/12/2002 |
| OES Date: | Not reported |
| OES Time: | Not reported |
| **Date Completed:** | **Not reported** |
| Property Use: | Not reported |
| Agency Id Number: | Not reported |
| Agency Incident Number: | Not reported |
| Time Notified: | Not reported |
| Time Completed: | Not reported |
| Surrounding Area: | Not reported |
| Estimated Temperature: | Not reported |
| Property Management: | Not reported |
| More Than Two Substances Involved?: | Not reported |
| Resp Agncy Personel # Of Decontaminated: | Not reported |
| Responding Agency Personel # Of Injuries: | Not reported |
| Responding Agency Personel # Of Fatalities: | Not reported |
| Others Number Of Decontaminated: | Not reported |
| Others Number Of Injuries: | Not reported |
| Others Number Of Fatalities: | Not reported |
| Vehicle Make/year: | Not reported |
| Vehicle License Number: | Not reported |
| Vehicle State: | Not reported |
| Vehicle Id Number: | Not reported |
| CA DOT PUC/ICC Number: | Not reported |
| Company Name: | Not reported |
| Reporting Officer Name/ID: | Not reported |
| Report Date: | Not reported |
| Facility Telephone: | Not reported |
| Waterway Involved: | No |
| Waterway: | Not reported |

**(Continued)** **S105672804**

| | |
|---|---|
| Spill Site: | Not reported |
| Cleanup By: | Unknown |
| Containment: | Not reported |
| What Happened: | Not reported |
| Type: | Not reported |
| Measure: | Not reported |
| Other: | Not reported |
| Date/Time: | Not reported |
| Year: | 2002 |
| Agency: | NRC |
| Incident Date: | 5/24/200212:00:00 AM |
| Admin Agency: | Sacramento City Fire Department |
| Amount: | Not reported |
| Contained: | Unknown |
| Site Type: | Road |
| E Date: | Not reported |
| Substance: | Diesel |
| Gallons: | 0.000000 |
| Unknown: | 0 |
| Substance #2: | Not reported |
| Substance #3: | Not reported |
| Evacuations: | 0 |
| Number of Injuries: | 0 |
| Number of Fatalities: | 0 |
| #1 Pipeline: | Not reported |
| #2 Pipeline: | Not reported |
| #3 Pipeline: | Not reported |
| #1 Vessel >= 300 Tons: | Not reported |
| #2 Vessel >= 300 Tons: | Not reported |
| #3 Vessel >= 300 Tons: | Not reported |
| Evacs: | Not reported |
| Injuries: | Not reported |
| Fatals: | Not reported |
| Comments: | Not reported |
| Description: | Via NRC report, the caller is reporting a company that has fuel oil spilled all over the ground at the company site. |

| | |
|---|---|
| Name: | Not reported |
| Address: | 2828 EL CENTRO RD. |
| City,State,Zip: | SACRAMENTO, CA |
| OES Incident Number: | 1-4527 |
| OES notification: | 08/08/2001 |
| OES Date: | Not reported |
| OES Time: | Not reported |
| **Date Completed:** | **Not reported** |
| Property Use: | Not reported |
| Agency Id Number: | Not reported |
| Agency Incident Number: | Not reported |
| Time Notified: | Not reported |
| Time Completed: | Not reported |
| Surrounding Area: | Not reported |
| Estimated Temperature: | Not reported |
| Property Management: | Not reported |
| More Than Two Substances Involved?: | Not reported |
| Resp Agncy Personel # Of Decontaminated: | Not reported |
| Responding Agency Personel # Of Injuries: | Not reported |

**(Continued)** **S105672804**

| | |
|---|---|
| Responding Agency Personel # Of Fatalities: | Not reported |
| Others Number Of Decontaminated: | Not reported |
| Others Number Of Injuries: | Not reported |
| Others Number Of Fatalities: | Not reported |
| Vehicle Make/year: | Not reported |
| Vehicle License Number: | Not reported |
| Vehicle State: | Not reported |
| Vehicle Id Number: | Not reported |
| CA DOT PUC/ICC Number: | Not reported |
| Company Name: | Not reported |
| Reporting Officer Name/ID: | Not reported |
| Report Date: | Not reported |
| Facility Telephone: | Not reported |
| Waterway Involved: | No |
| Waterway: | Not reported |
| Spill Site: | Not reported |
| Cleanup By: | CalTrans |
| Containment: | Not reported |
| What Happened: | Not reported |
| Type: | Not reported |
| Measure: | Not reported |
| Other: | Not reported |
| Date/Time: | Not reported |
| Year: | 2001 |
| Agency: | Sac City Fire Dept. |
| Incident Date: | 8/7/200112:00:00 AM |
| Admin Agency: | Sacramento City Fire Department |
| Amount: | Not reported |
| Contained: | Yes |
| Site Type: | Road |
| E Date: | Not reported |
| Substance: | Diesel |
| Gallons: | 30 |
| Unknown: | 0.000000 |
| Substance #2: | Not reported |
| Substance #3: | Not reported |
| Evacuations: | 0 |
| Number of Injuries: | 0 |
| Number of Fatalities: | 0 |
| #1 Pipeline: | Not reported |
| #2 Pipeline: | Not reported |
| #3 Pipeline: | Not reported |
| #1 Vessel >= 300 Tons: | Not reported |
| #2 Vessel >= 300 Tons: | Not reported |
| #3 Vessel >= 300 Tons: | Not reported |
| Evacs: | Not reported |
| Injuries: | Not reported |
| Fatals: | Not reported |
| Comments: | Not reported |
| Description: | Per the caller, a semi truck had a crossover line fail causing the release of the substance. |

**F64** **SACRAMENTO 49ER TRAVEL PLAZA** **RCRA NonGen / NLR** **1024752204**
**Target** **2828 EL CENTRO RD.** **CAC002972008**
**Property** **SACRAMENTO, CA 95833**

**Site 21 of 26 in cluster F**

**Actual:** **14 ft.**

**Focus Map:** **8**

RCRA NonGen / NLR:

| | |
|---|---|
| Date Form Received by Agency: | 2018-07-20 00:00:00.0 |
| Handler Name: | SACRAMENTO 49ER TRAVEL PLAZA |
| Handler Address: | 2828 EL CENTRO RD. |
| Handler City,State,Zip: | SACRAMENTO, CA 95833 |
| EPA ID: | CAC002972008 |
| Contact Name: | TRISTEN GRIFFITH |
| Contact Address: | 2828 EL CENTRO RD. |
| Contact City,State,Zip: | SACRAMENTO, CA 95833 |
| Contact Telephone: | 760-845-3778 |
| Contact Fax: | Not reported |
| Contact Email: | SELECTENVIRO@GMAIL.COM |
| Contact Title: | Not reported |
| EPA Region: | 09 |
| Land Type: | Not reported |
| Federal Waste Generator Description: | Not a generator, verified |
| Non-Notifier: | Not reported |
| Biennial Report Cycle: | Not reported |
| Accessibility: | Not reported |
| Active Site Indicator: | Handler Activities |
| State District Owner: | Not reported |
| State District: | Not reported |
| Mailing Address: | 2828 EL CENTRO RD. |
| Mailing City,State,Zip: | SACRAMENTO, CA 95833 |
| Owner Name: | TERRY RUST |
| Owner Type: | Other |
| Operator Name: | TRISTEN GRIFFITH |
| Operator Type: | Other |
| Short-Term Generator Activity: | No |
| Importer Activity: | No |
| Mixed Waste Generator: | No |
| Transporter Activity: | No |
| Transfer Facility Activity: | No |
| Recycler Activity with Storage: | No |
| Small Quantity On-Site Burner Exemption: | No |
| Smelting Melting and Refining Furnace Exemption: | No |
| Underground Injection Control: | No |
| Off-Site Waste Receipt: | No |
| Universal Waste Indicator: | Yes |
| Universal Waste Destination Facility: | Yes |
| Federal Universal Waste: | No |
| Active Site Fed-Reg Treatment Storage and Disposal Facility: | Not reported |
| Active Site Converter Treatment storage and Disposal Facility: | Not reported |
| Active Site State-Reg Treatment Storage and Disposal Facility: | Not reported |
| Active Site State-Reg Handler: | --- |
| Federal Facility Indicator: | Not reported |
| Hazardous Secondary Material Indicator: | N |
| Sub-Part K Indicator: | Not reported |
| Commercial TSD Indicator: | No |
| Treatment Storage and Disposal Type: | Not reported |
| 2018 GPRA Permit Baseline: | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | Not on the Baseline |
| Permit Renewals Workload Universe: | Not reported |

**SACRAMENTO 49ER TRAVEL PLAZA (Continued)** **1024752204**

| | |
|---|---|
| Permit Workload Universe: | Not reported |
| Permit Progress Universe: | Not reported |
| Post-Closure Workload Universe: | Not reported |
| Closure Workload Universe: | Not reported |
| 202 GPRA Corrective Action Baseline: | No |
| Corrective Action Workload Universe: | No |
| Subject to Corrective Action Universe: | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | No |
| Corrective Action Priority Ranking: | No NCAPS ranking |
| Environmental Control Indicator: | No |
| Institutional Control Indicator: | No |
| Human Exposure Controls Indicator: | N/A |
| Groundwater Controls Indicator: | N/A |
| Operating TSDF Universe: | Not reported |
| Full Enforcement Universe: | Not reported |
| Significant Non-Complier Universe: | No |
| Unaddressed Significant Non-Complier Universe: | No |
| Addressed Significant Non-Complier Universe: | No |
| Significant Non-Complier With a Compliance Schedule Universe: | No |
| Financial Assurance Required: | Not reported |
| Handler Date of Last Change: | 2018-08-31 17:12:39.0 |
| Recognized Trader-Importer: | No |
| Recognized Trader-Exporter: | No |
| Importer of Spent Lead Acid Batteries: | No |
| Exporter of Spent Lead Acid Batteries: | No |
| Recycler Activity Without Storage: | No |
| Manifest Broker: | No |
| Sub-Part P Indicator: | No |

Handler - Owner Operator:

| | |
|---|---|
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: | TRISTEN GRIFFITH |
| Legal Status: | Other |
| Date Became Current: | Not reported |
| Date Ended Current: | Not reported |
| Owner/Operator Address: | 2828 EL CENTRO RD. |
| Owner/Operator City,State,Zip: | SACRAMENTO, CA 95833 |
| Owner/Operator Telephone: | 760-845-3778 |
| Owner/Operator Telephone Ext: | Not reported |
| Owner/Operator Fax: | Not reported |
| Owner/Operator Email: | Not reported |

| | |
|---|---|
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: | TERRY RUST |
| Legal Status: | Other |
| Date Became Current: | Not reported |
| Date Ended Current: | Not reported |
| Owner/Operator Address: | 348 JAMES MCIVER |
| Owner/Operator City,State,Zip: | TRUCKEE, CA 96161 |
| Owner/Operator Telephone: | 530-917-0403 |
| Owner/Operator Telephone Ext: | Not reported |
| Owner/Operator Fax: | Not reported |
| Owner/Operator Email: | Not reported |

**SACRAMENTO 49ER TRAVEL PLAZA (Continued)** **1024752204**

Historic Generators:
- Receive Date: 2018-07-20 00:00:00.0
- Handler Name: SACRAMENTO 49ER TRAVEL PLAZA
- Federal Waste Generator Description: Not a generator, verified
- State District Owner: Not reported
- Large Quantity Handler of Universal Waste: No
- Recognized Trader Importer: No
- Recognized Trader Exporter: No
- Spent Lead Acid Battery Importer: No
- Spent Lead Acid Battery Exporter: No
- Current Record: Yes
- Non Storage Recycler Activity: Not reported
- Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
- NAICS Code: 56299
- NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
- Violations: No Violations Found

Evaluation Action Summary:
- Evaluations: No Evaluations Found

---

**F65** **ERNS** **2008890489**
**Target Property** **2828 EL CENTRO RD** **N/A**
**SACRAMENTO, CA 95833**

**Site 22 of 26 in cluster F**

**Actual: 14 ft.**

**Focus Map: 8**

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

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**F66** **SACRAMENTO 49ER AUTO/TRUCK PLAZA** **RCRA NonGen / NLR** **1024790101**
**Target Property** **2828 EL CENTRO ROAD** **CAL000077839**
**SACRAMENTO, CA 95833**

**Site 23 of 26 in cluster F**

**Actual: 14 ft.**

**Focus Map: 8**

RCRA NonGen / NLR:
- Date Form Received by Agency: 1992-07-22 00:00:00.0
- Handler Name: SACRAMENTO 49ER AUTO/TRUCK PLAZA
- Handler Address: 2828 EL CENTRO ROAD
- Handler City,State,Zip: SACRAMENTO, CA 95833-0000
- EPA ID: CAL000077839
- Contact Name: DARYLL CARLSON
- Contact Address: 2828 EL CENTRO RD
- Contact City,State,Zip: SACRAMENTO, CA 95833
- Contact Telephone: 916-927-4774

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **1024790101**

| | |
|---|---|
| Contact Fax: | 916-923-1652 |
| Contact Email: | DCARLSON@SACRAMENTO49ER.COM |
| Contact Title: | Not reported |
| EPA Region: | 09 |
| Land Type: | Not reported |
| Federal Waste Generator Description: | Not a generator, verified |
| Non-Notifier: | Not reported |
| Biennial Report Cycle: | Not reported |
| Accessibility: | Not reported |
| Active Site Indicator: | Handler Activities |
| State District Owner: | Not reported |
| State District: | Not reported |
| Mailing Address: | 2828 EL CENTRO RD |
| Mailing City,State,Zip: | SACRAMENTO, CA 95833-9703 |
| Owner Name: | 49ER TRUCK PLAZA |
| Owner Type: | Other |
| Operator Name: | DARYLL CARLSON |
| Operator Type: | Other |
| Short-Term Generator Activity: | No |
| Importer Activity: | No |
| Mixed Waste Generator: | No |
| Transporter Activity: | No |
| Transfer Facility Activity: | No |
| Recycler Activity with Storage: | No |
| Small Quantity On-Site Burner Exemption: | No |
| Smelting Melting and Refining Furnace Exemption: | No |
| Underground Injection Control: | No |
| Off-Site Waste Receipt: | No |
| Universal Waste Indicator: | Yes |
| Universal Waste Destination Facility: | Yes |
| Federal Universal Waste: | No |
| Active Site Fed-Reg Treatment Storage and Disposal Facility: | Not reported |
| Active Site Converter Treatment storage and Disposal Facility: | Not reported |
| Active Site State-Reg Treatment Storage and Disposal Facility: | Not reported |
| Active Site State-Reg Handler: | --- |
| Federal Facility Indicator: | Not reported |
| Hazardous Secondary Material Indicator: | N |
| Sub-Part K Indicator: | Not reported |
| Commercial TSD Indicator: | No |
| Treatment Storage and Disposal Type: | Not reported |
| 2018 GPRA Permit Baseline: | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | Not on the Baseline |
| Permit Renewals Workload Universe: | Not reported |
| Permit Workload Universe: | Not reported |
| Permit Progress Universe: | Not reported |
| Post-Closure Workload Universe: | Not reported |
| Closure Workload Universe: | Not reported |
| 202 GPRA Corrective Action Baseline: | No |
| Corrective Action Workload Universe: | No |
| Subject to Corrective Action Universe: | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | No |
| Corrective Action Priority Ranking: | No NCAPS ranking |
| Environmental Control Indicator: | No |
| Institutional Control Indicator: | No |
| Human Exposure Controls Indicator: | N/A |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **1024790101**

| | |
|---|---|
| Groundwater Controls Indicator: | N/A |
| Operating TSDF Universe: | Not reported |
| Full Enforcement Universe: | Not reported |
| Significant Non-Complier Universe: | No |
| Unaddressed Significant Non-Complier Universe: | No |
| Addressed Significant Non-Complier Universe: | No |
| Significant Non-Complier With a Compliance Schedule Universe: | No |
| Financial Assurance Required: | Not reported |
| Handler Date of Last Change: | 2018-09-05 15:42:05.0 |
| Recognized Trader-Importer: | No |
| Recognized Trader-Exporter: | No |
| Importer of Spent Lead Acid Batteries: | No |
| Exporter of Spent Lead Acid Batteries: | No |
| Recycler Activity Without Storage: | No |
| Manifest Broker: | No |
| Sub-Part P Indicator: | No |

Handler - Owner Operator:

| | |
|---|---|
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: | DARYLL CARLSON |
| Legal Status: | Other |
| Date Became Current: | Not reported |
| Date Ended Current: | Not reported |
| Owner/Operator Address: | 2828 EL CENTRO RD |
| Owner/Operator City,State,Zip: | SACRAMENTO, CA 95833 |
| Owner/Operator Telephone: | 916-927-4774 |
| Owner/Operator Telephone Ext: | Not reported |
| Owner/Operator Fax: | Not reported |
| Owner/Operator Email: | Not reported |

| | |
|---|---|
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: | 49ER TRUCK PLAZA |
| Legal Status: | Other |
| Date Became Current: | Not reported |
| Date Ended Current: | Not reported |
| Owner/Operator Address: | 2828 EL CENTRO RD |
| Owner/Operator City,State,Zip: | SACRAMENTO, CA 95833-9703 |
| Owner/Operator Telephone: | 916-927-4774 |
| Owner/Operator Telephone Ext: | Not reported |
| Owner/Operator Fax: | Not reported |
| Owner/Operator Email: | Not reported |

Historic Generators:

| | |
|---|---|
| Receive Date: | 1992-07-22 00:00:00.0 |
| Handler Name: | SACRAMENTO 49ER AUTO/TRUCK PLAZA |
| Federal Waste Generator Description: | Not a generator, verified |
| State District Owner: | Not reported |
| Large Quantity Handler of Universal Waste: | No |
| Recognized Trader Importer: | No |
| Recognized Trader Exporter: | No |
| Spent Lead Acid Battery Importer: | No |
| Spent Lead Acid Battery Exporter: | No |
| Current Record: | Yes |
| Non Storage Recycler Activity: | Not reported |
| Electronic Manifest Broker: | Not reported |

**SACRAMENTO 49ER AUTO/TRUCK PLAZA (Continued)** **1024790101**

List of NAICS Codes and Descriptions:
NAICS Code: 811198
NAICS Description: ALL OTHER AUTOMOTIVE REPAIR AND MAINTENANCE

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

---

**F67** **49ER TRUCK STOP** **LUST** **S100217062**
**Target** **2828 EL CENTRO RD** **CPS-SLIC** **N/A**
**Property** **SACRAMENTO, CA 95833** **Sacramento Co. CS**
**AST**
**Site 24 of 26 in cluster F** **CERS HAZ WASTE**
**HIST UST**
**Actual:** **CERS TANKS**
**14 ft.** **CHMIRS**
**Cortese**
**Focus Map:** **HIST CORTESE**
**8** **CERS**

LUST REG 5:
Name: 49ER TRUCK STOP
Address: 2828 EL CENTRO RD
City: SACRAMENTO
Region: 5
Status: Pollution Characterization
Case Number: 341013
Case Type: Other ground water affected
Substance: Not reported
Staff Initials: VJF
Lead Agency: Local
Program: LUST
MTBE Code: 7

LUST:
Name: FORTY-NINER TRUCK PLAZA (CASE #2)
Address: 2828 EL CENTRO RD
City,State,Zip: SACRAMENTO, CA 95833
Lead Agency: SACRAMENTO COUNTY LOP
Case Type: LUST Cleanup Site
Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T10000012881
Global Id: T10000012881
Latitude: 38.61715
Longitude: -121.53884
Status: Completed - Case Closed
Status Date: 04/16/2020
Case Worker: CWL
RB Case Number: Not reported
Local Agency: SACRAMENTO COUNTY LOP
File Location: Local Agency
Local Case Number: G153
Potential Media Affect: Aquifer used for drinking water supply, Soil
Potential Contaminants of Concern: Diesel

**49ER TRUCK STOP (Continued)** **S100217062**

Site History: A complete site history is located <a href="https://geotracker.waterboards.ca.gov/getfile?filename=/esi/uploads/geo_report/1167684733/T10000012881.pdf">here</a>.

LUST:
Global Id: T10000012881
Contact Type: Local Agency Caseworker
Contact Name: CHARLEY LANGER
Organization Name: SACRAMENTO COUNTY LOP
Address: 10590 ARMSTRONG AVENUE, SUITE A
City: MATHER
Email: langerc@saccounty.net
Phone Number: 9168758474

LUST:
Global Id: T10000012881
Action Type: Other
Date: 01/17/2019
Action: Leak Stopped

Global Id: T10000012881
Action Type: Other
Date: 01/25/2019
Action: Leak Reported

Global Id: T10000012881
Action Type: ENFORCEMENT
Date: 07/05/2019
Action: Email Correspondence

Global Id: T10000012881
Action Type: ENFORCEMENT
Date: 04/16/2020
Action: Closure/No Further Action Letter

Global Id: T10000012881
Action Type: ENFORCEMENT
Date: 12/13/2019
Action: Staff Letter

Global Id: T10000012881
Action Type: ENFORCEMENT
Date: 04/02/2019
Action: Email Correspondence

Global Id: T10000012881
Action Type: ENFORCEMENT
Date: 04/03/2019
Action: Notice of Responsibility

Global Id: T10000012881
Action Type: ENFORCEMENT
Date: 04/03/2019
Action: Staff Letter

Global Id: T10000012881
Action Type: Other

**49ER TRUCK STOP (Continued)** **S100217062**

Date: 01/17/2019
Action: Leak Began

Global Id: T10000012881
Action Type: RESPONSE
Date: 07/12/2019
Action: Email Correspondence

Global Id: T10000012881
Action Type: RESPONSE
Date: 07/12/2019
Action: Email Correspondence

Global Id: T10000012881
Action Type: Other
Date: 01/17/2019
Action: Leak Discovery

Global Id: T10000012881
Action Type: RESPONSE
Date: 10/11/2019
Action: Soil and Water Investigation Workplan - Regulator Responded

Global Id: T10000012881
Action Type: RESPONSE
Date: 10/30/2019
Action: Request for Closure - Regulator Responded

LUST:
Global Id: T10000012881
Status: Open - Case Begin Date
Status Date: 02/01/2019

Global Id: T10000012881
Status: Open - Active
Status Date: 04/02/2019

Global Id: T10000012881
Status: Open - Eligible for Closure
Status Date: 12/13/2019

Global Id: T10000012881
Status: Completed - Case Closed
Status Date: 04/16/2020

Name: 49ER TRUCK STOP
Address: 2828 EL CENTRO RD
City,State,Zip: SACRAMENTO, CA 95833
Lead Agency: SACRAMENTO COUNTY LOP
Case Type: LUST Cleanup Site
Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0606700843
Global Id: T0606700843
Latitude: 38.6168204441334
Longitude: -121.538261964874
Status: Completed - Case Closed
Status Date: 03/26/2014

**49ER TRUCK STOP (Continued)** **S100217062**

| | |
|---|---|
| Case Worker: | CWL |
| RB Case Number: | 341013 |
| Local Agency: | SACRAMENTO COUNTY LOP |
| File Location: | Local Agency |
| Local Case Number: | E567 |
| Potential Media Affect: | Other Groundwater (uses other than drinking water) |
| Potential Contaminants of Concern: | Diesel, Gasoline |
| Site History: | A complete site history is located <a href="https://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7337197840/T0606700843.PDF#page=41">here</a>. |

LUST:

| | |
|---|---|
| Global Id: | T0606700843 |
| Contact Type: | Local Agency Caseworker |
| Contact Name: | CHARLEY LANGER |
| Organization Name: | SACRAMENTO COUNTY LOP |
| Address: | 10590 ARMSTRONG AVENUE, SUITE A |
| City: | MATHER |
| Email: | langerc@saccounty.net |
| Phone Number: | 9168758474 |

| | |
|---|---|
| Global Id: | T0606700843 |
| Contact Type: | Regional Board Caseworker |
| Contact Name: | VERA FISCHER |
| Organization Name: | CENTRAL VALLEY RWQCB (REGION 5S) |
| Address: | 11020 SUN CENTER DRIVE #200 |
| City: | RANCHO CORDOVA |
| Email: | vera.fischer@waterboards.ca.gov |
| Phone Number: | Not reported |

LUST:

| | |
|---|---|
| Global Id: | T0606700843 |
| Action Type: | ENFORCEMENT |
| Date: | 02/25/2008 |
| Action: | Technical Correspondence / Assistance / Other |

| | |
|---|---|
| Global Id: | T0606700843 |
| Action Type: | ENFORCEMENT |
| Date: | 04/23/1995 |
| Action: | Other Report - #4/23/1995 |

| | |
|---|---|
| Global Id: | T0606700843 |
| Action Type: | ENFORCEMENT |
| Date: | 02/27/1998 |
| Action: | Other Report - #2/27/1998 |

| | |
|---|---|
| Global Id: | T0606700843 |
| Action Type: | RESPONSE |
| Date: | 12/31/2012 |
| Action: | Well Destruction Report |

| | |
|---|---|
| Global Id: | T0606700843 |
| Action Type: | ENFORCEMENT |
| Date: | 01/28/2009 |
| Action: | Technical Correspondence / Assistance / Other |

Global Id: T0606700843

**49ER TRUCK STOP (Continued)** **S100217062**

| | |
|---|---|
| Action Type: | ENFORCEMENT |
| Date: | 08/31/2012 |
| Action: | Staff Letter |
| | |
| Global Id: | T0606700843 |
| Action Type: | ENFORCEMENT |
| Date: | 03/23/1999 |
| Action: | Other Report - #3/23/1999 |
| | |
| Global Id: | T0606700843 |
| Action Type: | Other |
| Date: | 07/28/1994 |
| Action: | Leak Reported |
| | |
| Global Id: | T0606700843 |
| Action Type: | ENFORCEMENT |
| Date: | 01/18/2007 |
| Action: | File review |
| | |
| Global Id: | T0606700843 |
| Action Type: | ENFORCEMENT |
| Date: | 07/08/2009 |
| Action: | File review |
| | |
| Global Id: | T0606700843 |
| Action Type: | ENFORCEMENT |
| Date: | 03/03/2009 |
| Action: | File review |
| | |
| Global Id: | T0606700843 |
| Action Type: | ENFORCEMENT |
| Date: | 07/14/2009 |
| Action: | File review |
| | |
| Global Id: | T0606700843 |
| Action Type: | ENFORCEMENT |
| Date: | 04/10/2009 |
| Action: | File review |
| | |
| Global Id: | T0606700843 |
| Action Type: | ENFORCEMENT |
| Date: | 11/12/2003 |
| Action: | Staff Letter |
| | |
| Global Id: | T0606700843 |
| Action Type: | ENFORCEMENT |
| Date: | 03/12/2003 |
| Action: | Meeting |
| | |
| Global Id: | T0606700843 |
| Action Type: | ENFORCEMENT |
| Date: | 04/12/2010 |
| Action: | Meeting |
| | |
| Global Id: | T0606700843 |
| Action Type: | ENFORCEMENT |
| Date: | 08/12/2011 |

**49ER TRUCK STOP (Continued)** **S100217062**

Action: Staff Letter

Global Id: T0606700843
Action Type: ENFORCEMENT
Date: 05/05/2011
Action: Staff Letter

Global Id: T0606700843
Action Type: ENFORCEMENT
Date: 08/12/2011
Action: File review

Global Id: T0606700843
Action Type: ENFORCEMENT
Date: 12/15/2010
Action: Staff Letter

Global Id: T0606700843
Action Type: ENFORCEMENT
Date: 03/26/2014
Action: Closure/No Further Action Letter

Global Id: T0606700843
Action Type: ENFORCEMENT
Date: 04/29/2011
Action: Meeting

Global Id: T0606700843
Action Type: ENFORCEMENT
Date: 12/15/2010
Action: File review

Global Id: T0606700843
Action Type: Other
Date: 07/28/1994
Action: Leak Discovery

Global Id: T0606700843
Action Type: RESPONSE
Date: 05/09/2003
Action: Monitoring Report - Quarterly

Global Id: T0606700843
Action Type: RESPONSE
Date: 04/09/2003
Action: Soil and Water Investigation Workplan

Global Id: T0606700843
Action Type: RESPONSE
Date: 01/01/2004
Action: Soil and Water Investigation Workplan

Global Id: T0606700843
Action Type: RESPONSE
Date: 03/25/2011
Action: Request for Closure

**49ER TRUCK STOP (Continued)** **S100217062**

Global Id: T0606700843
Action Type: RESPONSE
Date: 05/19/2008
Action: Monitoring Report - Quarterly

Global Id: T0606700843
Action Type: RESPONSE
Date: 06/20/2012
Action: Request for Closure

Global Id: T0606700843
Action Type: ENFORCEMENT
Date: 12/22/2011
Action: Meeting

Global Id: T0606700843
Action Type: ENFORCEMENT
Date: 01/10/2012
Action: Staff Letter

Global Id: T0606700843
Action Type: ENFORCEMENT
Date: 12/22/2011
Action: Other Report

Global Id: T0606700843
Action Type: RESPONSE
Date: 09/01/2003
Action: Soil and Water Investigation Report

Global Id: T0606700843
Action Type: RESPONSE
Date: 04/15/2004
Action: Monitoring Report - Quarterly

Global Id: T0606700843
Action Type: RESPONSE
Date: 04/15/2004
Action: Soil and Water Investigation Report

Global Id: T0606700843
Action Type: RESPONSE
Date: 07/29/2011
Action: Soil and Water Investigation Workplan

Global Id: T0606700843
Action Type: RESPONSE
Date: 11/25/2011
Action: Soil and Water Investigation Report

Global Id: T0606700843
Action Type: REMEDIATION
Date: 07/28/1994
Action: Excavation

Global Id: T0606700843
Action Type: ENFORCEMENT

**49ER TRUCK STOP (Continued)** **S100217062**

Date: 07/12/2002
Action: Site Visit / Inspection / Sampling

Global Id: T0606700843
Action Type: ENFORCEMENT
Date: 09/30/1999
Action: Notice of Responsibility

Global Id: T0606700843
Action Type: ENFORCEMENT
Date: 03/30/2004
Action: Staff Letter

Global Id: T0606700843
Action Type: ENFORCEMENT
Date: 07/31/2013
Action: File review

Global Id: T0606700843
Action Type: ENFORCEMENT
Date: 08/22/2012
Action: Technical Correspondence / Assistance / Other

Global Id: T0606700843
Action Type: ENFORCEMENT
Date: 07/31/2013
Action: File review

LUST:
Global Id: T0606700843
Status: Open - Case Begin Date
Status Date: 01/23/1994

Global Id: T0606700843
Status: Open - Site Assessment
Status Date: 07/28/1994

Global Id: T0606700843
Status: Open - Site Assessment
Status Date: 12/19/2003

Global Id: T0606700843
Status: Open - Eligible for Closure
Status Date: 11/19/2012

Global Id: T0606700843
Status: Completed - Case Closed
Status Date: 03/26/2014

SLIC REG 5:
Name: 49er (Unocal) Truck Stop, Sacramento
Address: 2828 El Centro Rd
City: Sacramento
Region: 5
Facility Status: Closed by County

**49ER TRUCK STOP (Continued)** **S100217062**

Unit: Facility is a Spill or site
Pollutant: TPH - d, mo
Lead Agency: Not reported
Date Filed: 11/26/91
Report Date: 11/26/91
Date Added: Not reported
Date Closed: Not reported

Sacramento Co. CS:

Name: 49ER TRUCK STOP
Address: 2828 EL CENTRO RD
City,State,Zip: SACRAMENTO, CA
State Site Number: O290
Lead Staff: Langer, C.
Lead Agency: HM
Remedial Action Taken: YE, S
Substance: Diesel
Date Reported: 12/31/1998
Facility Id: RO0000360
Case Type: Other ground water affected
Case Closed: Not reported
**Date Closed: Not reported**
**Case Type: Other Groundwater affected (uses other than drinking water)**
**Substance: Diesel**

Name: UNOCAL TRUCK STOP
Address: 2828 EL CENTRO RD
City,State,Zip: SACRAMENTO, CA
State Site Number: 0290
Lead Staff: Booth, D.
Lead Agency: HM
Remedial Action Taken: YE, S
Substance: Diesel
Date Reported: 06/01/1991
Facility Id: RO0000361
Case Type: Other ground water affected
Case Closed: Y
**Date Closed: Not reported**
**Case Type: Other Groundwater affected (uses other than drinking water)**
**Substance: Diesel**

Name: FORTY-NINER TRUCK PLAZA CASE #2
Address: 2828 EL CENTRO RD
City,State,Zip: SACRAMENTO, CA
State Site Number: G153
Lead Staff: Not reported
Lead Agency: HM
Remedial Action Taken: NO
Substance: Not reported
Date Reported: Not reported
Facility Id: RO0001721
Case Type: Not reported
Case Closed: Not reported
**Date Closed: Not reported**
**Case Type: Not reported**
**Substance: Not reported**

**49ER TRUCK STOP (Continued)** **S100217062**

AST:

| | |
|---|---|
| Name: | SACRAMENTO 49ER TRAVEL PLAZA |
| Address: | 2828 EL CENTRO RD |
| City/Zip: | SACRAMENTO,95833 |
| Certified Unified Program Agencies: | Not reported |
| Owner: | FORTY-NINER TRUCK PLAZA LLC |
| Total Gallons: | Not reported |
| CERSID: | 10216783 |
| Facility ID: | Not reported |
| Business Name: | SACRAMENTO 49ER TRAVEL PLAZA |
| Phone: | 9169274774 |
| Fax: | 9169231652 |
| Mailing Address: | 2828 EL CENTRO RD |
| Mailing Address City: | SACRAMENTO |
| Mailing Address State: | CA |
| Mailing Address Zip Code: | 95833 |
| Operator Name: | Tristen Griffith |
| Operator Phone: | 9169274774 |
| Owner Phone: | 9162751083 |
| Owner Mail Address: | 2828 EL CENTRO RD |
| Owner State: | CA |
| Owner Zip Code: | 95834 |
| Owner Country: | United States |
| Property Owner Name: | Not reported |
| Property Owner Phone: | Not reported |
| Property Owner Mailing Address: | Not reported |
| Property Owner City: | Not reported |
| Property Owner Stat : | Not reported |
| Property Owner Zip Code: | Not reported |
| Property Owner Country: | Not reported |
| EPAID: | CAL000077839 |

CERS HAZ WASTE:

| | |
|---|---|
| Name: | SACRAMENTO 49ER TRAVEL PLAZA |
| Address: | 2828 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Site ID: | 401116 |
| CERS ID: | 10216783 |
| CERS Description: | Hazardous Waste Generator |

HIST UST:

| | |
|---|---|
| Name: | FORTY-NINER AUTO/TRUCK PLAZA |
| Address: | 2828 EL CENTRO ROAD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| File Number: | 00029589 |
| URL: | http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00029589.pdf |
| Region: | Not reported |
| Facility ID: | Not reported |
| Facility Type: | Not reported |
| Other Type: | Not reported |
| Contact Name: | Not reported |
| Telephone: | Not reported |
| Owner Name: | Not reported |
| Owner Address: | Not reported |
| Owner City,St,Zip: | Not reported |
| Total Tanks: | Not reported |

**49ER TRUCK STOP (Continued)** **S100217062**

Tank Num: Not reported
Container Num: Not reported
Year Installed: Not reported
Tank Capacity: Not reported
Tank Used for: Not reported
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: Not reported

Tank Num: Not reported
Container Num: Not reported
Year Installed: Not reported
Tank Capacity: Not reported
Tank Used for: Not reported
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: Not reported

Click here for Geo Tracker PDF:

CERS TANKS:

Name: SACRAMENTO 49ER TRAVEL PLAZA
Address: 2828 EL CENTRO RD
City,State,Zip: SACRAMENTO, CA 95833
Site ID: 401116
CERS ID: 10216783
CERS Description: Aboveground Petroleum Storage

Name: SACRAMENTO 49ER TRAVEL PLAZA
Address: 2828 EL CENTRO RD
City,State,Zip: SACRAMENTO, CA 95833
Site ID: 401116
CERS ID: 10216783
CERS Description: Underground Storage Tank

CHMIRS:

Name: Not reported
Address: 2828 EL CENTRO RD
City,State,Zip: SACRAMENTO, CA 95833
OES Incident Number: 4-6810
OES notification: 12/01/2014
OES Date: Not reported
OES Time: Not reported
**Date Completed:** **Not reported**
Property Use: Not reported
Agency Id Number: Not reported
Agency Incident Number: Not reported
Time Notified: Not reported
Time Completed: Not reported
Surrounding Area: Not reported
Estimated Temperature: Not reported
Property Management: Not reported
More Than Two Substances Involved?: Not reported
Resp Agncy Personel # Of Decontaminated: Not reported
Responding Agency Personel # Of Injuries: Not reported
Responding Agency Personel # Of Fatalities: Not reported

**49ER TRUCK STOP (Continued)** **S100217062**

| | |
|---|---|
| Others Number Of Decontaminated: | Not reported |
| Others Number Of Injuries: | Not reported |
| Others Number Of Fatalities: | Not reported |
| Vehicle Make/year: | Not reported |
| Vehicle License Number: | Not reported |
| Vehicle State: | Not reported |
| Vehicle Id Number: | Not reported |
| CA DOT PUC/ICC Number: | Not reported |
| Company Name: | Not reported |
| Reporting Officer Name/ID: | Not reported |
| Report Date: | Not reported |
| Facility Telephone: | Not reported |
| Waterway Involved: | No |
| Waterway: | Not reported |
| Spill Site: | Merchant/Business |
| Cleanup By: | No |
| Containment: | Not reported |
| What Happened: | Not reported |
| Type: | Not reported |
| Measure: | Not reported |
| Other: | Not reported |
| Type: | PETROLEUM |
| Measure: | Gal(s) |
| Other: | Not reported |
| Date/Time: | 1900 |
| Year: | 2014 |
| Agency: | Sac 49er Travel Plaza |
| Incident Date: | 11/29/2014 |
| Admin Agency: | Not reported |
| Amount: | Not reported |
| Contained: | Yes |
| Site Type: | Not reported |
| E Date: | Not reported |
| Substance: | Fuel - Diesel |
| Quantity Released: | 50 |
| Unknown: | Not reported |
| Substance #2: | Not reported |
| Substance #3: | Not reported |
| Evacuations: | Not reported |
| Number of Injuries: | Combustion |
| Number of Fatalities: | Not reported |
| #1 Pipeline: | No |
| #2 Pipeline: | No |
| #3 Pipeline: | No |
| #1 Vessel >= 300 Tons: | No |
| #2 Vessel >= 300 Tons: | No |
| #3 Vessel >= 300 Tons: | No |
| Evacs: | No |
| Injuries: | Other |
| Fatals: | No |
| Comments: | Not reported |
| Description: | Bobtail truck caught on fire causing the release, material flowed onto asphalt, FD handled the containment and contractor performed clean up. |
| Name: | Not reported |
| Address: | 2828 EL CENTRO RD |

**49ER TRUCK STOP (Continued)** **S100217062**

| | |
|---|---|
| City,State,Zip: | SACRAMENTO, CA 95833 |
| OES Incident Number: | 905555 |
| OES notification: | Not reported |
| OES Date: | Not reported |
| OES Time: | Not reported |
| **Date Completed:** | **07-APR-89** |
| Property Use: | 600 |
| Agency Id Number: | 34080 |
| Agency Incident Number: | 10917 |
| Time Notified: | 1936 |
| Time Completed: | 2020 |
| Surrounding Area: | 500 |
| Estimated Temperature: | 70 |
| Property Management: | P |
| More Than Two Substances Involved?: | N |
| Resp Agncy Personel # Of Decontaminated: | 0 |
| Responding Agency Personel # Of Injuries: | 0 |
| Responding Agency Personel # Of Fatalities: | 0 |
| Others Number Of Decontaminated: | 0 |
| Others Number Of Injuries: | 0 |
| Others Number Of Fatalities: | 0 |
| Vehicle Make/year: | Not reported |
| Vehicle License Number: | 23688 |
| Vehicle State: | NE |
| Vehicle Id Number: | Not reported |
| CA DOT PUC/ICC Number: | 3237/8696 |
| Company Name: | WARNER ENTER |
| Reporting Officer Name/ID: | FORREST ADAMS T20C |
| Report Date: | 07-APR-89 |
| Facility Telephone: | 916 449-5266 |
| Waterway Involved: | Not reported |
| Waterway: | Not reported |
| Spill Site: | Not reported |
| Cleanup By: | Not reported |
| Containment: | Not reported |
| What Happened: | Not reported |
| Type: | Not reported |
| Measure: | Not reported |
| Other: | Not reported |
| Date/Time: | Not reported |
| Year: | 88-92 |
| Agency: | Not reported |
| Incident Date: | 07-APR-89 |
| Admin Agency: | Not reported |
| Amount: | Not reported |
| Contained: | Not reported |
| Site Type: | Not reported |
| E Date: | 08-MAY-90 |
| Substance: | Not reported |
| Unknown: | Not reported |
| Substance #2: | Not reported |
| Substance #3: | Not reported |
| Evacuations: | Not reported |
| Number of Injuries: | Not reported |
| Number of Fatalities: | Not reported |
| #1 Pipeline: | Not reported |
| #2 Pipeline: | Not reported |

**49ER TRUCK STOP (Continued)** **S100217062**

| | |
|---|---|
| #3 Pipeline: | Not reported |
| #1 Vessel >= 300 Tons: | Not reported |
| #2 Vessel >= 300 Tons: | Not reported |
| #3 Vessel >= 300 Tons: | Not reported |
| Evacs: | Not reported |
| Injuries: | Not reported |
| Fatals: | Not reported |
| Comments: | Not reported |
| Description: | Not reported |
| | |
| Name: | Not reported |
| Address: | 2828 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| OES Incident Number: | 010099 |
| OES notification: | Not reported |
| OES Date: | Not reported |
| OES Time: | Not reported |
| **Date Completed:** | **22-FEB-90** |
| Property Use: | 500 |
| Agency Id Number: | 34080 |
| Agency Incident Number: | 8534 |
| Time Notified: | 1853 |
| Time Completed: | 1900 |
| Surrounding Area: | 961 |
| Estimated Temperature: | 50 |
| Property Management: | P |
| More Than Two Substances Involved?: | N |
| Resp Agncy Personel # Of Decontaminated: | 0 |
| Responding Agency Personel # Of Injuries: | 0 |
| Responding Agency Personel # Of Fatalities: | 0 |
| Others Number Of Decontaminated: | 0 |
| Others Number Of Injuries: | 0 |
| Others Number Of Fatalities: | 0 |
| Vehicle Make/year: | Not reported |
| Vehicle License Number: | Not reported |
| Vehicle State: | Not reported |
| Vehicle Id Number: | Not reported |
| CA DOT PUC/ICC Number: | Not reported |
| Company Name: | Not reported |
| Reporting Officer Name/ID: | ERIK NAISBITT |
| Report Date: | 21-MAR-90 |
| Facility Telephone: | 916 449-5266 |
| Waterway Involved: | Not reported |
| Waterway: | Not reported |
| Spill Site: | Not reported |
| Cleanup By: | Not reported |
| Containment: | Not reported |
| What Happened: | Not reported |
| Type: | Not reported |
| Measure: | Not reported |
| Other: | Not reported |
| Date/Time: | Not reported |
| Year: | 88-92 |
| Agency: | Not reported |
| Incident Date: | 22-FEB-90 |
| Admin Agency: | Not reported |
| Amount: | Not reported |

**49ER TRUCK STOP (Continued)** **S100217062**

| | |
|---|---|
| Contained: | Not reported |
| Site Type: | Not reported |
| E Date: | 29-MAY-90 |
| Substance: | Not reported |
| Unknown: | Not reported |
| Substance #2: | Not reported |
| Substance #3: | Not reported |
| Evacuations: | Not reported |
| Number of Injuries: | Not reported |
| Number of Fatalities: | Not reported |
| #1 Pipeline: | Not reported |
| #2 Pipeline: | Not reported |
| #3 Pipeline: | Not reported |
| #1 Vessel >= 300 Tons: | Not reported |
| #2 Vessel >= 300 Tons: | Not reported |
| #3 Vessel >= 300 Tons: | Not reported |
| Evacs: | Not reported |
| Injuries: | Not reported |
| Fatals: | Not reported |
| Comments: | Not reported |
| Description: | Not reported |

CORTESE:

| | |
|---|---|
| Name: | FORTY-NINER TRUCK PLAZA (CASE #2) |
| Address: | 2828 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Region: | CORTESE |
| Envirostor Id: | Not reported |
| Global ID: | T10000012881 |
| Site/Facility Type: | LUST CLEANUP SITE |
| Cleanup Status: | COMPLETED - CASE CLOSED |
| Status Date: | Not reported |
| Site Code: | Not reported |
| Latitude: | Not reported |
| Longitude: | Not reported |
| Owner: | Not reported |
| Enf Type: | Not reported |
| Swat R: | Not reported |
| Flag: | active |
| Order No: | Not reported |
| Waste Discharge System No: | Not reported |
| Effective Date: | Not reported |
| Region 2: | Not reported |
| WID Id: | Not reported |
| Solid Waste Id No: | Not reported |
| Waste Management Uit Name: | Not reported |
| File Name: | Active Open |

| | |
|---|---|
| Name: | 49ER TRUCK STOP |
| Address: | 2828 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Region: | CORTESE |
| Envirostor Id: | Not reported |
| Global ID: | T0606700843 |
| Site/Facility Type: | LUST CLEANUP SITE |
| Cleanup Status: | COMPLETED - CASE CLOSED |
| Status Date: | Not reported |

**49ER TRUCK STOP (Continued)** **S100217062**

| | |
|---|---|
| Site Code: | Not reported |
| Latitude: | Not reported |
| Longitude: | Not reported |
| Owner: | Not reported |
| Enf Type: | Not reported |
| Swat R: | Not reported |
| Flag: | active |
| Order No: | Not reported |
| Waste Discharge System No: | Not reported |
| Effective Date: | Not reported |
| Region 2: | Not reported |
| WID Id: | Not reported |
| Solid Waste Id No: | Not reported |
| Waste Management Uit Name: | Not reported |
| File Name: | Active Open |

HIST CORTESE:

| | |
|---|---|
| edr_fname: | 49ER TRUCK STOP |
| edr_fadd1: | 2828 EL CENTRO |
| City,State,Zip: | SACRAMENTO, CA |
| Region: | CORTESE |
| Facility County Code: | 34 |
| Reg By: | LTNKA |
| Reg Id: | 341013 |

CERS:

| | |
|---|---|
| Name: | 49ER TRUCK STOP |
| Address: | 2828 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Site ID: | 187320 |
| CERS ID: | T0606700843 |
| CERS Description: | Leaking Underground Storage Tank Cleanup Site |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | Local Agency Caseworker |
| Entity Name: | CHARLEY LANGER - SACRAMENTO COUNTY LOP |
| Entity Title: | Not reported |
| Affiliation Address: | 10590 ARMSTRONG AVENUE, SUITE A |
| Affiliation City: | MATHER |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | 9168758474 |

| | |
|---|---|
| Affiliation Type Desc: | Regional Board Caseworker |
| Entity Name: | VERA FISCHER - CENTRAL VALLEY RWQCB (REGION 5S) |
| Entity Title: | Not reported |
| Affiliation Address: | 11020 SUN CENTER DRIVE #200 |
| Affiliation City: | RANCHO CORDOVA |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Name: | FORTY-NINER TRUCK PLAZA (CASE #2) |
| Address: | 2828 EL CENTRO RD |

**49ER TRUCK STOP (Continued)** **S100217062**

City,State,Zip: SACRAMENTO, CA 95833
Site ID: 521081
CERS ID: T10000012881
CERS Description: Leaking Underground Storage Tank Cleanup Site

Affiliation:
Affiliation Type Desc: Local Agency Caseworker
Entity Name: CHARLEY LANGER - SACRAMENTO COUNTY LOP
Entity Title: Not reported
Affiliation Address: 10590 ARMSTRONG AVENUE, SUITE A
Affiliation City: MATHER
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: 9168758474

Name: SACRAMENTO 49ER TRAVEL PLAZA
Address: 2828 EL CENTRO RD
City,State,Zip: SACRAMENTO, CA 95833
Site ID: 401116
CERS ID: 10216783
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/10/2015
Citation: 23 CCR 16 2666(c) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2666(c)
Violation Description: Failure of line leak detector to detect a leak and/or failure of audible and visual alarm.
Violation Notes: Returned to compliance on 07/10/2015. OBSERVATION: The 91 Mechanical Line Leak Detector (MLLD) failed to detect a leak when tested. All MLLD's must detect a leak when a leak is introduced. CORRECTIVE ACTION: The 91 MLLD was replaced during todays inspection. It was retested with passing results.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/8/2019
Citation: 23 CCR 16 2715(a)(1)(B) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(a)(1)(B)
Violation Description: Failure to submit the G Designated Underground Storage Tank Operator Identification FormG within 30 days of installing a UST system or within 30 days of a change in DO.
Violation Notes: Returned to compliance on 07/08/2019. OBSERVATION: The DESIGNATED UNDERGROUND STORAGE TANK OPERATOR IDENTIFICATION FORM submitted to the California Electronic Reporting System (CERS) is not current. CORRECTIVE ACTION: Submit a current DESIGNATED UNDERGROUND STORAGE TANK OPERATOR IDENTIFICATION FORM to CERS. NOTE: This violation applies to all five tank systems onsite. NOTE: This violation was corrected at the time of inspection. OBSERVATION: The STATEMENT OF UNDERSTANDING AND COMPLIANCE FORM has not been submitted to the California Electronic Reporting System (CERS). CORRECTIVE ACTION:

**49ER TRUCK STOP (Continued)** **S100217062**

Submit a current STATEMENT OF UNDERSTANDING AND COMPLIANCE FORM to CERS. NOTE: This violation applies to all five tank systems onsite. NOTE: This violation was corrected at the time of inspection.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/8/2016
Citation: 23 CCR 16 2715(a) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(a)
Violation Description: Failure to notify the CUPA of the designated operator (DO) identification and/or change of the DO within 30 days.
Violation Notes: Returned to compliance on 04/06/2018. OBSERVATION: The facility has not electronically submitted its UST Compliance Statement and/or current certification for its Designated Operator. UST forms were electronically due on or before December 1, 2014. CORRECTIVE ACTION: Submit the facility's UST forms in CERS after uploading a UST Compliance Statement and/or current certification for the Designated Operator.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/8/2019
Citation: HSC 6.67 25270.6(a)(1), 25270.6(a)(2) - California Health and Safety Code, Chapter 6.67, Section(s) 25270.6(a)(1), 25270.6(a)(2)
Violation Description: Failure to submit a tank facility statement on or before January 1 annually unless a current Business Plan has been submitted.
Violation Notes: Returned to compliance on 08/14/2019.
Violation Division: Sacramento County Env Management Department
Violation Program: APSA
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/8/2016
Citation: HSC 6.7 25290.1(c)(3), 25290.2(c)(3) - California Health and Safety Code, Chapter 6.7, Section(s) 25290.1(c)(3), 25290.2(c)(3)
Violation Description: Failure to keep water out of the secondary containment of UST systems installed on or after July 1, 2003 and before July 1, 2004, or on or after July 1, 2004.
Violation Notes: Returned to compliance on 07/22/2016. DIESEL (OVERALL): 1. OBSERVATION: BZ technicians pumped out 1/4 gallon of liquid out of UDC 17 during today's annual monitoring system certification. UDCs must be maintained free of liquid/debris. CORRECTIVE ACTION: No immediate action required. Maintain UDCs free of liquid and debris. DIESEL-1 and DIESEL-2: 1. OBSERVATION: The diesel piping sump (with diesel lines running from the Diesel-1 and Diesel-2 tanks) had a small amount of liquid during today's monitoring system certification. Sumps must be maintained free of liquid/debris. CORRECTIVE ACTION: Submit documentation to EMD, Attn: Megan Vaughan, that identifies that the facility cleaned up its piping sump. DIESEL-1: 1. OBSERVATION: The Diesel-1 STP had a small amount of liquid in it during today's

**49ER TRUCK STOP (Continued)** **S100217062**

monitoring system certification. Sumps must be free of liquid/debris. CORRECTIVE ACTION: Submit documentation to EMD, Attn: Megan Vaughan, that identifies that the facility cleaned up the STP sump. [Truncated]

Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/8/2019
Citation: HSC 6.5 25201 - California Health and Safety Code, Chapter 6.5, Section(s) 25201
Violation Description: Failure to obtain a permit or grant of interim status after generator has accumulated hazardous waste on-site for longer than 90 days.
Violation Notes: Returned to compliance on 08/30/2019. OBSERVATION: 1 X 30 gallon drum containing hydrogen peroxide (34%) is no longer used and has been on-site greater than 90 days. CORRECTIVE ACTION: Dispose of described waste and submit a copy of the manifest/receipt to this department.
Violation Division: Sacramento County Env Management Department
Violation Program: HW
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/7/2017
Citation: 23 CCR 16 2712(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i)
Violation Description: Failure to have a UST Monitoring Plan available on site.
Violation Notes: Returned to compliance on 08/06/2018. OBSERVATION: UDC Monitoring is incorrectly stating Secondary Containment Monitoring is 'Liquid' but this is a single-walled tank - no Secondary monitoring. Training includes personnel with responsibilities. UDC Monitoring sensor manufacturer is 'Beaudreau', models numbers 406/001. REQUIRED ACTION: Login to the https://cersbusiness.calepa.ca.gov/Account/SignIn?ReturnUrl=%2f website for CERS and revise the forms on all tanks electronically, save, and submit. NOTIFY MR. STEELE (Steeled@saccounty.net) WHEN THE SUBMITTAL OCCURS OR IT WILL NOT BE CLEARED OF THE VIOLATION.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/11/2014
Citation: HSC 6.75 25299.30-25299.34 - California Health and Safety Code, Chapter 6.75, Section(s) 25299.30-25299.34
Violation Description: Failure to submit and maintain complete and current Certification of Financial Responsibility or other mechanism of financial assurance.
Violation Notes: Returned to compliance on 04/06/2018. OBSERVATION: Financial responsibility documents have not been submitted to the CUPA. Current financial responsibility documents are required to be submitted annually. CORRECTIVE ACTION: Complete and submit a copy of the financial responsibility documents to this department Attn: J Pollack.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

**49ER TRUCK STOP (Continued)** **S100217062**

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| Site ID: | 401116 |
| Site Name: | SACRAMENTO 49ER TRAVEL PLAZA |
| Violation Date: | 7/5/2018 |
| Citation: | HSC 6.7 25290.1(c)(3),25290.2(c)(3) - California Health and Safety Code, Chapter 6.7, Section(s) 25290.1(c)(3),25290.2(c)(3) |
| Violation Description: | Failure to keep water out of the secondary containment of UST systems installed on or after July 1, 2003. |
| Violation Notes: | Returned to compliance on 07/11/2018. OBSERVATION: Liquid was observed in the Diesel 1, Diesel 2, Diesel 3, and 87 tank pump sumps. Liquid was also observed in Under dispenser containment for dispensers 18S, 19, 19S, and 20S. If water could enter into the secondary containment by precipitation or infiltration, it must be removed and disposed of properly. CORRECTIVE ACTION: Immediately remove this liquid, make a hazardous waste determination per Title 22 hazardous waste regulations, and manage it accordingly. Ensure that all sumps and UDC are maintained free of liquid. Send photos and a short verification statement to mccormackz@saccounty.net when this is complete. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |

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| Site ID: | 401116 |
| Site Name: | SACRAMENTO 49ER TRAVEL PLAZA |
| Violation Date: | 7/8/2016 |
| Citation: | HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4) |
| Violation Description: | Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years. |
| Violation Notes: | Returned to compliance on 08/07/2019. OBSERVATION: Initial / annual training documentation for all applicable employees was not available. CORRECTIVE ACTION: Submit documentation to this department demonstrating that employees have received training on safe handling of hazardous materials and the Emergency Response Plan. Send a copy of the training documentation to the County c/o Mr. Steele (steeled@saccounty.net). REPEAT VIOLATION G 14 DAY RESPONSE (due July 22, 2016). |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | HMRRP |
| Violation Source: | CERS |

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| Site ID: | 401116 |
| Site Name: | SACRAMENTO 49ER TRAVEL PLAZA |
| Violation Date: | 7/8/2019 |
| Citation: | HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1) |
| Violation Description: | Failure to complete and electronically submit a site map with all required content. |
| Violation Notes: | Returned to compliance on 07/08/2019. OBSERVATION: The annotated site map submitted to this department does not include hazardous material storage area located in the truck wash room. CORRECTIVE ACTION: Revise the annotated Site Map to include all required content and submit electronically in the California Environmental Reporting System. NOTE: This violation was corrected at the time of inspection. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | HMRRP |

**49ER TRUCK STOP (Continued)** **S100217062**

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| Violation Source: | CERS |
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| Site ID: | 401116 |
| Site Name: | SACRAMENTO 49ER TRAVEL PLAZA |
| Violation Date: | 7/8/2016 |
| Citation: | HSC 6.7 25284(a)(3)(A) & (B); - California Health and Safety Code, Chapter 6.7, Section(s) 25284(a)(3)(A) & (B); |
| Violation Description: | Failure to implement or maintain a written agreement between the UST permit holder and the operator (owner/operator agreement). |
| Violation Notes: | Returned to compliance on 04/06/2018. OBSERVATION: The facility has not electronically submitted its written agreement between the tank owner (FNTP LCC) and the tank operator (Forty-Niner Truck Plaza LLC) in CERS. Forms should have been electronically submitted on or before December 1, 2014; additionally, tank forms must now be electronically submitted. CORRECTIVE ACTION: Electronically submit the facility's owner/operator written agreement in CERS. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
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| Site ID: | 401116 |
| Site Name: | SACRAMENTO 49ER TRAVEL PLAZA |
| Violation Date: | 7/11/2014 |
| Citation: | Un-Specified |
| Violation Description: | UST Program - Operations/Maintenance - For use of Local Ordinance only. |
| Violation Notes: | Returned to compliance on 07/11/2014. OBSERVATION: The 87 line leak detector failed to detect a leak when tested. All line leak detectors shall be capable of detecting a 3-gallon per hour leak at 10 psi. The leak detector was replaced and retested during the inspection and passed. CORRECTIVE ACTION: Submit passing test results within 30 days of testing to this department Attn: J Pollack. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
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| Site ID: | 401116 |
| Site Name: | SACRAMENTO 49ER TRAVEL PLAZA |
| Violation Date: | 7/5/2018 |
| Citation: | 23 CCR 16 2712(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i) |
| Violation Description: | Failure to have current UST Monitoring Plan available on site. |
| Violation Notes: | Returned to compliance on 08/06/2018. See Q659 |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
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| Site ID: | 401116 |
| Site Name: | SACRAMENTO 49ER TRAVEL PLAZA |
| Violation Date: | 7/8/2016 |
| Citation: | 22 CCR 15 66265.192(k) - California Code of Regulations, Title 22, Chapter 15, Section(s) 66265.192(k) |
| Violation Description: | Failure to include all required information in the tank system assessment. |
| Violation Notes: | Returned to compliance on 10/02/2019. OBSERVATION: The Waste Tank Assessment dated 10/27/2009 is past the 5 year review requirement. REQUIRED ACTION: Arrange for a professional engineer to review and |

**49ER TRUCK STOP (Continued)** **S100217062**

re-certify the waste tank assessment. Send the updated document to the County c/o Mr. Steele (steeled@saccounty.net).

Violation Division: Sacramento County Env Management Department
Violation Program: HW
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/8/2016
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to complete and electronically submit hazardous material inventory information for all reportable hazardous materials on site at or above reportable quantities.
Violation Notes: Returned to compliance on 07/24/2018. OBSERVATION: The chemical inventory sheets for several items are incorrect. Inventory sheets must be current, correct, and complete. REQUIRED ACTION: #1: Revise the compressed gases (oxygen, AR/CO2, acetylene, and propane) to show pressure release as a hazard and storage at above ambient pressure. #2: Revise maximum amount of gasoline on site from 209,000 gallons to 22,500 (maximum capacity of USTs). #3: Revise chemical name of antifreeze/coolant to ethylene glycol. #4: Revise chemical name of Total Power to sodium hydroxide. If hazardous, complete chemical inventory sheets for detergent and Hi pH solution. Submit revisions into the online CERS system. NOTIFY MR. STEELE (Steeled@saccounty.net) WHEN THE SUBMITTAL OCCURS OR IT WILL NOT BE CLEARED OF THE VIOLATION.
Violation Division: Sacramento County Env Management Department
Violation Program: HMRRP
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/8/2016
Citation: 22 CCR 15 66265.195(c) - California Code of Regulations, Title 22, Chapter 15, Section(s) 66265.195(c)
Violation Description: Failure to conduct and document inspections of hazardous waste tank systems each operating day and retain records of those inspections at the facility.
Violation Notes: Returned to compliance on 10/02/2019. OBSERVATION: Daily inspections of the used oil tank system have not been conducted and documented as required for large quantity generators. CORRECTIVE ACTION: Submit documentation to the County c/o Mr. Steele demonstrating that the used oil tank system is being properly inspected and documented (sample log supplied on site). Maintain continuing log records for further inspections/review.
Violation Division: Sacramento County Env Management Department
Violation Program: HW
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/16/2013
Citation: 23 CCR 16 2638 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2638
Violation Description: Failure to test leak detection equipment as required every 12 months (VPH, sensor, LLD, ATG, etc.) and/or submit monitoring system certification to the CUPA within 30 days of completion of the test

**49ER TRUCK STOP (Continued)** **S100217062**

Violation Notes: Returned to compliance on 10/10/2013.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/8/2019
Citation: 22 CCR 15 66265.195(c) - California Code of Regulations, Title 22, Chapter 15, Section(s) 66265.195(c)
Violation Description: Failure to conduct and document inspections of hazardous waste tank systems each operating day and retain records of those inspections at the facility.
Violation Notes: Returned to compliance on 10/02/2019. OBSERVATION: The daily inspections of the used oil tank system does not indicate what is being inspected. The daily inspection form only list who conducted the inspection and the date the inspection occurred. CORRECTIVE ACTION: Submit documentation to this department demonstrating that the used oil tank system is being properly inspected and documented.
Violation Division: Sacramento County Env Management Department
Violation Program: HW
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/8/2019
Citation: 22 CCR 15 66265.16 - California Code of Regulations, Title 22, Chapter 15, Section(s) 66265.16
Violation Description: Failure to provide employees with hazardous waste training program of class room instructions or on-the-job training within the first six months after the date of their employment or assignment to a facility, or to a new position at a facility and annually thereafter. Training records on current personnel shall be kept until closure of the facility and for former employees the record shall be kept for at least three years from the date the employee last worked at the facility. The records shall include the following: the job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job; a written job description for each position, duties of facility personnel assigned to each position, and a written description of the type and amount of both introductory and continuing training that will be given to each person filling a position.
Violation Notes: Returned to compliance on 08/07/2019. OBSERVATION: Documented training of personnel was not available at the time of inspection. CORRECTIVE ACTION: Locate training documentation or conduct training with applicable personnel and document it. Submit a copy of the training documentation to this department.
Violation Division: Sacramento County Env Management Department
Violation Program: HW
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/8/2019
Citation: 23 CCR 16 2636(f)(2) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)(2)
Violation Description: Failure of the functional line leak detector (LLD) monitoring

**49ER TRUCK STOP (Continued)** **S100217062**

pressurized piping to meet one or more of the following requirements: Monitored at least hourly with the capability of detecting a release of 3.0 gallons per hour leak at 10 pounds per square inch and restrict or shut off the flow of product through the piping when a leak is detected.

Violation Notes: Returned to compliance on 07/08/2019. OBSERVATION: Owner/Operator did not repair/maintain pressurized piping to meet one or more of the following requirements: monitored at least hourly with the capability of detecting a release of 3.0 gallons per hour, and will restrict the flow of product through the piping or trigger an alarm when a release occurs. The diesel #2 line leak detector failed to detect a leak when tested. CORRECTIVE ACTION: Repair/maintain pressurized piping to meet one or more of the following requirements: monitored at least hourly with the capability of detecting a release of 3.0 gallons per hour, and will restrict the flow of product through the piping or trigger an alarm when a release occurs. NOTE: This violation applies to the diesel #2 tank system. NOTE: The diesel #2 was repaired and retested at the time of inspection.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/7/2017
Citation: 23 CCR 16 2641(h) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2641(h)
Violation Description: Failure to have an approved UST Monitoring Plan.
Violation Notes: Returned to compliance on 08/06/2018. Refer to Q743.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/5/2018
Citation: 23 CCR 16 2712(b) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)
Violation Description: Failure to maintain monitoring and maintenance records and/or maintain records of appropriate follow-up actions.
Violation Notes: Returned to compliance on 07/11/2018. OBSERVATION: Owner/Operator did not maintain leak detection alarm logs and records of appropriate follow-up actions. This applies to all tanks on site. CORRECTIVE ACTION: Maintain leak detection alarm logs and records of appropriate follow-up actions. Submit a statement to mccormackz@saccounty.net of how log will be maintained.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/8/2019
Citation: 22 CCR 12 66262.40(a) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.40(a)
Violation Description: Failure to keep a copy of each properly signed manifest for at least three years from the date the waste was accepted by the initial

**49ER TRUCK STOP (Continued)** **S100217062**

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| | transporter. The manifest signed at the time the waste was accepted for transport shall be kept until receiving a signed copy from the designated facility which received the waste. |
| Violation Notes: | Returned to compliance on 08/07/2019. OBSERVATION: All Uniform Hazardous Waste Manifests for were not available at the time of inspection. The designated facility copies for the following manifest were not available at the time of inspection: 019015498 (09/07/2018), 018848992 (5/14/2018), 018533124 (03/16/2018), 018042890 (01/10/2018) and 018410495 (02/02/2018). CORRECTIVE ACTION: Locate a copy of all Uniform Hazardous Waste Manifests for the manifest listed above and submit copies to this department. OBSERVATION: All Uniform Hazardous Waste Manifests for were not available at the time of inspection. Manifest # 018527159 (02/21/2018) on-site was the transporter copy only. CORRECTIVE ACTION: Locate the designated facility copy of the Uniform Hazardous Waste Manifests for the manifest listed above and submit copies to this department. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | HW |
| Violation Source: | CERS |
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| Site ID: | 401116 |
| Site Name: | SACRAMENTO 49ER TRAVEL PLAZA |
| Violation Date: | 7/8/2016 |
| Citation: | 22 CCR 15 66265.16 - California Code of Regulations, Title 22, Chapter 15, Section(s) 66265.16 |
| Violation Description: | Failure to provide employees with hazardous waste training within the first six months after the date of their employment or assignment to a facility, or to a new position at a facility and annually thereafter. Training records on current personnel shall be kept until closure of the facility and for former employees the record shall be kept for at least three years from the date the employee last worked at the facility. |
| Violation Notes: | Returned to compliance on 08/07/2019. OBSERVATION: Initial / annual training documentation for all applicable employees was not available. CORRECTIVE ACTION: Submit documentation to this department demonstrating that employees have received training on safe handling of hazardous materials and the Emergency Response Plan. Send a copy of the training documentation to the County c/o Mr. Steele (steeled@saccounty.net). REPEAT VIOLATION G 14 DAY RESPONSE (due July 22, 2016). |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | HW |
| Violation Source: | CERS |
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| Site ID: | 401116 |
| Site Name: | SACRAMENTO 49ER TRAVEL PLAZA |
| Violation Date: | 7/5/2018 |
| Citation: | HSC 6.7 25299(a)(9) - California Health and Safety Code, Chapter 6.7, Section(s) 25299(a)(9) |
| Violation Description: | Leak detection equipment disabled or tampered with in a manner that would prevent the monitoring system from detecting and/or alerting the owner/operator of a leak. |
| Violation Notes: | Returned to compliance on 07/05/2018. OBSERVATION 1 : The Diesel 1 Turbine Pump sump sensor was raised to the top of the turbine and not located to detect a leak at the earliest opportunity. Monitoring equipment shall be maintained to be able to detect a leak at the earliest possible opportunity. CORRECTIVE ACTION 1 : Sensors have been |

**49ER TRUCK STOP (Continued)** **S100217062**

returned to proper position by BZ. Ensure that sensors are returned to the proper location after all maintenance actions. OBSERVATION 2 : The Diesel Piping sump sensor was laying on its side at the bottom of the sump and not able to detect a leak at the earliest opportunity. Monitoring equipment shall be maintained to be able to detect a leak at the earliest possible opportunity. CORRECTIVE ACTION 2 : Sensors have been returned to proper position by BZ. Ensure that sensors are returned to the proper location after all maintenance actions. OBSERVATION 3 : The Diesel 2 Turbine Pump sump sensor was placed on the riser which is approximately 4 inches off the lowest [Truncated]

Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/16/2013
Citation: 23 CCR 16 2666 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2666
Violation Description: Failure of the leak detection equipment to be properly programmed or properly operated.
Violation Notes: Not reported
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/8/2016
Citation: 23 CCR 16 2632(d)(1)(C), 2641(h), 2711(a)(8) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2632(d)(1)(C), 2641(h), 2711(a)(8)
Violation Description: Failure to submit or update a plot plan.
Violation Notes: Returned to compliance on 08/06/2018. OBSERVATION: The facility's electronically submitted plot map does not (clearly) depict the facility's tanks, the associated tank piping, and the tanks' sensors used in monitoring. Plot maps must be accurate/correct. CORRECTIVE ACTION: Submit the facility's map in CERS after making the necessary updates.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/5/2018
Citation: 23 CCR 16 2715(e) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(e)
Violation Description: Failure to maintain a copy of the designated operator monthly inspections for the last 12 months on-site or off-site at a readily available location, if approved by the UPA.
Violation Notes: Returned to compliance on 07/23/2018. OBSERVATION: The July 2017- Dec 2017 designated operator monthly inspection reports were not found on site. Designated operator monthly inspection reports for the previous twelve months shall be retained on site. This applies to all tanks on site. CORRECTIVE ACTION: Locate the missing months of designated operator monthly inspection reports and maintain them on site. Submit

**49ER TRUCK STOP (Continued)** **S100217062**

copies to mccormackz@saccounty.net.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/8/2016
Citation: 23 CCR 16 2632, 2634, 2712(b) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2632, 2634, 2712(b)
Violation Description: Failure to maintain monitoring and maintenance records (e.g., alarm logs) and/or maintain records of appropriate follow-up actions.
Violation Notes: Returned to compliance on 04/06/2018. OBSERVATION: The facility has not electronically submitted its UST Compliance Statement and/or current certification for its Designated Operator. UST forms were electronically due on or before December 1, 2014. CORRECTIVE ACTION: Submit the facility's UST forms in CERS after uploading a UST Compliance Statement and/or current certification for the Designated Operator.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/8/2019
Citation: 23 CCR 16 2636(f)(1) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)(1)
Violation Description: Failure of the double-walled pressurized piping to be continuously monitored with a system that activates an audible and visual alarm or stops flow at the dispenser when a leak is detected.
Violation Notes: Returned to compliance on 08/06/2019. OBSERVATION: The sensor in UDC 23 satellite failed to activate an audible and visual alarm when tested to ensure continuous monitoring of the tank system. All monitoring equipment shall be maintained to activate an audible and visual alarm or stop the flow of product at the dispenser when it detects a leak. CORRECTIVE ACTION: Have a properly licensed, trained, and certified contractor replace the failed component with a functional component (LG 113-x listed, if applicable). NOTE: This violation applies to all five tank systems onsite.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/5/2018
Citation: 23 CCR 16 2641(h) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2641(h)
Violation Description: Failure to have an approved UST Monitoring Plan.
Violation Notes: Returned to compliance on 08/06/2018. See Q659
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA

**49ER TRUCK STOP (Continued)** **S100217062**

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| Violation Date: | 7/7/2017 |
| Citation: | 23 CCR 16 2636(f)(5) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)(5) |
| Violation Description: | "Failure to meet one or more of the following monitoring requirements in lieu of the requirement to be tightness tested annually: The monitoring system maintains all product piping outside the dispenser to be fail-safe and shut down the pump when a leak is detected. The monitoring system shuts down the pump or stops flow when a leak is detected in the under dispenser containment (UDC)." |
| Violation Notes: | Returned to compliance on 07/05/2018. OBSERVATION: Turbine #1 does not stop when the L1 sump sensor is activated. REQUIRED ACTION: Resolve this issue, retest, and send results to the County c/o D Steele (steeled@saccounty.net) to show compliance. A permit may be required - consult with your contractor. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
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| Site ID: | 401116 |
| Site Name: | SACRAMENTO 49ER TRAVEL PLAZA |
| Violation Date: | 7/8/2019 |
| Citation: | 22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f) |
| Violation Description: | Failure to properly label hazardous waste accumulation containers and portable tanks with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date. |
| Violation Notes: | Returned to compliance on 08/14/2019. OBSERVATION: 1 X 55 gallon drum located in shop was observed without the following information on the label: ACCUMULATION START DATE. CORRECTIVE ACTION: Submit photos to this department demonstrating that the containers listed above have been properly labeled. OBSERVATION: 1 X 55 gallon drum located outside the rear of the shop was observed without the following information on the label: ACCUMULATION START DATE. CORRECTIVE ACTION: Submit photos to this department demonstrating that the containers listed above have been properly labeled. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | HW |
| Violation Source: | CERS |
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| Site ID: | 401116 |
| Site Name: | SACRAMENTO 49ER TRAVEL PLAZA |
| Violation Date: | 7/8/2019 |
| Citation: | HSC 6.7 25284, 25286 - California Health and Safety Code, Chapter 6.7, Section(s) 25284, 25286 |
| Violation Description: | Failure to submit a complete and accurate application for a permit to operate a UST, or for renewal of the permit. |
| Violation Notes: | Returned to compliance on 07/08/2019. OBSERVATION: Owner/Operator did not submit accurate UST Tank information to the California Electronic Reporting System (CERS). All five tank forms should identify the Under Dispenser Containments Construction Type as single walled not double walled. CORRECTIVE ACTION: Submit and maintain an accurate UST Tank information in CERS. NOTE: This violation was corrected at the time of inspection. NOTE: This violation applies to all five tank systems onsite. |
| Violation Division: | Sacramento County Env Management Department |

**49ER TRUCK STOP (Continued)** **S100217062**

Violation Program: UST
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/8/2019
Citation: HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)
Violation Description: Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years.
Violation Notes: Returned to compliance on 08/14/2019. OBSERVATION: Initial [and / or] annual employee training in safety procedures in the event of a release or threatened release of a hazardous material including familiarity with the emergency response plan has not been documented and / or training records were not maintained for a minimum of three years. CORRECTIVE ACTION: Establish and electronically submit an employee training program containing provisions to ensure initial and annual training for all applicable employees in safety procedures in the event of a release or threatened release of a hazardous material and release reporting procedures. Submit documentation to this department demonstrating appropriate personnel have received training and maintain ongoing annual training records for a minimum of three years.
Violation Division: Sacramento County Env Management Department
Violation Program: HMRRP
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/8/2019
Citation: 23 CCR 16 2712(b)(1)(G) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(1)(G)
Violation Description: Failure to comply with one or more of the following overfill prevention equipment requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. Install/retrofit overfill prevention equipment that does not use flow restrictors on vent piping to meet overfill prevention equipment requirements when the overfill prevention equipment is installed, repaired, or replaced on and after October 1,- 2018. For USTs installed before October 1, 2018, perform an inspection by October 13, 2018 and every 36 months thereafter. For USTs installed on and after October- 1,- 2018, perform an inspection at installation and every 36 months thereafter. Inspected within 30 days after a repair to the overfill prevention equipment. Inspected using an applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Inspected by a certified UST service technician. Maintain

**49ER TRUCK STOP (Continued)** **S100217062**

records of overfill prevention equipment inspection for 36 months.
Violation Notes: Returned to compliance on 10/02/2019. OBSERVATION: Owner/Operator did not maintain overfill prevention system to meet one of the following requirements:1. Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or2. Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or3. Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or4. Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. Overfill prevention testing was required to be completed by October 13, 2018. During the initial testing conducted today, all three diesel overfill prevention devices failed. The 87 and 91 [Truncated]
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/11/2014
Citation: Un-Specified
Violation Description: UST Program - Operations/Maintenance - For use of Local Ordinance only.
Violation Notes: OBSERVATION: The sensor in the UDCs for pump satellites 20 and 23 failed to stop the flow of product at the dispenser when tested. All monitoring equipment shall be maintained to activate an audible and visual alarm or stop the flow of product at the dispenser when it detects a leak. CORRECTIVE ACTION: Correct immediately by having a properly licensed, trained, and certified contractor replace the failed component with a functional component, retest and send passing results to this department Attn: J Pollack.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/10/2015
Citation: HSC 6.7 25286(a) - California Health and Safety Code, Chapter 6.7, Section(s) 25286(a)
Violation Description: Failure to submit an complete and accurate application for a permit to operate an underground storage tank, or for renewal of the permit.
Violation Notes: OBSERVATION: UST Forms were due in the EMD Portal or California Environmental Reporting System (CERS) database on or before December 1, 2014. CORRECTIVE ACTION: Login to the CERS or EMD Portal Website: G EMD https://emd.saccounty.net/EMDportal.html G CERS https://cersbusiness.calepa.ca.gov/Account/SignIn?ReturnUrl=%2f and fill out the following forms electronically: G UST Facility Form, G UST Tank Form(s) G UST Response Plan, and G UST Monitoring Plan(s) And Upload the following forms: G Certification of Financial Responsibility, and G UST Owner Statement of Designated Operator.
Violation Division: Sacramento County Env Management Department
Violation Program: UST

**49ER TRUCK STOP (Continued)** **S100217062**

Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/8/2019
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to complete and electronically submit hazardous material inventory information for all reportable hazardous materials on site at or above reportable quantities.
Violation Notes: Returned to compliance on 07/08/2019. OBSERVATION: The Hazardous Materials Inventory Chemical Description pages for grease, brake flush and DEF have not been submitted to the California Electronic Reporting System. CORRECTIVE ACTION: Complete and submit the Hazardous Materials Inventory Chemical Description page for all materials listed above electronically in the California Environmental Reporting System. NOTE: This violation was corrected at the time of inspection.
Violation Division: Sacramento County Env Management Department
Violation Program: HMRRP
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/5/2018
Citation: HSC 6.7 25284, 25286 - California Health and Safety Code, Chapter 6.7, Section(s) 25284, 25286
Violation Description: Failure to submit a complete and accurate application for a permit to operate a UST, or for renewal of the permit.
Violation Notes: Returned to compliance on 08/06/2018. OBSERVATION: UST tank information is not current in CERS. Your last UST submission has not been accepted. This applies to all tanks on site. CORRECTIVE ACTION: Please address the following issues below, resubmit the updated UST plans in CERS, and email brozekc@saccounty.net to accept. Tank Monitoring Plan: 1) For all tanks, please input the tank manufacturer. 2) For all tanks, please input the correct date the USTs were installed. 01/01/72 is listed for all tanks but this is not correct. 3) For all tanks, "liquid" is listed as the UDC Secondary Containment Monitoring, yet all UDCs are marked as "single-walled". Please correct this discrepancy. NOTE: Strongly recommend attending the next free UST Workshop at our Mather office. An Inspector will be paired with you to complete, upload, and submit all forms correctly. Call to reserve a seat (916 875-8484).
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/8/2019
Citation: 23 CCR 16 2641(a) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2641(a)
Violation Description: Failure of leak detection equipment to be located such that equipment is capable of detecting a leak at the earliest possible opportunity.
Violation Notes: Returned to compliance on 07/08/2019. OBSERVATION: Owner/Operator did not locate the sensor in the proper location/position. The sensor in UDC #21 was not at the lowest point within the UDC. CORRECTIVE ACTION: Locate sensor to the proper position/location. NOTE: This violation

**49ER TRUCK STOP (Continued)** **S100217062**

applies to all five tank systems onsite. NOTE: This violation was corrected at the time of inspection.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/8/2019
Citation: HSC 6.67 25270.4.5 (a) - California Health and Safety Code, Chapter 6.67, Section(s) 25270.4.5 (a)
Violation Description: Failure to complete a review and evaluation of the SPCC Plan at least once every five years, document the completion of the review, and sign a statement as to whether the SPCC Plan will be amended.
Violation Notes: Returned to compliance on 10/02/2019.
Violation Division: Sacramento County Env Management Department
Violation Program: APSA
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/8/2019
Citation: 22 CCR 15 66265.192(a) - California Code of Regulations, Title 22, Chapter 15, Section(s) 66265.192(a)
Violation Description: Failure to obtain and maintain a written assessment reviewed and certified by an independent, qualified, professional engineer prior to placing the tank system in service. The written assessment shall state that, the new hazardous waste tank system has sufficient structural integrity, is acceptable for the transferring, storing and treating of hazardous waste, and that the tanks and containment system including the foundation, structural support, seams, connections, and pressure controls (if applicable) are suitably designed to meet the regulation.
Violation Notes: Returned to compliance on 10/28/2019. OBSERVATION: A written hazardous waste tank assessment has not been obtained for the used oil tank system prior to placing system into service. CORRECTIVE ACTION: Obtain a written hazardous waste tank system assessment for the used oil tank system in accordance with 22 CCR 15 66265.192 and submit a copy to this department.
Violation Division: Sacramento County Env Management Department
Violation Program: HW
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/8/2019
Citation: 23 CCR 16 2712(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i)
Violation Description: Failure to have current UST Monitoring Plan available on site.
Violation Notes: Returned to compliance on 07/08/2019. OBSERVATION: Owner/Operator did not maintain an approved monitoring plans in the California Electronic Reporting System(CERS). All five monitoring plans should identify UDC Construction as single-walled not double-walled and UDC Secondary Containment Monitoring should be none not Liquid. CORRECTIVE ACTION: Submit accurate monitoring plans to CERS. NOTE: This violation was corrected at the time of inspection. NOTE: This violation applies to all five tank systems onsite.
Violation Division: Sacramento County Env Management Department

**49ER TRUCK STOP (Continued)** **S100217062**

Violation Program: UST
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/8/2016
Citation: HSC 6.75 25299.30-25299.34 - California Health and Safety Code, Chapter 6.75, Section(s) 25299.30-25299.34
Violation Description: Failure to submit and maintain complete and current Certification of Financial Responsibility or other mechanism of financial assurance.
Violation Notes: Returned to compliance on 04/06/2018. OBSERVATION: The facility has not electronically submitted a current Certificate of Financial Responsibility/mechanism of financial assurance in CERS. Forms should have been electronically submitted on or before December 1, 2014; additionally, tank forms must now be electronically submitted. CORRECTIVE ACTION: Electronically submit a current Certificate of Financial Responsibility/mechanism of financial assurance in CERS.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/8/2019
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to complete and electronically submit the Business Activities Page and/or Business Owner Operator Identification Page.
Violation Notes: Returned to compliance on 07/08/2019. OBSERVATION: The Business Owner/Operator page submitted to the California Electronic Reporting System (CERS). The Business Owner/Operator page does not accurately identify the primary emergency contact, th secondary emergency contact, the billing contact or the environmental contact. CORRECTIVE ACTION: Accurately complete the B Business Owner/Operator page and submit electronically in the California Environmental Reporting System. NOTE: This violation was corrected at the time of inspection.
Violation Division: Sacramento County Env Management Department
Violation Program: HMRRP
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/5/2018
Citation: 23 CCR 16 2632(c)(2)(A)&(B) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2632(c)(2)(A)&(B)
Violation Description: Failure to continuously monitor the interstitial space of a double-walled tank with an audible and visual alarm system.
Violation Notes: Returned to compliance on 07/05/2018. OBSERVATION: Owner/Operator did not continuously monitor the interstitial space of the tank, piping and/or sumps such that the leak detection activates an audible/visual alarm when a leak is detected for the T1 Diesel 1 Tank. The wraparound sensor was replaced and passed retest. CORRECTIVE ACTION: No further action needed. Corrected on site.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

**49ER TRUCK STOP (Continued)** **S100217062**

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/5/2018
Citation: 23 CCR 16 2715(f)(2) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(f)(2)
Violation Description: Failure to have at least one facility employee present during operating hours that has been trained in the proper operation and maintenance of the UST system by a designated operator (DO).
Violation Notes: Returned to compliance on 08/09/2018. OBSERVATION: Owner/Operator did not provide training to facility employees responsible for proper operation and maintenance every 12 months and/or train new employee(s) who are responsible for proper operation and maintenance within 30-days of hire and/or at least one employee present during operating hours that has been trained in the proper operation and maintenance of the UST system. This applies to all tanks on site. CORRECTIVE ACTION: Provide training to facility employee(s) responsible for proper operation and maintenance every 12 months and/ortrain new employee(s) who are responsible for proper operation and maintenance within 30-days of hireand/or at least one employee present during operating hours that has been trained in the proper operation and maintenance of the UST system. Sumbit verification to mccormackz@saccounty.net
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Violation Date: 7/16/2013
Citation: 23 CCR 16 2712 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712
Violation Description: Failure to obtain permit to install, replace, repair, or modify part of the UST system containment or leak detection equipment.
Violation Notes: Returned to compliance on 08/09/2013.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Evaluation:
Eval General Type: Other/Unknown
Eval Date: 07-08-2019
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Notes: The SPCC available at the time of inspection was dated 11/07/2001. This SPCC was not certified by a California Certified Engineer, did not include a manager signature and does not accurately identify the quantity of hazardous material/ waste containers onsite.
Eval Division: Sacramento County Env Management Department
Eval Program: APSA
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-16-2013
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Sacramento County Env Management Department
Eval Program: UST

**49ER TRUCK STOP (Continued)** **S100217062**

| | |
|---|---|
| Eval Source: | CERS |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 07-07-2017 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Sensors are functional and in correct position. Sumps & buckets are clean and free of debris. |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | UST |
| Eval Source: | CERS |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 07-10-2015 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Not reported |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | UST |
| Eval Source: | CERS |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 07-11-2014 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Not reported |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | UST |
| Eval Source: | CERS |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 07-08-2016 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Not reported |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | UST |
| Eval Source: | CERS |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 07-08-2016 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | RECOMMENDATION: Make due dates on calendar for annual training, tank assessment & SPCC review, inspections, etc. |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | HW |
| Eval Source: | CERS |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 07-08-2019 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Not reported |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | UST |
| Eval Source: | CERS |

**49ER TRUCK STOP (Continued)** **S100217062**

| | |
|---|---|
| Eval General Type: | Other/Unknown |
| Eval Date: | 07-08-2016 |
| Violations Found: | No |
| Eval Type: | Other, not routine, done by local agency |
| Eval Notes: | OBSERVATION: The site map for the SPCC is lacking specific information such as all locations of petroleum containers 55 gallon size and above. Revise the site map and include with SPCC. Send copy of revised site map to the County c/o Mr. Steele (steeled@saccounty.net) attached to the 2012 version of the SPCC. |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | APSA |
| Eval Source: | CERS |
| | |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 07-08-2016 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | OBSERVATION: Overall operations are good but common housekeeping issues need reminding (lids, labels, etc.). |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | HMRRP |
| Eval Source: | CERS |
| | |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 07-08-2019 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Not reported |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | HW |
| Eval Source: | CERS |
| | |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 07-05-2018 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | ANNOUNCEMENT: Federal Regulations require that as of October 01, 2018, Overfill devices must be able to be tested every 3 years for functionality. This would involve Fill Tube Shutoff Valves (Flapper Valves) and/or ATGs with an external alarm. Be advised, a permit may be required. Contact your contractor for advice or call this office (916) 875-8550 and ask for your UST (tank team) specialist. |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | UST |
| Eval Source: | CERS |
| | |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 07-08-2019 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Not reported |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | HMRRP |
| Eval Source: | CERS |

Enforcement Action:
Site ID: 401116

**49ER TRUCK STOP (Continued)** **S100217062**

Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Site Address: 2828 EL CENTRO RD
Site City: SACRAMENTO
Site Zip: 95833
Enf Action Date: 07-10-2015
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Sacramento County Env Management Department
Enf Action Program: UST
Enf Action Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Site Address: 2828 EL CENTRO RD
Site City: SACRAMENTO
Site Zip: 95833
Enf Action Date: 07-11-2014
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Sacramento County Env Management Department
Enf Action Program: UST
Enf Action Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Site Address: 2828 EL CENTRO RD
Site City: SACRAMENTO
Site Zip: 95833
Enf Action Date: 12-15-2016
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Sacramento County Env Management Department
Enf Action Program: HMRRP
Enf Action Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Site Address: 2828 EL CENTRO RD
Site City: SACRAMENTO
Site Zip: 95833
Enf Action Date: 12-15-2016
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Sacramento County Env Management Department
Enf Action Program: HW
Enf Action Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Site Address: 2828 EL CENTRO RD
Site City: SACRAMENTO
Site Zip: 95833
Enf Action Date: 12-15-2016

**49ER TRUCK STOP (Continued)** **S100217062**

Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Sacramento County Env Management Department
Enf Action Program: UST
Enf Action Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Site Address: 2828 EL CENTRO RD
Site City: SACRAMENTO
Site Zip: 95833
Enf Action Date: 12-21-2017
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Sacramento County Env Management Department
Enf Action Program: UST
Enf Action Source: CERS

Site ID: 401116
Site Name: SACRAMENTO 49ER TRAVEL PLAZA
Site Address: 2828 EL CENTRO RD
Site City: SACRAMENTO
Site Zip: 95833
Enf Action Date: 12-31-2013
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Sacramento County Env Management Department
Enf Action Program: UST
Enf Action Source: CERS

Coordinates:
Site ID: 401116
Facility Name: SACRAMENTO 49ER TRAVEL PLAZA
Env Int Type Code: APSA
Program ID: 10216783
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.
Latitude: 38.618100
Longitude: -121.538190

Affiliation:
Affiliation Type Desc: Environmental Contact
Entity Name: Paul Millette
Entity Title: Not reported
Affiliation Address: 2828 El Centro Rd.
Affiliation City: Sacramento
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 95833
Affiliation Phone: Not reported

Affiliation Type Desc: Parent Corporation
Entity Name: SACRAMENTO 49ER TRAVEL PLAZA

**49ER TRUCK STOP (Continued)** **S100217062**

| | |
|---|---|
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Document Preparer |
| Entity Name: | Paul Millette |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Identification Signer |
| Entity Name: | Paul Millette |
| Entity Title: | Maintenance Manager |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Legal Owner |
| Entity Name: | FORTY-NINER TRUCK PLAZA LLC |
| Entity Title: | Not reported |
| Affiliation Address: | 2828 EL CENTRO RD |
| Affiliation City: | SACRAMENTO |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 95834 |
| Affiliation Phone: | (916) 275-1083 |
| | |
| Affiliation Type Desc: | UST Tank Operator |
| Entity Name: | FNTP, LLC |
| Entity Title: | Not reported |
| Affiliation Address: | 2828 EL CENTRO RD |
| Affiliation City: | SACRAMENTO |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 95834 |
| Affiliation Phone: | (916) 927-4774 |
| | |
| Affiliation Type Desc: | CUPA District |
| Entity Name: | Sacramento County Environmental Management Departm |
| Entity Title: | Not reported |
| Affiliation Address: | 10590 Armstrong Avenue, Suite A |
| Affiliation City: | Sacramento |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 95655 |
| Affiliation Phone: | (916) 875-8550 |

**49ER TRUCK STOP (Continued)** **S100217062**

| | |
|---|---|
| Affiliation Type Desc: | Facility Mailing Address |
| Entity Name: | Mailing Address |
| Entity Title: | Not reported |
| Affiliation Address: | 2828 EL CENTRO RD |
| Affiliation City: | SACRAMENTO |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 95833 |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | UST Tank Owner |
| Entity Name: | FNTP LLC |
| Entity Title: | Not reported |
| Affiliation Address: | 2828 EL CENTRO RD |
| Affiliation City: | SACRAMENTO |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 95833 |
| Affiliation Phone: | (916) 927-4774 |

| | |
|---|---|
| Affiliation Type Desc: | Operator |
| Entity Name: | Tristen Griffith |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (916) 927-4774 |

| | |
|---|---|
| Affiliation Type Desc: | UST Permit Applicant |
| Entity Name: | Daryll Carlson |
| Entity Title: | Maintenance Manager |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (916) 927-4774 |

| | |
|---|---|
| Affiliation Type Desc: | UST Property Owner Name |
| Entity Name: | FNTP LLC |
| Entity Title: | Not reported |
| Affiliation Address: | 2828 EL CENTRO RD |
| Affiliation City: | SACRAMENTO |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 95833 |
| Affiliation Phone: | (916) 927-4774 |

**F68** **SACRAMENTO 49ER TRAVEL PLAZA** **RCRA NonGen / NLR** **1024777544**
**Target** **2828 EL CENTRO RD.** **CAC002997486**
**Property** **SACRAMENTO, CA 95833**

**Site 25 of 26 in cluster F**

**Actual:** **14 ft.**

**Focus Map:** **8**

RCRA NonGen / NLR:

| | |
|---|---|
| Date Form Received by Agency: | 2019-01-21 00:00:00.0 |
| Handler Name: | SACRAMENTO 49ER TRAVEL PLAZA |
| Handler Address: | 2828 EL CENTRO RD. |
| Handler City,State,Zip: | SACRAMENTO, CA 95833 |
| EPA ID: | CAC002997486 |
| Contact Name: | TRISTEN GRIFFITH |
| Contact Address: | 2828 EL CENTRO RD. |
| Contact City,State,Zip: | SACRAMENTO, CA 95833 |
| Contact Telephone: | 760-845-3778 |
| Contact Fax: | Not reported |
| Contact Email: | TGRIFFITH@SACRAMENTO49ER.COM |
| Contact Title: | Not reported |
| EPA Region: | 09 |
| Land Type: | Not reported |
| Federal Waste Generator Description: | Not a generator, verified |
| Non-Notifier: | Not reported |
| Biennial Report Cycle: | Not reported |
| Accessibility: | Not reported |
| Active Site Indicator: | Handler Activities |
| State District Owner: | Not reported |
| State District: | Not reported |
| Mailing Address: | 2828 EL CENTRO RD. |
| Mailing City,State,Zip: | SACRAMENTO, CA 95833 |
| Owner Name: | TERRY RUST |
| Owner Type: | Other |
| Operator Name: | TRISTEN GRIFFITH |
| Operator Type: | Other |
| Short-Term Generator Activity: | No |
| Importer Activity: | No |
| Mixed Waste Generator: | No |
| Transporter Activity: | No |
| Transfer Facility Activity: | No |
| Recycler Activity with Storage: | No |
| Small Quantity On-Site Burner Exemption: | No |
| Smelting Melting and Refining Furnace Exemption: | No |
| Underground Injection Control: | No |
| Off-Site Waste Receipt: | No |
| Universal Waste Indicator: | Yes |
| Universal Waste Destination Facility: | Yes |
| Federal Universal Waste: | No |
| Active Site Fed-Reg Treatment Storage and Disposal Facility: | Not reported |
| Active Site Converter Treatment storage and Disposal Facility: | Not reported |
| Active Site State-Reg Treatment Storage and Disposal Facility: | Not reported |
| Active Site State-Reg Handler: | --- |
| Federal Facility Indicator: | Not reported |
| Hazardous Secondary Material Indicator: | N |
| Sub-Part K Indicator: | Not reported |
| Commercial TSD Indicator: | No |
| Treatment Storage and Disposal Type: | Not reported |
| 2018 GPRA Permit Baseline: | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | Not on the Baseline |
| Permit Renewals Workload Universe: | Not reported |

**SACRAMENTO 49ER TRAVEL PLAZA (Continued)** **1024777544**

| | |
|---|---|
| Permit Workload Universe: | Not reported |
| Permit Progress Universe: | Not reported |
| Post-Closure Workload Universe: | Not reported |
| Closure Workload Universe: | Not reported |
| 202 GPRA Corrective Action Baseline: | No |
| Corrective Action Workload Universe: | No |
| Subject to Corrective Action Universe: | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | No |
| Corrective Action Priority Ranking: | No NCAPS ranking |
| Environmental Control Indicator: | No |
| Institutional Control Indicator: | No |
| Human Exposure Controls Indicator: | N/A |
| Groundwater Controls Indicator: | N/A |
| Operating TSDF Universe: | Not reported |
| Full Enforcement Universe: | Not reported |
| Significant Non-Complier Universe: | No |
| Unaddressed Significant Non-Complier Universe: | No |
| Addressed Significant Non-Complier Universe: | No |
| Significant Non-Complier With a Compliance Schedule Universe: | No |
| Financial Assurance Required: | Not reported |
| Handler Date of Last Change: | 2019-02-22 19:40:20.0 |
| Recognized Trader-Importer: | No |
| Recognized Trader-Exporter: | No |
| Importer of Spent Lead Acid Batteries: | No |
| Exporter of Spent Lead Acid Batteries: | No |
| Recycler Activity Without Storage: | No |
| Manifest Broker: | No |
| Sub-Part P Indicator: | No |

Handler - Owner Operator:

| | |
|---|---|
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: | TERRY RUST |
| Legal Status: | Other |
| Date Became Current: | Not reported |
| Date Ended Current: | Not reported |
| Owner/Operator Address: | 348 JAMES MCIVER |
| Owner/Operator City,State,Zip: | TRUCKEE, CA 96161 |
| Owner/Operator Telephone: | 530-917-0403 |
| Owner/Operator Telephone Ext: | Not reported |
| Owner/Operator Fax: | Not reported |
| Owner/Operator Email: | Not reported |

| | |
|---|---|
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: | TRISTEN GRIFFITH |
| Legal Status: | Other |
| Date Became Current: | Not reported |
| Date Ended Current: | Not reported |
| Owner/Operator Address: | 2828 EL CENTRO RD. |
| Owner/Operator City,State,Zip: | SACRAMENTO, CA 95833 |
| Owner/Operator Telephone: | 760-845-3778 |
| Owner/Operator Telephone Ext: | Not reported |
| Owner/Operator Fax: | Not reported |
| Owner/Operator Email: | Not reported |

**SACRAMENTO 49ER TRAVEL PLAZA (Continued)** **1024777544**

Historic Generators:
Receive Date: 2019-01-21 00:00:00.0
Handler Name: SACRAMENTO 49ER TRAVEL PLAZA
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 722514
NAICS Description: CAFETERIAS, GRILL BUFFETS, AND BUFFETS

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

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**F69** **CHMIRS** **S106390318**
**Target Property** **UNOCAL TRUCK STOP 2828 EL CENTRO ROAD (NATOMAS AREA)** **N/A**
**SACRAMENTO, CA**

**Site 26 of 26 in cluster F**

**Actual:** **14 ft.**
**Focus Map:** **8**

CHMIRS:
Name: Not reported
Address: UNOCAL TRUCK STOP 2828 EL CENTRO ROAD (NATOMAS AREA)
City,State,Zip: SACRAMENTO, CA
OES Incident Number: 06355
OES notification: Not reported
OES Date: 1/22/1995
OES Time: 10:01:49 PM
**Date Completed:** **Not reported**
Property Use: Not reported
Agency Id Number: Not reported
Agency Incident Number: Not reported
Time Notified: Not reported
Time Completed: Not reported
Surrounding Area: Not reported
Estimated Temperature: Not reported
Property Management: Not reported
More Than Two Substances Involved?: Not reported
Resp Agncy Personel # Of Decontaminated: Not reported
Responding Agency Personel # Of Injuries: Not reported
Responding Agency Personel # Of Fatalities: Not reported
Others Number Of Decontaminated: Not reported
Others Number Of Injuries: Not reported
Others Number Of Fatalities: Not reported
Vehicle Make/year: Not reported

**(Continued)** **S106390318**

| | |
|---|---|
| Vehicle License Number: | Not reported |
| Vehicle State: | Not reported |
| Vehicle Id Number: | Not reported |
| CA DOT PUC/ICC Number: | Not reported |
| Company Name: | Not reported |
| Reporting Officer Name/ID: | Not reported |
| Report Date: | Not reported |
| Facility Telephone: | Not reported |
| Waterway Involved: | YES |
| Waterway: | Not reported |
| Spill Site: | Not reported |
| Cleanup By: | RAMOS |
| Containment: | Not reported |
| What Happened: | Not reported |
| Type: | PETROLEUM |
| Measure: | Not reported |
| Other: | Not reported |
| Date/Time: | Not reported |
| Year: | 1995 |
| Agency: | SACRAMENTO FIRE DEPT. |
| Incident Date: | 1958 22, JAN. 95 |
| Admin Agency: | Not reported |
| Amount: | 50 GALS. |
| Contained: | NO |
| Site Type: | RD |
| E Date: | Not reported |
| Substance: | GASOLINE |
| Unknown: | Not reported |
| Substance #2: | Not reported |
| Substance #3: | Not reported |
| Evacuations: | NO |
| Number of Injuries: | NO |
| Number of Fatalities: | NO |
| #1 Pipeline: | Not reported |
| #2 Pipeline: | Not reported |
| #3 Pipeline: | Not reported |
| #1 Vessel >= 300 Tons: | Not reported |
| #2 Vessel >= 300 Tons: | Not reported |
| #3 Vessel >= 300 Tons: | Not reported |
| Evacs: | Not reported |
| Injuries: | Not reported |
| Fatals: | Not reported |
| Comments: | Not reported |
| Description: | PATRON DROVE AWAY FROM A GAS PUMP WITH PUMP STILL INSERTED INTO VEHICLE GAS TANK. HOSE WAS SEVERED CAUSING LEAKAGE OF 50 GALS. BEFORE IT WAS STOPPED. |
| | Not reported |

**G70 M & P INVESTMENTS INC** **EDR Hist Auto** **1020822937**
**Target 2738 EL CENTRO RD** **N/A**
**Property SACRAMENTO, CA 95833**

**Site 1 of 9 in cluster G**

**Actual:** EDR Hist Auto
**14 ft.**

**Focus Map:**
**8**

| Year: | Name: | Type: |
|---|---|---|
| 1996 | M & P INVESTMENTS INC | Grocery Stores |
| 1997 | M & P INVESTMENTS INC | Gasoline Service Stations, NEC |
| 1998 | M & P INVESTMENTS INC | Gasoline Service Stations, NEC |
| 1999 | M & P INVESTMENTS INC | Gasoline Service Stations, NEC |
| 2000 | M & P INVESTMENTS INC | Gasoline Service Stations, NEC |
| 2001 | M & P INVESTMENTS INC | Gasoline Service Stations, NEC |
| 2002 | M & P INVESTMENTS INC | Gasoline Service Stations, NEC |
| 2003 | M & P INVESTMENTS INC | Gasoline Service Stations, NEC |
| 2004 | M & P INVESTMENTS INC | Gasoline Service Stations, NEC |
| 2005 | M & P INVESTMENTS INC | Gasoline Service Stations, NEC |
| 2006 | M & P INVESTMENTS INC | Gasoline Service Stations, NEC |
| 2007 | M & P INVESTMENTS INC | Gasoline Service Stations, NEC |
| 2008 | M & P INVESTMENTS INC | Gasoline Service Stations, NEC |
| 2009 | M & P INVESTMENTS INC | Gasoline Service Stations, NEC |
| 2010 | M & P INVESTMENTS INC | Gasoline Service Stations, NEC |
| 2011 | M & P INVESTMENTS INC | Gasoline Service Stations, NEC |
| 2012 | M & P INVESTMENTS INC | Gasoline Service Stations, NEC |
| 2014 | M & P INVESTMENTS INC | Gasoline Service Stations, NEC |

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**G71 EL CENTRO CHEVRON** **CERS HAZ WASTE** **S102313853**
**Target 2738 EL CENTRO RD** **CERS TANKS** **N/A**
**Property SACRAMENTO, CA 95833** **Sacramento Co. ML**
**CERS**

**Site 2 of 9 in cluster G**

**Actual:** CERS HAZ WASTE:
**14 ft.**
Name: EL CENTRO CHEVRON
Address: 2738 EL CENTRO RD
**Focus Map:** City,State,Zip: SACRAMENTO, CA 95833
**8** Site ID: 392078
CERS ID: 10218679
CERS Description: Hazardous Waste Generator

CERS TANKS:
Name: EL CENTRO CHEVRON
Address: 2738 EL CENTRO RD
City,State,Zip: SACRAMENTO, CA 95833
Site ID: 392078
CERS ID: 10218679
CERS Description: Underground Storage Tank

Sacramento Co. ML:
Name: EL CENTRO CHEVRON
Address: 2738 EL CENTRO RD
City,State,Zip: SACRAMENTO, CA 95833
Facility Id: Not reported
Facility Status: Not reported
FD: Not reported
Billing Codes BP: A
Billing Codes UST: A

**EL CENTRO CHEVRON (Continued)** **S102313853**

| | |
|---|---|
| WG Bill Code: | A |
| Target Property Bill Cod: | Not reported |
| Food Bill Code: | Not reported |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | 4 |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

CERS:

| | |
|---|---|
| Name: | EL CENTRO CHEVRON |
| Address: | 2738 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Site ID: | 392078 |
| CERS ID: | 10218679 |
| CERS Description: | Chemical Storage Facilities |

Violations:

| | |
|---|---|
| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/8/2016 |
| Citation: | 23 CCR 16 2711(a)(8) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2711(a)(8) |
| Violation Description: | Failure to submit, obtain approval, or maintain a complete/accurate plot plan. |
| Violation Notes: | Returned to compliance on 10/22/2019. See Violation Q659. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |

| | |
|---|---|
| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/11/2015 |
| Citation: | 40 CFR 1 262.34(d)(5)(iii) - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 262.34(d)(5)(iii) |
| Violation Description: | Failure to ensure employees are familiar with the handling and compliance of hazardous waste regulations and emergency response. |
| Violation Notes: | OBSERVATION: Employees are not thoroughly familiar with proper waste handling and emergency procedures as demonstrated by the number and type of hazardous waste violations observed at the time of inspection. CORRECTIVE ACTION: Submit documentation to this department demonstrating that employees have been properly trained. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | HW |
| Violation Source: | CERS |

| | |
|---|---|
| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/11/2015 |

**EL CENTRO CHEVRON (Continued)** **S102313853**

| | |
|---|---|
| Citation: | 22 CCR 12 66262.40(a) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.40(a) |
| Violation Description: | Failure to maintain uniform hazardous waste manifest, consolidated manifest, or bills of lading copies for three years. |
| Violation Notes: | OBSERVATION: Only one drum of hazardous waste was observed in the Trash Area. Uniform Hazardous Waste Manifests for the waste drum(s) kept in the trash area were not available at the time of inspection. CORRECTIVE ACTION: Locate copies of all Uniform Hazardous Waste Manifests for the above mentioned drum(s) and submit copies to this department. Also, explain what happened to the missing drum which was observed and described in the Notice to Comply dated February 18, 2012. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | HW |
| Violation Source: | CERS |
| | |
| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/27/2017 |
| Citation: | HSC 6.7 25290.1(c)(3), 25290.2(c)(3) - California Health and Safety Code, Chapter 6.7, Section(s) 25290.1(c)(3), 25290.2(c)(3) |
| Violation Description: | Failure to keep water out of the secondary containment of UST systems installed on or after July 1, 2003 and before July 1, 2004, or on or after July 1, 2004. |
| Violation Notes: | Returned to compliance on 10/22/2019. -DIESEL TANK VIOLATION- OBSERVATION: The facility's fill sump had a significant amount of liquid in it prior to starting today's monitoring system certification. Sumps must be maintained free of liquid/debris. CORRECTIVE ACTION: Submit documentation to EMD, Attn: Megan Vaughan, demonstrating that the facility properly cleaned out the diesel fill sump. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
| | |
| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/27/2017 |
| Citation: | 23 CCR 16 2715(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(i) |
| Violation Description: | Failure to have a properly qualified service technician test leak detection equipment as required every 12 months (vapor, pressure, hydrostatic (VPH) system, sensors, line-leak detectors (LLD), automatic tank gauge (ATG), etc.). |
| Violation Notes: | Returned to compliance on 10/22/2019. -87, 89, 91, AND DIESEL TANK VIOLATION- OBSERVATION: The facility completed its 2016 monitoring system certification on 2/8/2016. The facility is completing its 2017 monitoring system certification today, February 27, 2017. Monitoring system certifications must be completed every 365 days. The facility is almost three weeks overdue in completing their 2017 monitoring system certification. CORRECTIVE ACTION: No immediate action is required. Complete all testing within the required time frames. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
| | |
| Site ID: | 392078 |

**EL CENTRO CHEVRON (Continued)** **S102313853**

| | |
|---|---|
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/22/2018 |
| Citation: | 23 CCR 16 2632(d)(1)(c),2641(h),2711(a)(8) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2632(d)(1)(c),2641(h),2711(a)(8) |
| Violation Description: | Failure to submit or maintain a current facility plot plan. |
| Violation Notes: | Returned to compliance on 10/22/2019. Refer to Q659. REPEAT VIOLATION G 14 DAY RESPONSE (due March 09, 2018). |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
| | |
| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/20/2014 |
| Citation: | 23 CCR 16 2712(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i) |
| Violation Description: | Failure to maintain on site an approved monitoring plan. |
| Violation Notes: | OBSERVATION: The UST written monitoring plan is not current and approved by the CUPA. The monitoring plan must be current and approved by the CUPA. CORRECTIVE ACTION: Submit a current UST written monitoring plan to this department Attn: J Pollack. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
| | |
| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/8/2016 |
| Citation: | 23 CCR 16 2715 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715 |
| Violation Description: | Failure to comply with one or more of the designated operator monthly inspection requirements: failed to inspect the monthly alarm history report; attach a copy of the alarm history; failed to inspect for the presence of liquid or debris in the spill container/spill bucket and under dispenser containment; failed to inspect the under dispenser containment to ensure that monitoring equipment is placed in the proper position; failure to inspect for liquid or debris in the containment sump where an alarm occurred or for which there is no record of a service visit; or failure to check that all testing and maintenance has been completed and documented. |
| Violation Notes: | Returned to compliance on 10/22/2019. OBSERVATION: The facility's 89 spill bucket failed to maintain its capacity during today's annual monitoring system certification. Spill buckets must be able to maintain at least a 5-gallon capacity. CORRECTIVE ACTION: None. BZ technicians fixed/repaired the spill bucket and it passed when retested during today's inspection. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
| | |
| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/22/2018 |
| Citation: | HSC 6.75 25299.30-25299.34 - California Health and Safety Code, Chapter 6.75, Section(s) 25299.30-25299.34 |
| Violation Description: | Failure to submit and maintain complete and current Certification of |

**EL CENTRO CHEVRON (Continued)** **S102313853**

| | |
|---|---|
| | Financial Responsibility or other mechanism of financial assurance. |
| Violation Notes: | Returned to compliance on 10/22/2019. Refer to Q659. REPEAT VIOLATION G 14 DAY RESPONSE (due March 09, 2018). |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
| | |
| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/8/2016 |
| Citation: | 23 CCR 16 2637 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2637 |
| Violation Description: | Failure to comply with one or more of the following: conduct secondary containment testing, within six months of installation and every 36 months thereafter, conducted in accordance with proper practices, protocols, or test methods. |
| Violation Notes: | Returned to compliance on 10/22/2019. OBSERVATION: The facility was required to complete its secondary containment testing on or before August 27, 2015. The facility provided documentation at the time of inspection showing that the facility actually completed its secondary containment testing on September 3, 2015. Secondary containment testing must be conducted every 36 months. CORRECTIVE ACTION: None. Complete all future testing within the mandated time frames. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
| | |
| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/8/2016 |
| Citation: | 23 CCR 16 2715 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715 |
| Violation Description: | Failure to comply with one or more of the designated operator monthly inspection requirements: failed to inspect the monthly alarm history report; attach a copy of the alarm history; failed to inspect for the presence of liquid or debris in the spill container/spill bucket and under dispenser containment; failed to inspect the under dispenser containment to ensure that monitoring equipment is placed in the proper position; failure to inspect for liquid or debris in the containment sump where an alarm occurred or for which there is no record of a service visit; or failure to check that all testing and maintenance has been completed and documented. |
| Violation Notes: | Returned to compliance on 10/22/2019. 1. OBSERVATION: The facility's December 2015 DO report does not list the DO's information (name, ICC number, ICC expiration, etc.). DO reports must be complete, including identifying the DO that completed the DO report. CORRECTIVE ACTION: Submit documentation to EMD, Attn: Megan Vaughan, that identifies the DO that completed the December 2015 DO report. 2. OBSERVATION: The facility's December 2015 DO report (dated 12/7/15) did not address the monitoring panel/alarm history section of the DO report. DO reports must be complete. CORRECTIVE ACTION: None. Complete all future DO reports. 3. OBSERVATION: The facility's January 2016 DO report (dated 1/4/16) lists the facility's secondary containment test date as having last been completed 8/29/12. This date is incorrect The facility last completed secondary containment testing on 9/3/15. DO reports must be complete/accurate. CORRECTIVE ACTION: None. Put the correct test dates on all future DO reports. 4. [Truncated] |

**EL CENTRO CHEVRON (Continued)** **S102313853**

Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Violation Date: 2/11/2015
Citation: 23 CCR 16 2715(a) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(a)
Violation Description: Failure to submit statement of UST compliance and/or Designated Operator certification.
Violation Notes: See violation "Q659."
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Violation Date: 2/22/2018
Citation: HSC 6.7 25284(a)(3)(A)&(B) - California Health and Safety Code, Chapter 6.7, Section(s) 25284(a)(3)(A)&(B)
Violation Description: Failure to implement or maintain a written agreement between the UST owner and operator.
Violation Notes: Returned to compliance on 10/22/2019. Refer to Q659. REPEAT VIOLATION G 14 DAY RESPONSE (due March 09, 2018).
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Violation Date: 2/8/2016
Citation: HSC 6.7 25284(a)(3) - California Health and Safety Code, Chapter 6.7, Section(s) 25284(a)(3)
Violation Description: Failure to submit, maintain, or implement an owner/operator written agreement.
Violation Notes: Returned to compliance on 10/22/2019. See Violation Q659.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Violation Date: 2/8/2016
Citation: 23 CCR 16 2636(f)(1) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)(1)
Violation Description: Failure of the double wall pressurized piping in the turbine sump to be continuously monitored with a system that activates an audible and visual alarm or restricts or stops flow at dispenser when a leak is detected.
Violation Notes: Returned to compliance on 10/22/2019. OBSERVATION: The facility's 89 and 91 STP 208 sensors failed to shut down the turbine during the annual monitoring system certification although they are programmed to do so. The STP sensors must work as programmed and either shut down product flow at the dispenser or activate a visual and audible alarm. CORRECTIVE ACTION: None. BZ technicians were able to fix/repair the 91 208 sensor and they replaced the 89 208 sensor. Both 208 sensors

**EL CENTRO CHEVRON (Continued)** **S102313853**

passed when retested.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Violation Date: 2/22/2018
Citation: 23 CCR 16 2712(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i)
Violation Description: Failure to have current UST Monitoring Plan available on site.
Violation Notes: Returned to compliance on 10/22/2019. Refer to Q659. REPEAT VIOLATION G 14 DAY RESPONSE (due March 09, 2018).
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Violation Date: 2/20/2014
Citation: HSC 6.7 25286(a) - California Health and Safety Code, Chapter 6.7, Section(s) 25286(a)
Violation Description: Failure to prepare, maintain, and submit accurate CUPA UST Operating Permit Application for Facility information and/or Tank information.
Violation Notes: OBSERVATION: Owner/Operator did not submit an accurate UST Operating Permit Application for Facility information (incorrect UST owner information) and Tank information (no form for 91). CORRECTIVE ACTION: Submit and maintain an accurate UST Operating Permit Application for Facility information and Tank information to this department Attn: J Pollack.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Violation Date: 2/22/2018
Citation: 23 CCR 16 2641(h) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2641(h)
Violation Description: Failure to have an approved UST Monitoring Plan.
Violation Notes: Returned to compliance on 10/22/2019. Refer to Q659. REPEAT VIOLATION G 14 DAY RESPONSE (due March 09, 2018).
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Violation Date: 8/18/2017
Citation: 23 CCR 16 2644.1(a)(5) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2644.1(a)(5)
Violation Description: Failure to submit enhanced leak detection testing results to the State Water Board and the CUPA within 60 days of completion of the test.
Violation Notes: OBSERVATION: Owner/Operator did not submit ELD testing results to the Board and/or CUPA. The State Water Resource Control Board (SWRCB), based on information obtained from the SWRCB Geographical Information System (GIS), has determined that your facilityG s underground storage

**EL CENTRO CHEVRON (Continued)** **S102313853**

tank(s) (UST)(s) is located within 1000 feet of a public drinking water well(s). As a result of the UST(s) proximity to a public drinking water well(s) your facility is required to conduct Enhanced Leak Detection (ELD) Testing. In May of 2008, SWRCB notified your facility (via certified mail) of its obligation to conduct ELD testing or submit a Request for Reconsideration (RFR). The RFR should have been submitted to SWRCB if a facility determined that the UST system is not subject to ELD testing requirements. As proof of compliance with the 2008 SWRCB notification mentioned above, facilities were required to submit completed ELD test results or an approved RFR to this department. As of the [Truncated]

Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Violation Date: 2/11/2015
Citation: 23 CCR 16 2715 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715
Violation Description: The owner/operator has failed to comply with one or more of the following: to maintain a copy of the designated operator monthly inspections for the last 12 months and/or maintain a list of trained employees on-site or off-site at a readily available location, if approved by the CUPA.
Violation Notes: OBSERVATION: Monthly Designated Operator Reports were missing for the following months: February, March April, May, June, July, August, September, October, November and December 2014. You are required to keep records of Monthly Designated Operator Inspection On Site and Available for review for Twelve Months. CORRECTIVE ACTION: Obtain the missing Monthly Designated Operator Reports, keep copies on site and send copies of the missing reports mentioned above to this office. REPEAT VIOLATION: This is a repeat violation! You have 14-Days to gain compliance for this issue. Compliance with this UST Designated Operator Record Retention Requirement may not preclude enforcement action being taken against this facility.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Violation Date: 2/11/2015
Citation: 23 CCR 16 2712(b) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)
Violation Description: Failure to maintain leak detection alarm logs and/or maintain records of appropriate follow-up actions
Violation Notes: OBSERVATION: Owner/Operator did not maintain leak detection alarm logs and records of appropriate follow-up actions. CORRECTIVE ACTION: Maintain leak detection alarm logs and records of appropriate follow-up actions. Send a copy of the leak detection alarm log that you will use to document all UST (not Air Quality) leak alarms and the appropriate follow up activity.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

**EL CENTRO CHEVRON (Continued)** **S102313853**

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Violation Date: 2/22/2018
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to complete and electronically submit hazardous material inventory information for all reportable hazardous materials on site at or above reportable quantities.
Violation Notes: OBSERVATION: The Inventory Sheets incorrectly state the maximum amounts of product as 10,000 gallons for 87, 89, and 91 product. The correct amounts are 87:15000, 89:12000, 91: 6000, and Diesel 5000 gallons. Propane is stated as 1500 gallons maximum but the tank has a limit of 499 gallons. REQUIRED ACTION: Login to the website for CERS, revise/upload the forms electronically, save, and submit. NOTIFY M VAUGHAN (VaughanM@saccounty.net) WHEN THE SUBMITTAL OCCURS TO CLEAR THE VIOLATION.
Violation Division: Sacramento County Env Management Department
Violation Program: HMRRP
Violation Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Violation Date: 2/11/2015
Citation: 23 CCR 16 2711(a)(8) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2711(a)(8)
Violation Description: Failure to submit, obtain approval, or maintain a complete/accurate plot plan.
Violation Notes: See violation "Q659."
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Violation Date: 2/22/2018
Citation: HSC 6.7 25284, 25286 - California Health and Safety Code, Chapter 6.7, Section(s) 25284, 25286
Violation Description: Failure to submit a complete and accurate application for a permit to operate a UST, or for renewal of the permit.
Violation Notes: Returned to compliance on 10/22/2019. OBSERVATION: The UST forms for this facility G Facility Form, Tank form for each tank, Monitoring Plan, Response Plan, Site Map/Plot Plan, Financial Responsibility Form, Owner/Operator agreement form (if necessary), and UST Owner Statement of Designated Operator (DO) G have not been submitted online. REQUIRED ACTION: Login to the https://cersbusiness.calepa.ca.gov/Account/SignIn?ReturnUrl=%2f website for CERS and fill out the following forms electronically: G UST Facility Form, G UST Tank Form(s), and G UST Monitoring Plan(s) G UST Response Plan G Owner/Operator Agreement form (if necessary) And Upload the following forms: G Certification of Financial Responsibility (and CFO letter if using State Funds). G UST Owner Statement of Designated Operator. G Site Plan/Map Please call (916) 875-8550 if you need assistance. NOTIFY M VAUGHAN (vaughanm@saccounty.net) WHEN THE ITEMS HAVE BEEN SUBMITTED OR THE VIOLATIONS WILL NOT BE CLEARED. STRONGLY RECOMMEND [Truncated]
Violation Division: Sacramento County Env Management Department
Violation Program: UST

**EL CENTRO CHEVRON (Continued)** **S102313853**

Violation Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Violation Date: 2/8/2016
Citation: 23 CCR 16 2715 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715
Violation Description: Failure to comply with one or more of the designated operator monthly inspection requirements: failed to inspect the monthly alarm history report; attach a copy of the alarm history; failed to inspect for the presence of liquid or debris in the spill container/spill bucket and under dispenser containment; failed to inspect the under dispenser containment to ensure that monitoring equipment is placed in the proper position; failure to inspect for liquid or debris in the containment sump where an alarm occurred or for which there is no record of a service visit; or failure to check that all testing and maintenance has been completed and documented.
Violation Notes: Returned to compliance on 10/22/2019.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Violation Date: 3/8/2019
Citation: 23 CCR 16 2715(f) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(f)
Violation Description: Failure to have a properly qualified service technician test leak detection equipment as required every 12 months (vapor, pressure, hydrostatic (VPH) system, sensors, line-leak detectors (LLD), automatic tank gauge (ATG), etc.).
Violation Notes: Returned to compliance on 03/08/2019. OBSERVATION: Owner/Operator did not test leak detection equipment every 12 months (VPH, sensor, LLD, ATG, etc.) and/or submit monitoring system certification within 30 days of completion of the test. Monitoring Certification was completed on 2/23/18 and was due within 12 months from that date. This applies to all tank systems on site. CORRECTIVE ACTION: Test leak detection equipment every 12 months (VPH, sensor, LLD, ATG, etc.) in the future. Test completed today. Corrected on site.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Violation Date: 2/22/2018
Citation: 23 CCR 16 2641(h) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2641(h)
Violation Description: Failure to have an approved UST Response Plan.
Violation Notes: Returned to compliance on 10/22/2019. Refer to Q659. REPEAT VIOLATION G 14 DAY RESPONSE (due March 09, 2018).
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON

**EL CENTRO CHEVRON (Continued)** **S102313853**

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| Violation Date: | 3/8/2019 |
| Citation: | 23 CCR 16 2632(c)(2)(B), 2634(d)(1)(a), 2636(f)(1) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2632(c)(2)(B), 2634(d)(1)(a), 2636(f)(1) |
| Violation Description: | Failure of the leak detection equipment to have an audible and visual alarm as required. |
| Violation Notes: | Returned to compliance on 03/08/2019. OBSERVATION: The 91 fill sensor failed to activate an audible and visual alarm when tested to ensure continuous monitoring of the tank system. All monitoring equipment shall be maintained to activate an audible and visual alarm or stop the flow of product at the dispenser when it detects a leak. The sensor was replaced and retested during the inspection. CORRECTIVE ACTION: Replaced and passed retest. Corrected on site. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
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| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/22/2018 |
| Citation: | 23 CCR 16 2715(a) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(a) |
| Violation Description: | Failure to submit the UPA. of the designated operator (DO) identification and/or change of the DO within 30 days. |
| Violation Notes: | Returned to compliance on 10/22/2019. Refer to Q659. REPEAT VIOLATION G 14 DAY RESPONSE (due March 09, 2018). |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
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| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/8/2016 |
| Citation: | HSC 6.75 25299.30-25299.34 - California Health and Safety Code, Chapter 6.75, Section(s) 25299.30-25299.34 |
| Violation Description: | Failure to submit and maintain complete and current Certification of Financial Responsibility or other mechanism of financial assurance. |
| Violation Notes: | Returned to compliance on 10/22/2019. See Violation Q659. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
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| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/20/2014 |
| Citation: | 23 CCR 16 2666(c) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2666(c) |
| Violation Description: | Failure of line leak detector to detect a leak and/or failure of audible and visual alarm. |
| Violation Notes: | Returned to compliance on 03/28/2014. OBSERVATION: The 87 and 91 line leak detectors failed to detect a leak when tested. All line leak detectors shall be capable of detecting a 3-gallon per hour leak at 10 psi. CORRECTIVE ACTION: The 87 and 91 line leak detectors were adjusted, retested and were able to detect a leak at the time of inspection. Submit passing results to this department within 30 days of testing to this department Attn: J Pollack. |
| Violation Division: | Sacramento County Env Management Department |

**EL CENTRO CHEVRON (Continued)** **S102313853**

Violation Program: UST
Violation Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Violation Date: 3/8/2019
Citation: 23 CCR 16 2712(b)(1)(G) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(1)(G)
Violation Description: Failure to comply with one or more of the following overfill prevention equipment requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. Install/retrofit overfill prevention equipment that does not use flow restrictors on vent piping to meet overfill prevention equipment requirements when the overfill prevention equipment is installed, repaired, or replaced on and after October 1,- 2018. For USTs installed before October 1, 2018, perform an inspection by October 13, 2018 and every 36 months thereafter. For USTs installed on and after October- 1,- 2018, perform an inspection at installation and every 36 months thereafter. Inspected within 30 days after a repair to the overfill prevention equipment. Inspected using an applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Inspected by a certified UST service technician. Maintain records of overfill prevention equipment inspection for 36 months.
Violation Notes: OBSERVATION: Overfill Prevention Inspection has not been completed and submitted. This inspection is required every 36 months. This applies to all tank systems on site. CORRECTIVE ACTION: Hire a properly certified and licensed professional to complete the overfill prevention inspection. Submit the results to mccormackz@saccounty.net within 30 days. NOTE: These forms can be found on https://www.waterboards.ca.gov/ust/forms/
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Violation Date: 2/20/2014
Citation: 23 CCR 16 2715(b) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(b)
Violation Description: Failure to submit statement of UST compliance and/or Designated Operator current certification.
Violation Notes: OBSERVATION: Owner/Operator did not submit a UST compliance statement for the current Designated Operator. CORRECTIVE ACTION: Submit a UST compliance statement for the current Designated Operator to this department Attn: J Pollack.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

**EL CENTRO CHEVRON (Continued)** **S102313853**

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| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/8/2016 |
| Citation: | 23 CCR 16 2712(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i) |
| Violation Description: | Failure to maintain on site an approved monitoring plan. |
| Violation Notes: | Returned to compliance on 10/22/2019. See Violation Q659. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |

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| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/11/2015 |
| Citation: | HSC 6.7 25286(a) - California Health and Safety Code, Chapter 6.7, Section(s) 25286(a) |
| Violation Description: | Failure to submit an complete and accurate application for a permit to operate an underground storage tank, or for renewal of the permit. |
| Violation Notes: | OBSERVATION: UST Forms were due in the California Environmental Reporting System (CERS) or in the EMD Portal database on or before December 1, 2014. CORRECTIVE ACTION: Login to the https://cersbusiness.calepa.ca.gov/Account/SignIn?ReturnUrl=%2f or www.emd.saccounty.net/EMDportal.html website and fill out the following forms electronically: G UST Facility Form, G UST Tank Form(s) G UST Response Plan, and G UST Monitoring Plan(s) And Upload the following forms: G Certification of Financial Responsibility, and G UST Owner Statement of Designated Operator. Please call (916) 875-8550 to sign up for a UST Online Forms Workshop. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |

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| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/11/2015 |
| Citation: | 22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f) |
| Violation Description: | Failure to properly label hazardous waste accumulation containers with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date. |
| Violation Notes: | OBSERVATION: The hazardous waste label on the fifty-five gallon drum of hazardous waste, located in the trash storage area, is faded and ont readable. All hazardous waste labels must be completely filled out and must be legible. CORRECTIVE ACTION: Submit a photo to this department demonstrating that the container listed above has been properly labeled. REPEAT VIOLATION: This is a repeat violation! You have 14-Days to gain compliance for this issue. Compliance with this hazardous waste labeling requirement may not preclude enforcement action being taken against this facility. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | HW |
| Violation Source: | CERS |

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| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/27/2017 |

**EL CENTRO CHEVRON (Continued)** **S102313853**

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| Citation: | 23 CCR 16 2641(a) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2641(a) |
| Violation Description: | Failure of leak detection equipment to be located such that equipment is capable of detecting a leak at the earliest possible opportunity. |
| Violation Notes: | Returned to compliance on 10/22/2019. -87, 89, 91, AND DIESEL TANK VIOLATION(S)- 1. OBSERVATION: The facility's 001 sensor was almost completely on its side in UDC 1/2 prior to starting today's monitoring system certification. Sensors must be positioned so that they can detect a leak at the earliest opportunity. 2. OBSERVATION: The facility's 001 sensor was at an angle in UDC 5/6 prior to starting today's monitoring system certification. Sensors must be positioned so that they can detect a leak at the earliest opportunity. CORRECTIVE ACTION (#1-2): No immediate action is required. BZ Maintenance will set up/properly locate the sensor prior to wrapping up today's monitoring system certification. However, the facility must make sure that the sensors stay properly located so that they can detect a leak at the earliest opportunity. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
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| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/11/2015 |
| Citation: | HSC 6.75 25299.30-25299.34 - California Health and Safety Code, Chapter 6.75, Section(s) 25299.30-25299.34 |
| Violation Description: | Failure to submit and maintain complete and current Certification of Financial Responsibility or other mechanism of financial assurance. |
| Violation Notes: | See violation "Q659." |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
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| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/11/2015 |
| Citation: | HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4) |
| Violation Description: | Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years. |
| Violation Notes: | OBSERVATION: Hazardous Materials Emergency Response Employee Training for Gasoline, Diesel, Carbon Dioxide and Propane has not been conducted. Employers must conduct and document employee training for all hazardous materials in reportable quantities, i.e. 55 Gallons, 200 Cubic Feet and/or 500 Pounds. CORRECTIVE ACTION : Conduct Hazardous Materials Emergency Response Employee Training for the above mentioned chemicals. Have employees sign and print their name on a training record which describes the training content. Keep all employee training logs on site for 3 years. Conduct this training annually. When complete, send a copy of your 2014 employee training record to this office. NOTE: The Phoenix Fire Dept. did a nice job documenting a CO2 incident a few years back. Lucky for us here in Sacramento County, there are not a lot of basementsG Unfortunately for us, the larger dewar type bulk CO2 tanks are being installed at gas stations and are already located in most [Truncated] |

**EL CENTRO CHEVRON (Continued)** **S102313853**

Violation Division: Sacramento County Env Management Department
Violation Program: HMRRP
Violation Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Violation Date: 2/11/2015
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to complete and electronically submit hazardous material inventory information for all reportable hazardous materials on site at or above reportable quantities.
Violation Notes: OBSERVATION: The Hazardous Materials Business Plan (HMBP) Chemical Description page for Propane, Regular, Midgrade Premium and Diesel Fuel lists the wrong amount in the Largest Container and Maximum Daily Amount boxes and, the "Hazardous Components" section, is not filled out for Regular, Midgrade, Premium and Diesel fuel, (Select "Mixture" for the Hazardous Materials Type to access the Hazardous Components section). All Chemicals listed in your HMBP must be accurately filled out. CORRECTIVE ACTION: Login to the www.emd.saccounty.net/EMDportal.html website, make all necessary changes listed above and submit the HMBP electronically in this department's e-Reporting Portal. Call (916) 875-2377 if you need assistance. NOTE: Send a written statement to Inspector Douglas Osborn when your HMBP has been accepted by this department.
Violation Division: Sacramento County Env Management Department
Violation Program: HMRRP
Violation Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Violation Date: 2/20/2014
Citation: 23 CCR 16 2715 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715
Violation Description: The owner/operator has failed to comply with one or more of the following: to maintain a copy of the designated operator monthly inspections for the last 12 months and/or maintain a list of trained employees on-site or off-site at a readily available location, if approved by the CUPA.
Violation Notes: OBSERVATION: The April, May and June of 2013, designated operator monthly inspection reports were not found on site. Designated operator monthly inspection reports for the previous twelve months shall be retained on site. CORRECTIVE ACTION: Locate and ensure that copies of the previous twelve months of designated operator monthly inspection reports are maintained on site. Submit copies for April, May and June of 2013 to this department Attn: J Pollack.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Violation Date: 2/27/2017
Citation: 23 CCR 16 2638(d) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2638(d)
Violation Description: Failure to submit the Annual Monitoring System Certification Form to the CUPA within 30 days of completion of the test.

**EL CENTRO CHEVRON (Continued)** **S102313853**

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| Violation Notes: | Returned to compliance on 10/22/2019. -87, 89, 91, AND DIESEL TANK VIOLATION- OBSERVATION: EMD has not received the facility's 2016 monitoring system certification results. Test results must be submitted within 30 days of testing. CORRECTIVE ACTION: Submit 2016's test results to EMD, Attn: Megan Vaughan. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
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| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/27/2017 |
| Citation: | 23 CCR 16 2715(f) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(f) |
| Violation Description: | Failure to have at least one employee present during operating hours that has been trained in the proper operation and maintenance of the UST system by a designated operator (DO). |
| Violation Notes: | Returned to compliance on 10/22/2019. -87, 89, 91, AND DIESEL TANK VIOLATION- OBSERVATION: The facility's employee training log shows that the two employees observed onsite, Andrew Dominguez and Sharan Sivia, last received training from the Designated Operator (DO) on 11/19/2015. Applicable employees must receive refresher training annually. The facility's DO indicated that employee training was due in the February 2017, January 2017, and December 2016 DO reports. CORRECTIVE ACTION: Submit documentation to EMD, Attn: Megan Vaughan, demonstrating that all applicable employees have received training from the facility's DO within the past year. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
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| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 3/8/2019 |
| Citation: | 23 CCR 16 2632(c)(2)(A)&(B) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2632(c)(2)(A)&(B) |
| Violation Description: | Failure to continuously monitor the interstitial space of a double-walled tank with an audible and visual alarm system. |
| Violation Notes: | OBSERVATION:The 91/DSL annular sensor failed to activate an audible and visual alarm when tested and, therefore, the tank is not monitored. The interstitial space shall be monitored with a monitoring system connected to an audible and visual alarm system. CORRECTIVE ACTION: Immediately contact a properly licensed, trained, and certified contractor to replace the failed component with a functional component under permit if necessary and notify Sac County EMD prior to retest. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
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| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 3/8/2019 |
| Citation: | HSC 6.7 25290.1(c)(3),25290.2(c)(3) - California Health and Safety Code, Chapter 6.7, Section(s) 25290.1(c)(3),25290.2(c)(3) |
| Violation Description: | Failure to keep water out of the secondary containment of UST systems installed on or after July 1, 2003. |

**EL CENTRO CHEVRON (Continued)** **S102313853**

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| Violation Notes: | OBSERVATION: Owner/Operator did not maintain under-dispenser containment, sumps, and/or other secondary containment in good condition and/or free of debris/liquid. Liquid was present in the under dispenser containment for 5/6; in the 91 spill bucket; and in the 91, 87, 89 and Diesel fill sumps. All 4 fill sumps were in alarm at the time of inspection. CORRECTIVE ACTION: Pump out all liquid and dispose of properly. Submit photo verification to mccormackz@saccounty.net. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
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| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/11/2015 |
| Citation: | 22 CCR 12 66262.12 - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.12 |
| Violation Description: | Failure to obtain and/or maintain an Active EPA ID. |
| Violation Notes: | OBSERVATION: Your California EPA ID Number is "Inactive" according to the Dept. of Toxic Substance Control. All generators of hazardous waste must keep their CAL EMA ID Numbers "Active." A generator shall not treat, store, dispose of, transport or offer for transportation, hazardous waste without an active EPA ID number. CORRECTIVE ACTION: Submit an application to the California Department of Toxic Substances Control to "Activate" your EPA ID number. Submit documentation which confirms the Active Status of your CAL EPA ID Number to this department. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | HW |
| Violation Source: | CERS |
| | |
| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/22/2018 |
| Citation: | 23 CCR 16 2712(i), 2632(d)(2), 2634(e), 2641(h) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i), 2632(d)(2), 2634(e), 2641(h) |
| Violation Description: | Failure to submit a current UST Response Plan available on site. |
| Violation Notes: | Returned to compliance on 10/22/2019. Refer to Q659. REPEAT VIOLATION G 14 DAY RESPONSE (due March 09, 2018). |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
| | |
| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/8/2016 |
| Citation: | 23 CCR 16 2712(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i) |
| Violation Description: | Failure to submit, obtain approval, or maintain a complete/accurate response plan. |
| Violation Notes: | Returned to compliance on 10/22/2019. See Violation Q659. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
| | |
| Site ID: | 392078 |

**EL CENTRO CHEVRON (Continued)** **S102313853**

| | |
|---|---|
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/11/2015 |
| Citation: | 22 CCR 12 66262.34(b)(1) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(b)(1) |
| Violation Description: | Failure to dispose of hazardous waste after the first 100-kilogram threshold amount was accumulated within a 90 day period. |
| Violation Notes: | OBSERVATION: The fifty-five gallon drum of hazardous waste in the trash area is full and has not been disposed of in the past 180 days. All CESQG facilities must dispose of their hazardous waste within 180 of accumulating 1/2 a drum or 27.5 gallons of waste. CORRECTIVE ACTION: Dispose of hazardous waste drum described above and submit a copy of the hazardous waste manifest/receipt to this department. Keep all original hazardous waste manifests on site for 3 years. REPEAT VIOLATION: This is a repeat violation! You have 14-Days to gain compliance for this issue. Compliance with this hazardous waste accumulation time limit requirement may not preclude enforcement action being taken against this facility. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | HW |
| Violation Source: | CERS |
| | |
| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/8/2016 |
| Citation: | HSC 6.7 25286(a) - California Health and Safety Code, Chapter 6.7, Section(s) 25286(a) |
| Violation Description: | Failure to submit an complete and accurate application for a permit to operate an underground storage tank, or for renewal of the permit. |
| Violation Notes: | Returned to compliance on 10/22/2019. OBSERVATION: The facility has not electronically submitted its UST forms to the local CUPA (EMD). UST forms were due electronically on or before December 1, 2014. CORRECTIVE ACTION: Log into CERS (https://cersbusiness.calepa.ca.gov/account/signin) and electronically submit the following: A) UST Facility Form B) UST Tank Forms C) UST Response Plan D) UST Monitoring Plans E) Certification of Financial Responsibility F) Written Agreement Between UST Owner and Operator, and G) UST Owner Statement of Designated Operator |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
| | |
| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/11/2015 |
| Citation: | 23 CCR 16 2715(a) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(a) |
| Violation Description: | The owner/operator has failed to designate an UST operator or to inform the CUPA or any change in the designated UST operator(s) within 30 days after a change. |
| Violation Notes: | See violation "Q659." |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
| | |
| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/11/2015 |

**EL CENTRO CHEVRON (Continued)** **S102313853**

| | |
|---|---|
| Citation: | 23 CCR 16 2712(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i) |
| Violation Description: | Failure to submit, obtain approval, or maintain a complete/accurate response plan. |
| Violation Notes: | See violation "Q659." |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
| | |
| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 3/8/2019 |
| Citation: | HSC 6.7 25284.2 - California Health and Safety Code, Chapter 6.7, Section(s) 25284.2 |
| Violation Description: | "Failure to meet one or more of the following requirements: Install or maintain a liquid-tight spill container. Have a minimum capacity of five gallons. Have a functional drain valve or other method for the removal of liquid from the spill container. Be resistant to galvanic corrosion. Perform a tightness test at installation, every 12 months thereafter, or within 30 days after a repair to the spill container. Tested using applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Tested by a certified UST service technician. Maintain records of spill containment testing for 36 months. " |
| Violation Notes: | Returned to compliance on 03/08/2019. OBSERVATION 1: Owner/Operator did not test spill containment every 12 months. Testing was completed on 2/23/18 and was due within 12 months from that date. This applies to all tank systems on site. CORRECTIVE ACTION 1: Ensure that testing occurs within 12 months. Tested done today. Corrected on site. OBSERVATION 2: The 89 tank spill bucket did not pass the annual test. The facility did not maintain entry fitting such that it properly seals to the containment CORRECTIVE ACTION 2: Hire a properly certified and licensed professional to make any necessary adjustments or to install a new spill bucket that will pass the annual spill bucket test. A permit may be required if a new spill bucket is installed. Submit the results to mccormackz@saccounty.net. |
| Violation Division: | Sacramento County Env Management Department |
| Violation Program: | UST |
| Violation Source: | CERS |
| | |
| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Violation Date: | 2/27/2017 |
| Citation: | HSC 6.75 25299.30-25299.34 - California Health and Safety Code, Chapter 6.75, Section(s) 25299.30-25299.34 |
| Violation Description: | Failure to submit and maintain complete and current Certification of Financial Responsibility or other mechanism of financial assurance. |
| Violation Notes: | Returned to compliance on 10/22/2019. -87, 89, 91, AND DIESEL TANK VIOLATION- OBSERVATION: The facility's Certification of Financial Responsibility submitted to the California Environmental Reporting System (CERS) on 6/8/2016 is not complete. It does not completely describe the State UST Fund's coverage amount, coverage period, etc., nor does it list the facility's CFO letter. Additionally, the uploaded CFO letter is not completely filled out. Information submitted to CERS must be complete. CORRECTIVE ACTION: Resubmit the facility's UST paperwork in CERS after making the necessary updates. |
| Violation Division: | Sacramento County Env Management Department |

**EL CENTRO CHEVRON (Continued)** **S102313853**

Violation Program: UST
Violation Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Violation Date: 2/11/2015
Citation: 23 CCR 16 2715(f) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(f)
Violation Description: Failure to comply with one or more of the following: provide training to facility employee(s) responsible for proper operation and maintenance every 12 months and/or train new employee(s) who are responsible for proper operation and maintenance within 30-days of hire and/or to have at least one employee present during operating hours that has been trained in the proper operation and maintenance of the UST system.
Violation Notes: OBSERVATION: No record of UST Owner/Operator Designated Operator training to facility employee(s) who are responsible for proper operation and maintenance of Underground Storage Tanks. This training is due every 12 months for existing employees and within 30-days of hire for new employees. At least one employee, present during operating hours, must be trained int he proper operation and maintenance of the UST system. CORRECTIVE ACTION: Conduct UST Designate Operator Traininig to all facility employee(s) who are responsible for the proper operation and maintenance of the UST System. Conduct this training every 12 months and train new employees who are responsible for proper operation and maintenance of USTs within 30-days of hire. As the UST Owner/Operator, you must ensure that at least one employee present during operating hours has been trained in the proper operation and maintenance of the UST system. Submit verification of this UST Designated Operator Training [Truncated]
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Violation Date: 2/8/2016
Citation: Un-Specified
Violation Description: UST Program - Operations/Maintenance - For use of Local Ordinance only.
Violation Notes: Returned to compliance on 10/22/2019. See Violation Q659.
Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Violation Date: 2/27/2017
Citation: 23 CCR 16 2641(h) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2641(h)
Violation Description: Failure to have an approved UST Monitoring Plan.
Violation Notes: Returned to compliance on 10/22/2019. -87, 89, 91, AND DIESEL TANK VIOLATION- OBSERVATION: The facility’s monitoring plan submitted to the California Environmental Reporting System (CERS) on 6/8/2016 reports that the leak sensor model # for pipe monitoring is a "205." However, the site uses a mix of 205s and 208s. Monitoring plans

**EL CENTRO CHEVRON (Continued)** **S102313853**

submitted to CERS must be complete. CORRECTIVE ACTION: Resubmit the facility's UST paperwork in CERS after making the necessary updates to the tanks' monitoring plans.

Violation Division: Sacramento County Env Management Department
Violation Program: UST
Violation Source: CERS

Evaluation:

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-11-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Sacramento County Env Management Department
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-11-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Sacramento County Env Management Department
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-23-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: No Violations observed at this time.
Eval Division: Sacramento County Env Management Department
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-20-2014
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Sacramento County Env Management Department
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-11-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: OBS/REC: Your Secondary Containment Testing is due on or before August 27, 2015.
Eval Division: Sacramento County Env Management Department
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-08-2019
Violations Found: Yes

**EL CENTRO CHEVRON (Continued)** **S102313853**

| | |
|---|---|
| Eval Type: | Routine done by local agency |
| Eval Notes: | NOTE: Permit fees have been billed. They are due soon. |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | UST |
| Eval Source: | CERS |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 02-08-2016 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | The facility's November 2015, October 2015, September 2015, August 2015, July 2015, June 2015, May 2015, April 2015, March 2015, and February 2015 DO reports all show that the facility's employees needed either their annual DO refresher training or the DO-training within 30 days of hire for new employees. Comparatively, the December 2015 DO report showed that all employees were caught up on ,their DO training. Make sure to keep up on all required DO training in the future. |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | UST |
| Eval Source: | CERS |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 02-23-2018 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Inventory Sheets in CERS must be corrected. NOTIFY M VAUGHAN (VaughanM@saccounty.net) WHEN THE SUBMITTAL OCCURS TO CLEAR THE VIOLATION. |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | HMRRP |
| Eval Source: | CERS |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 02-23-2018 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Sensors are functional and in correct position. Sumps & buckets are clean and free of debris. NOTE: The UST forms have not been approved as accurate in CERS online system. Several inaccuracies are present. Refer to email regarding corrections sent to Kamal Sivia on 6/23/17 when the submittal was 'Not Accepted" due to inaccuracies or omissions in the CERS submittal of 6/8/16. STRONGLY RECOMMEND attending the next UST Workshop which is February 27th at 1:30 pm at the Mather office. An Inspector will be paired with you or a representative to complete, upload, and submit all forms correctly. Call to reserve a seat (916 875-8550) - no charge. BE SURE TO HAVE YOUR USERNAME AND PASSWORD TO ACCESS YOUR CERS ACCOUNT (same one used for the HMP G Hazardous Materials Business Plan). REPEAT VIOLATION G 14 DAY RESPONSE (due March 09, 2018). ENFORCEMENT ACTION MAY BE TAKEN. These forms have been violations at this facility for 3 years - they were due by the end of 2014 at [Truncated] |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | UST |
| Eval Source: | CERS |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 02-27-2017 |

**EL CENTRO CHEVRON (Continued)** **S102313853**

Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Sacramento County Env Management Department
Eval Program: UST
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 08-18-2017
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Notes: This is a focused inspection to address Enhanced Leak Detection (ELD) testing requirements. Based on your facilities proximity to a public drinking water well(s) the State Water Resource Control Board required passing ELD results or an approved Request for Reconsideration (RFR) be submitted to the Environmental Management Department (EMD). EMD has not received ELD results or an approved RFR. Additional information regarding ELD testing is available on the SWRCB guidance document titled LG 161-5 (attached) and on the SWRCB website at https://www.waterboards.ca.gov/water_issues/programs/ust/eld/index.shtml Please contact Brion McGinness at (916) 876-7646 if you have questions.
Eval Division: Sacramento County Env Management Department
Eval Program: UST
Eval Source: CERS

Enforcement Action:
Site ID: 392078
Site Name: EL CENTRO CHEVRON
Site Address: 2738 EL CENTRO RD
Site City: SACRAMENTO
Site Zip: 95833
Enf Action Date: 02-08-2016
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Sacramento County Env Management Department
Enf Action Program: UST
Enf Action Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Site Address: 2738 EL CENTRO RD
Site City: SACRAMENTO
Site Zip: 95833
Enf Action Date: 02-11-2015
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Sacramento County Env Management Department
Enf Action Program: HMRRP
Enf Action Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Site Address: 2738 EL CENTRO RD
Site City: SACRAMENTO

**EL CENTRO CHEVRON (Continued)** **S102313853**

Site Zip: 95833
Enf Action Date: 02-11-2015
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Sacramento County Env Management Department
Enf Action Program: HW
Enf Action Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Site Address: 2738 EL CENTRO RD
Site City: SACRAMENTO
Site Zip: 95833
Enf Action Date: 02-11-2015
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Sacramento County Env Management Department
Enf Action Program: UST
Enf Action Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Site Address: 2738 EL CENTRO RD
Site City: SACRAMENTO
Site Zip: 95833
Enf Action Date: 02-20-2014
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Sacramento County Env Management Department
Enf Action Program: UST
Enf Action Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Site Address: 2738 EL CENTRO RD
Site City: SACRAMENTO
Site Zip: 95833
Enf Action Date: 06-15-2017
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Sacramento County Env Management Department
Enf Action Program: UST
Enf Action Source: CERS

Site ID: 392078
Site Name: EL CENTRO CHEVRON
Site Address: 2738 EL CENTRO RD
Site City: SACRAMENTO
Site Zip: 95833
Enf Action Date: 06-21-2018
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported

**EL CENTRO CHEVRON (Continued)** **S102313853**

| | |
|---|---|
| Enf Action Division: | Sacramento County Env Management Department |
| Enf Action Program: | HMRRP |
| Enf Action Source: | CERS |
| | |
| Site ID: | 392078 |
| Site Name: | EL CENTRO CHEVRON |
| Site Address: | 2738 EL CENTRO RD |
| Site City: | SACRAMENTO |
| Site Zip: | 95833 |
| Enf Action Date: | 06-21-2018 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |
| Enf Action Notes: | Not reported |
| Enf Action Division: | Sacramento County Env Management Department |
| Enf Action Program: | UST |
| Enf Action Source: | CERS |

Coordinates:

| | |
|---|---|
| Site ID: | 392078 |
| Facility Name: | EL CENTRO CHEVRON |
| Env Int Type Code: | HMBP |
| Program ID: | 10218679 |
| Coord Name: | Not reported |
| Ref Point Type Desc: | Center of a facility or station. |
| Latitude: | 38.615910 |
| Longitude: | -121.538860 |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | Facility Mailing Address |
| Entity Name: | Mailing Address |
| Entity Title: | Not reported |
| Affiliation Address: | 2738 EL CENTRO RD |
| Affiliation City: | SACRAMENTO |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 95833 |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Legal Owner |
| Entity Name: | El-Centro Investment Inc |
| Entity Title: | Not reported |
| Affiliation Address: | 2738 EL CENTRO RD |
| Affiliation City: | SACRAMENTO |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 95833 |
| Affiliation Phone: | (916) 921-9205 |
| | |
| Affiliation Type Desc: | Parent Corporation |
| Entity Name: | EL CENTRO CHEVRON |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |

**EL CENTRO CHEVRON (Continued)** **S102313853**

| | |
|---|---|
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | UST Permit Applicant |
| Entity Name: | KAMAL SIVIA |
| Entity Title: | MANAGER |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (408) 677-1042 |
| | |
| Affiliation Type Desc: | CUPA District |
| Entity Name: | Sacramento County Environmental Management Departm |
| Entity Title: | Not reported |
| Affiliation Address: | 10590 Armstrong Avenue, Suite A |
| Affiliation City: | Sacramento |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 95655 |
| Affiliation Phone: | (916) 875-8550 |
| | |
| Affiliation Type Desc: | Identification Signer |
| Entity Name: | KASHMIR SIVIA |
| Entity Title: | PRESIDENT |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Document Preparer |
| Entity Name: | Kashmir Sivia |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Environmental Contact |
| Entity Name: | KAMAL SIVIA |
| Entity Title: | Not reported |
| Affiliation Address: | 3750 Nieman Blvd |
| Affiliation City: | San Jose |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 95121 |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Operator |
| Entity Name: | El-Centro Investment Inc |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |

**EL CENTRO CHEVRON (Continued)** **S102313853**

| | |
|---|---|
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (916) 921-9205 |
| Affiliation Type Desc: | UST Property Owner Name |
| Entity Name: | EL CENTRO INVESTMENT INC |
| Entity Title: | Not reported |
| Affiliation Address: | 2738 EL CENTRO RD |
| Affiliation City: | SACRAMENTO |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 95833 |
| Affiliation Phone: | (916) 921-9205 |
| Affiliation Type Desc: | UST Tank Operator |
| Entity Name: | EL CENTRO INVESTMENT INC |
| Entity Title: | Not reported |
| Affiliation Address: | 2738 EL CENTRO RD |
| Affiliation City: | SACRAMENTO |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 95833 |
| Affiliation Phone: | (916) 921-9205 |
| Affiliation Type Desc: | Property Owner |
| Entity Name: | El-Centro Investment Inc |
| Entity Title: | Not reported |
| Affiliation Address: | 2738 EL CENTRO RD |
| Affiliation City: | SACRAMENTO |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 95833 |
| Affiliation Phone: | (916) 921-9205 |
| Affiliation Type Desc: | UST Tank Owner |
| Entity Name: | EL CENTRO INVESTMENT INC |
| Entity Title: | Not reported |
| Affiliation Address: | 2738 EL CENTRO RD |
| Affiliation City: | SACRAMENTO |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 95833 |
| Affiliation Phone: | (916) 921-9205 |

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**G72** **MANNA'S CHEVRON** **UST** **U003971449**
**Target** **2738 EL CENTRO RD** **N/A**
**Property** **SACRAMENTO, CA 95833**

**Site 3 of 9 in cluster G**

**Actual:** **14 ft.**
**Focus Map:** **8**

UST:

| | |
|---|---|
| Name: | MANNA'S CHEVRON |
| Address: | 2738 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Facility ID: | FA0008829 |
| Permitting Agency: | SACRAMENTO COUNTY |

**MANNA'S CHEVRON (Continued)** **U003971449**

Latitude: 38.6172833
Longitude: -121.5372778

Name: EL CENTRO CHEVRON
Address: 2738 EL CENTRO RD
City,State,Zip: SACRAMENTO, CA 95833
Facility ID: FA0008829
Permitting Agency: Sacramento County Environmental Management Department
Latitude: 38.61591
Longitude: -121.53886

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**G73** **EL CENTRO CHEVRON** **FINDS** **1023356507**
**Target** **2738 EL CENTRO RD** **N/A**
**Property** **SACRAMENTO, CA 95833**

**Site 4 of 9 in cluster G**

**Actual:** **14 ft.**

FINDS:
Registry ID: 110066533228

**Focus Map:** **8**

Click Here:

Environmental Interest/Information System:
STATE MASTER

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

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**G74** **EL CENTRO INVESTMENT INC.** **HAZNET** **S113143116**
**Target** **2738 EL CENTRO RD** **HWTS** **N/A**
**Property** **SACRAMENTO, CA 95833**

**Site 5 of 9 in cluster G**

**Actual:** **14 ft.**

HAZNET:
Name: EL CENTRO INVESTMENT INC.
Address: 2738 EL CENTRO RD
Address 2: Not reported
City,State,Zip: SACRAMENTO, CA 958330000
Contact: KASHMIR SIVIA
Telephone: 4082703146
Mailing Name: Not reported
Mailing Address: 2738 EL CENTRO RD

**Focus Map:** **8**

Year: 2012
Gepaid: CAL000308075
TSD EPA ID: CAD044003556
CA Waste Code: 223 - Unspecified oil-containing waste
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.27105

Year: 2006
Gepaid: CAL000308075
TSD EPA ID: CAD044003556
CA Waste Code: 223 - Unspecified oil-containing waste
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)

**EL CENTRO INVESTMENT INC. (Continued)** **S113143116**

Tons: 0.31275

Year: 2006
Gepaid: CAL000308075
TSD EPA ID: CAD980884183
CA Waste Code: 343 - Unspecified organic liquid mixture
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.34

Year: 2006
Gepaid: CAL000308075
TSD EPA ID: CAD980884183
CA Waste Code: 352 - Other organic solids
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.2

Year: 2006
Gepaid: CAL000308075
TSD EPA ID: CAD980884183
CA Waste Code: 223 - Unspecified oil-containing waste
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.417

Additional Info:
Year: 2006
Gen EPA ID: CAL000308075

Shipment Date: 20060911
Creation Date: 4/19/2007 18:30:28
Receipt Date: 20060912
Manifest ID: 000276549JJK
Trans EPA ID: CAD044003556
Trans Name: RAMOS ENVIRONMENTAL SERVICES
Trans 2 EPA ID: Not reported
Trans 2 Name: Not reported
TSDF EPA ID: CAD044003556
Trans Name: RAMOS ENVIRONMENTAL SERVICES
TSDF Alt EPA ID: Not reported
TSDF Alt Name: Not reported
Waste Code Description: 223 - Unspecified oil-containing waste
RCRA Code: Not reported
Meth Code: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons: 0.0834
Waste Quantity: 20
Quantity Unit: G
Additional Code 1: Not reported
Additional Code 2: Not reported
Additional Code 3: Not reported
Additional Code 4: Not reported
Additional Code 5: Not reported

Shipment Date: 20060911

**EL CENTRO INVESTMENT INC. (Continued)** **S113143116**

| | |
|---|---|
| Creation Date: | 4/19/2007 18:30:28 |
| Receipt Date: | 20060912 |
| Manifest ID: | 000276549JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.22935 |
| Waste Quantity: | 55 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20060911 |
| Creation Date: | 3/30/2007 13:31:17 |
| Receipt Date: | 20060914 |
| Manifest ID: | 000276599JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD980884183 |
| Trans Name: | GEM - RANCHO CORDOVA LLC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.2 |
| Waste Quantity: | 400 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

| | |
|---|---|
| Shipment Date: | 20060911 |
| Creation Date: | 3/30/2007 13:31:17 |
| Receipt Date: | 20060914 |
| Manifest ID: | 000276599JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |

**EL CENTRO INVESTMENT INC. (Continued)** **S113143116**

| | |
|---|---|
| TSDF EPA ID: | CAD980884183 |
| Trans Name: | GEM - RANCHO CORDOVA LLC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.417 |
| Waste Quantity: | 100 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |
| | |
| Shipment Date: | 20060911 |
| Creation Date: | 3/30/2007 13:31:17 |
| Receipt Date: | 20060914 |
| Manifest ID: | 000276599JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD980884183 |
| Trans Name: | GEM - RANCHO CORDOVA LLC |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 343 - Unspecified organic liquid mixture |
| RCRA Code: | D018 |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.34 |
| Waste Quantity: | 100 |
| Quantity Unit: | G |
| Additional Code 1: | D001 |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

Additional Info:

| | |
|---|---|
| Year: | 2012 |
| Gen EPA ID: | CAL000308075 |
| | |
| Shipment Date: | 20120828 |
| Creation Date: | 10/10/2012 22:15:09 |
| Receipt Date: | 20120829 |
| Manifest ID: | 009927807JJK |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | RAMOS ENVIRONMENTAL SERVICES |
| TSDF Alt EPA ID: | Not reported |

**EL CENTRO INVESTMENT INC. (Continued)** **S113143116**

| | |
|---|---|
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135) |
| Quantity Tons: | 0.27105 |
| Waste Quantity: | 65 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

HWTS:

| | |
|---|---|
| Name: | EL CENTRO INVESTMENT INC. |
| Address: | 2738 EL CENTRO RD |
| Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 958330000 |
| EPA ID: | CAL000308075 |
| Inactive Date: | Not reported |
| Create Date: | 06/19/2006 |
| Last Act Date: | 10/01/2020 |
| Mailing Name: | Not reported |
| Mailing Address: | 2738 EL CENTRO RD |
| Mailing Address 2: | Not reported |
| Mailing City,State,Zip: | SACRAMENTO, CA 958330000 |
| Owner Name: | EL CENTRO INVESTMENT INC |
| Owner Address: | 2738 EL CENTRO RD |
| Owner Address 2: | Not reported |
| Owner City,State,Zip: | SACRAMENTO, CA 958330000 |
| Contact Name: | KASHMIR SIVIA |
| Contact Address: | 3750 NIEMAN BLVD |
| Contact Address 2: | Not reported |
| City,State,Zip: | SAN JOSE, CA 95121 |

NAICS:

| | |
|---|---|
| EPA ID: | CAL000308075 |
| Create Date: | 2006-06-19 08:52:28.290 |
| NAICS Code: | 44711 |
| NAICS Description: | Gasoline Stations with Convenience Stores |
| Issued EPA ID Date: | 2006-06-19 08:52:28.24300 |
| Inactive Date: | Not reported |
| Facility Name: | EL CENTRO INVESTMENT INC. |
| Facility Address: | 2738 EL CENTRO RD |
| Facility Address 2: | Not reported |
| Facility City: | SACRAMENTO |
| Facility County: | Not reported |
| Facility State: | CA |
| Facility Zip: | 958330000 |

**G75** **CHMIRS** **S110419219**
**Target Property** **2738 EL CENTRO ROAD**
**SACRAMENTO, CA 95833** **N/A**

**Site 6 of 9 in cluster G**

**Actual:**
**14 ft.**

**Focus Map:**
**8**

CHMIRS:

| | |
|---|---|
| Name: | Not reported |
| Address: | 2738 EL CENTRO ROAD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| OES Incident Number: | 08-2914 |
| OES notification: | 04/19/2008 |
| OES Date: | Not reported |
| OES Time: | Not reported |
| **Date Completed:** | **Not reported** |
| Property Use: | Not reported |
| Agency Id Number: | Not reported |
| Agency Incident Number: | Not reported |
| Time Notified: | Not reported |
| Time Completed: | Not reported |
| Surrounding Area: | Not reported |
| Estimated Temperature: | Not reported |
| Property Management: | Not reported |
| More Than Two Substances Involved?: | Not reported |
| Resp Agncy Personel # Of Decontaminated: | Not reported |
| Responding Agency Personel # Of Injuries: | Not reported |
| Responding Agency Personel # Of Fatalities: | Not reported |
| Others Number Of Decontaminated: | Not reported |
| Others Number Of Injuries: | Not reported |
| Others Number Of Fatalities: | Not reported |
| Vehicle Make/year: | Not reported |
| Vehicle License Number: | Not reported |
| Vehicle State: | Not reported |
| Vehicle Id Number: | Not reported |
| CA DOT PUC/ICC Number: | Not reported |
| Company Name: | Not reported |
| Reporting Officer Name/ID: | Not reported |
| Report Date: | Not reported |
| Facility Telephone: | Not reported |
| Waterway Involved: | Yes |
| Waterway: | Not reported |
| Spill Site: | Service Station |
| Cleanup By: | Fire Dept. |
| Containment: | Not reported |
| What Happened: | Not reported |
| Type: | Not reported |
| Measure: | Gal(s) |
| Other: | Not reported |
| Date/Time: | 1550 |
| Year: | 2008 |
| Agency: | Sacramento City Fire Department |
| Incident Date: | 4/19/2008 |
| Admin Agency: | Sacramento City Fire Department |
| Amount: | Not reported |
| Contained: | Yes |
| Site Type: | Not reported |
| E Date: | Not reported |
| Substance: | Gasoline |
| Quantity Released: | 3 |

**(Continued)** **S110419219**

| | |
|---|---|
| Unknown: | Not reported |
| Substance #2: | Not reported |
| Substance #3: | Not reported |
| Evacuations: | 0 |
| Number of Injuries: | 0 |
| Number of Fatalities: | 0 |
| #1 Pipeline: | Not reported |
| #2 Pipeline: | Not reported |
| #3 Pipeline: | Not reported |
| #1 Vessel >= 300 Tons: | Not reported |
| #2 Vessel >= 300 Tons: | Not reported |
| #3 Vessel >= 300 Tons: | Not reported |
| Evacs: | Not reported |
| Injuries: | Not reported |
| Fatals: | Not reported |
| Comments: | Not reported |
| Description: | A customer drove off from a gasoline pump with the nozzle still in their fuel tank. The gasoline went into a storm drain on site with a 12" sump that had dirt in it and was contained within the sump. There was no extension into the storm drain system. |

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**G76** **EL CENTRO INVESTMENT INC.** **FINDS** **1024681228**
**Target** **2738 EL CENTRO RD** **ECHO** **N/A**
**Property** **SACRAMENTO, CA 95833**

**Site 7 of 9 in cluster G**

**Actual:**
**14 ft.**

**Focus Map:**
**8**

FINDS:
Registry ID: 110070469622

Click Here:

Environmental Interest/Information System:
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

| | |
|---|---|
| Envid: | 1024681228 |
| Registry ID: | 110070469622 |
| DFR URL: | http://echo.epa.gov/detailed-facility-report?fid=110070469622 |
| Name: | EL CENTRO INVESTMENT INC. |
| Address: | 2738 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |

**G77** **M & P INV INC DBA MANNA'S CHEVRON** **HAZNET** **S123619556**
**Target** **2738 EL CENTRO RD** **HWTS** **N/A**
**Property** **SACRAMENTO, CA 95833**

**Site 8 of 9 in cluster G**

**Actual:** **14 ft.**

**Focus Map:** **8**

HAZNET:

| | |
|---|---|
| Name: | M & P INV INC DBA MANNA'S CHEVRON |
| Address: | 2738 EL CENTRO RD |
| Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 958330000 |
| Contact: | RANBIR DHALIWAL/SEC |
| Telephone: | 9169444456 |
| Mailing Name: | Not reported |
| Mailing Address: | 3829 DOTTY ST |
| Year: | 1999 |
| Gepaid: | CAL000146680 |
| TSD EPA ID: | CAT080033681 |
| CA Waste Code: | 352 - Other organic solids |
| Disposal Method: | D80 - Disposal, Land Fill |
| Tons: | 0.2 |
| Year: | 1998 |
| Gepaid: | CAL000146680 |
| TSD EPA ID: | CAD044003556 |
| CA Waste Code: | 223 - Unspecified oil-containing waste |
| Disposal Method: | H01 - Transfer Station |
| Tons: | 3.632 |

Additional Info:

| | |
|---|---|
| Year: | 1998 |
| Gen EPA ID: | CAL000146680 |
| Shipment Date: | 19980206 |
| Creation Date: | 4/16/1998 0:00:00 |
| Receipt Date: | 19980209 |
| Manifest ID: | 96815291 |
| Trans EPA ID: | CAD028277036 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | Not reported |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 223 - Unspecified oil-containing waste |
| RCRA Code: | Not reported |
| Meth Code: | H01 - Transfer Station |
| Quantity Tons: | 3.632 |
| Waste Quantity: | 871 |
| Quantity Unit: | G |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

**M & P INV INC DBA MANNA'S CHEVRON (Continued)** **S123619556**

Additional Info:

| | |
|---|---|
| Year: | 1999 |
| Gen EPA ID: | CAL000146680 |
| Shipment Date: | 19990301 |
| Creation Date: | 5/17/1999 0:00:00 |
| Receipt Date: | 19990309 |
| Manifest ID: | 98760329 |
| Trans EPA ID: | CAD044003556 |
| Trans Name: | Not reported |
| Trans 2 EPA ID: | Not reported |
| Trans 2 Name: | Not reported |
| TSDF EPA ID: | CAT080033681 |
| Trans Name: | Not reported |
| TSDF Alt EPA ID: | CAT080033681 |
| TSDF Alt Name: | Not reported |
| Waste Code Description: | 352 - Other organic solids |
| RCRA Code: | Not reported |
| Meth Code: | D80 - Disposal, Land Fill |
| Quantity Tons: | 0.2 |
| Waste Quantity: | 400 |
| Quantity Unit: | P |
| Additional Code 1: | Not reported |
| Additional Code 2: | Not reported |
| Additional Code 3: | Not reported |
| Additional Code 4: | Not reported |
| Additional Code 5: | Not reported |

HWTS:

| | |
|---|---|
| Name: | M & P INV INC DBA MANNA'S CHEVRON |
| Address: | 2738 EL CENTRO RD |
| Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 958330000 |
| EPA ID: | CAL000146680 |
| Inactive Date: | 06/30/2005 |
| Create Date: | 02/06/1998 |
| Last Act Date: | 09/27/2005 |
| Mailing Name: | Not reported |
| Mailing Address: | 3829 DOTTY ST |
| Mailing Address 2: | Not reported |
| Mailing City,State,Zip: | CARMICHAEL, CA 95608 |
| Owner Name: | M & P INV. INC. |
| Owner Address: | 3829 DOTTY ST |
| Owner Address 2: | Not reported |
| Owner City,State,Zip: | CARMICHAEL, CA 95608 |
| Contact Name: | RANBIR DHALIWAL/SEC |
| Contact Address: | 3829 DOTTY ST |
| Contact Address 2: | Not reported |
| City,State,Zip: | CARMICHAEL, CA 95608 |

NAICS:

| | |
|---|---|
| EPA ID: | CAL000146680 |
| Create Date: | 2004-01-07 15:31:11.340 |
| NAICS Code: | 445292 |
| NAICS Description: | Confectionery and Nut Stores |
| Issued EPA ID Date: | 1998-02-06 00:00:00 |
| Inactive Date: | 2005-06-30 15:01:00 |

**M & P INV INC DBA MANNA'S CHEVRON (Continued)** **S123619556**

| | |
|---|---|
| Facility Name: | M & P INV INC DBA MANNA'S CHEVRON |
| Facility Address: | 2738 EL CENTRO RD |
| Facility Address 2: | Not reported |
| Facility City: | SACRAMENTO |
| Facility County: | Not reported |
| Facility State: | CA |
| Facility Zip: | 958330000 |

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**G78** **EL CENTRO INVESTMENT INC.** **RCRA NonGen / NLR** **1024814202**
**Target** **2738 EL CENTRO RD** **CAL000308075**
**Property** **SACRAMENTO, CA 95833**

**Site 9 of 9 in cluster G**

**Actual:** **14 ft.**

**Focus Map:** **8**

RCRA NonGen / NLR:

| | |
|---|---|
| Date Form Received by Agency: | 2006-06-19 00:00:00.0 |
| Handler Name: | EL CENTRO INVESTMENT INC. |
| Handler Address: | 2738 EL CENTRO RD |
| Handler City,State,Zip: | SACRAMENTO, CA 95833-0000 |
| EPA ID: | CAL000308075 |
| Contact Name: | KASHMIR SIVIA |
| Contact Address: | 3750 NIEMAN BLVD |
| Contact City,State,Zip: | SAN JOSE, CA 95121 |
| Contact Telephone: | 916-921-9205 |
| Contact Fax: | 408-935-8165 |
| Contact Email: | KASHSIVIA@GMAIL.COM |
| Contact Title: | Not reported |
| EPA Region: | 09 |
| Land Type: | Not reported |
| Federal Waste Generator Description: | Not a generator, verified |
| Non-Notifier: | Not reported |
| Biennial Report Cycle: | Not reported |
| Accessibility: | Not reported |
| Active Site Indicator: | Handler Activities |
| State District Owner: | Not reported |
| State District: | Not reported |
| Mailing Address: | 2738 EL CENTRO RD |
| Mailing City,State,Zip: | SACRAMENTO, CA 95833-0000 |
| Owner Name: | EL CENTRO INVESTMENT INC |
| Owner Type: | Other |
| Operator Name: | KASHMIR SIVIA |
| Operator Type: | Other |
| Short-Term Generator Activity: | No |
| Importer Activity: | No |
| Mixed Waste Generator: | No |
| Transporter Activity: | No |
| Transfer Facility Activity: | No |
| Recycler Activity with Storage: | No |
| Small Quantity On-Site Burner Exemption: | No |
| Smelting Melting and Refining Furnace Exemption: | No |
| Underground Injection Control: | No |
| Off-Site Waste Receipt: | No |
| Universal Waste Indicator: | Yes |
| Universal Waste Destination Facility: | Yes |
| Federal Universal Waste: | No |
| Active Site Fed-Reg Treatment Storage and Disposal Facility: | Not reported |
| Active Site Converter Treatment storage and Disposal Facility: | Not reported |

**EL CENTRO INVESTMENT INC. (Continued)** **1024814202**

| | |
|---|---|
| Active Site State-Reg Treatment Storage and Disposal Facility: | Not reported |
| Active Site State-Reg Handler: | --- |
| Federal Facility Indicator: | Not reported |
| Hazardous Secondary Material Indicator: | N |
| Sub-Part K Indicator: | Not reported |
| Commercial TSD Indicator: | No |
| Treatment Storage and Disposal Type: | Not reported |
| 2018 GPRA Permit Baseline: | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | Not on the Baseline |
| Permit Renewals Workload Universe: | Not reported |
| Permit Workload Universe: | Not reported |
| Permit Progress Universe: | Not reported |
| Post-Closure Workload Universe: | Not reported |
| Closure Workload Universe: | Not reported |
| 202 GPRA Corrective Action Baseline: | No |
| Corrective Action Workload Universe: | No |
| Subject to Corrective Action Universe: | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | No |
| Corrective Action Priority Ranking: | No NCAPS ranking |
| Environmental Control Indicator: | No |
| Institutional Control Indicator: | No |
| Human Exposure Controls Indicator: | N/A |
| Groundwater Controls Indicator: | N/A |
| Operating TSDF Universe: | Not reported |
| Full Enforcement Universe: | Not reported |
| Significant Non-Complier Universe: | No |
| Unaddressed Significant Non-Complier Universe: | No |
| Addressed Significant Non-Complier Universe: | No |
| Significant Non-Complier With a Compliance Schedule Universe: | No |
| Financial Assurance Required: | Not reported |
| Handler Date of Last Change: | 2018-09-05 20:28:18.0 |
| Recognized Trader-Importer: | No |
| Recognized Trader-Exporter: | No |
| Importer of Spent Lead Acid Batteries: | No |
| Exporter of Spent Lead Acid Batteries: | No |
| Recycler Activity Without Storage: | No |
| Manifest Broker: | No |
| Sub-Part P Indicator: | No |

Handler - Owner Operator:

| | |
|---|---|
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: | EL CENTRO INVESTMENT INC |
| Legal Status: | Other |
| Date Became Current: | Not reported |
| Date Ended Current: | Not reported |
| Owner/Operator Address: | 2738 EL CENTRO RD |
| Owner/Operator City,State,Zip: | SACRAMENTO, CA 95833-0000 |
| Owner/Operator Telephone: | 408-270-3146 |
| Owner/Operator Telephone Ext: | Not reported |
| Owner/Operator Fax: | Not reported |
| Owner/Operator Email: | Not reported |
| | |
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: | KASHMIR SIVIA |

**EL CENTRO INVESTMENT INC. (Continued)** **1024814202**

| | |
|---|---|
| Legal Status: | Other |
| Date Became Current: | Not reported |
| Date Ended Current: | Not reported |
| Owner/Operator Address: | 3750 NIEMAN BLVD |
| Owner/Operator City,State,Zip: | SAN JOSE, CA 95121 |
| Owner/Operator Telephone: | 916-921-9205 |
| Owner/Operator Telephone Ext: | Not reported |
| Owner/Operator Fax: | Not reported |
| Owner/Operator Email: | Not reported |

Historic Generators:

| | |
|---|---|
| Receive Date: | 2006-06-19 00:00:00.0 |
| Handler Name: | EL CENTRO INVESTMENT INC. |
| Federal Waste Generator Description: | Not a generator, verified |
| State District Owner: | Not reported |
| Large Quantity Handler of Universal Waste: | No |
| Recognized Trader Importer: | No |
| Recognized Trader Exporter: | No |
| Spent Lead Acid Battery Importer: | No |
| Spent Lead Acid Battery Exporter: | No |
| Current Record: | Yes |
| Non Storage Recycler Activity: | Not reported |
| Electronic Manifest Broker: | Not reported |

List of NAICS Codes and Descriptions:

| | |
|---|---|
| NAICS Code: | 44711 |
| NAICS Description: | GASOLINE STATIONS WITH CONVENIENCE STORES |

Facility Has Received Notices of Violations:

| | |
|---|---|
| Violations: | No Violations Found |

Evaluation Action Summary:

| | |
|---|---|
| Evaluations: | No Evaluations Found |

---

**79** **FAIRFIELD INN & SUITES** **NPDES S117699936**
**Target** **2730 EL CENTRO RD** **CIWQS N/A**
**Property** **SACRAMENTO, CA 95833**

**Actual:** **14 ft.**

**Focus Map:** **8**

NPDES:

| | |
|---|---|
| Name: | FAIRFIELD INN & SUITES |
| Address: | 2730 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Facility Status: | Not reported |
| NPDES Number: | Not reported |
| Region: | Not reported |
| Agency Number: | Not reported |
| Regulatory Measure ID: | Not reported |
| Place ID: | Not reported |
| Order Number: | Not reported |
| WDID: | 5S34C326307 |
| Regulatory Measure Type: | Construction |
| Program Type: | Not reported |
| Adoption Date Of Regulatory Measure: | Not reported |
| Effective Date Of Regulatory Measure: | Not reported |
| Termination Date Of Regulatory Measure: | Not reported |

**FAIRFIELD INN & SUITES (Continued)** **S117699936**

| | |
|---|---|
| Expiration Date Of Regulatory Measure: | Not reported |
| Discharge Address: | Not reported |
| Discharge Name: | Not reported |
| Discharge City: | Not reported |
| Discharge State: | Not reported |
| Discharge Zip: | Not reported |
| Status: | Terminated |
| Status Date: | 04/12/2006 |
| Operator Name: | 2003 Natomas Inn & Suites LP |
| Operator Address: | PO Box 1776 |
| Operator City: | Fair Oaks |
| Operator State: | California |
| Operator Zip: | 95628 |

NPDES as of 03/2018:

| | |
|---|---|
| NPDES Number: | Not reported |
| Status: | Not reported |
| Agency Number: | Not reported |
| Region: | 5S |
| Regulatory Measure ID: | 200324 |
| Order Number: | Not reported |
| Regulatory Measure Type: | Construction |
| Place ID: | Not reported |
| WDID: | 5S34C326307 |
| Program Type: | Not reported |
| Adoption Date Of Regulatory Measure: | Not reported |
| Effective Date Of Regulatory Measure: | Not reported |
| Expiration Date Of Regulatory Measure: | Not reported |
| Termination Date Of Regulatory Measure: | Not reported |
| Discharge Name: | Not reported |
| Discharge Address: | Not reported |
| Discharge City: | Not reported |
| Discharge State: | Not reported |
| Discharge Zip: | Not reported |
| Received Date: | 05/09/2008 |
| Processed Date: | Not reported |
| Status: | Terminated |
| Status Date: | 04/12/2006 |
| Place Size: | 2 |
| Place Size Unit: | Acres |
| Contact: | JIM Burden |
| Contact Title: | Not reported |
| Contact Phone: | 2096130630 |
| Contact Phone Ext: | Not reported |
| Contact Email: | Not reported |
| Operator Name: | 2003 Natomas Inn & Suites LP |
| Operator Address: | PO Box 1776 |
| Operator City: | Fair Oaks |
| Operator State: | California |
| Operator Zip: | 95628 |
| Operator Contact: | David Justice |
| Operator Contact Title: | Not reported |
| Operator Contact Phone: | 916-961-7676 |
| Operator Contact Phone Ext: | Not reported |
| Operator Contact Email: | Not reported |
| Operator Type: | Other |
| Developer: | Huff Construction |
| Developer Address: | 4917 Stoddard Rd |

**FAIRFIELD INN & SUITES (Continued)** **S117699936**

| | |
|---|---|
| Developer City: | Modesto |
| Developer State: | California |
| Developer Zip: | 95356 |
| Developer Contact: | Gary Huff |
| Developer Contact Title: | Not reported |
| Constype Linear Utility Ind: | Not reported |
| Emergency Phone: | 209-613-0630 |
| Emergency Phone Ext: | Not reported |
| Constype Above Ground Ind: | Not reported |
| Constype Below Ground Ind: | Not reported |
| Constype Cable Line Ind: | Not reported |
| Constype Comm Line Ind: | Not reported |
| Constype Commertial Ind: | Y |
| Constype Electrical Line Ind: | Not reported |
| Constype Gas Line Ind: | Not reported |
| Constype Industrial Ind: | Not reported |
| Constype Other Description: | Not reported |
| Constype Other Ind: | Not reported |
| Constype Recons Ind: | Not reported |
| Constype Residential Ind: | Not reported |
| Constype Transport Ind: | Not reported |
| Constype Utility Description: | Not reported |
| Constype Utility Ind: | Not reported |
| Constype Water Sewer Ind: | Not reported |
| Dir Discharge Uswater Ind: | Not reported |
| Receiving Water Name: | Not reported |
| Certifier: | David A Justice |
| Certifier Title: | General Partner |
| Certification Date: | 17-FEB-04 |
| Primary Sic: | Not reported |
| Secondary Sic: | Not reported |
| Tertiary Sic: | Not reported |

CIWQS:

| | |
|---|---|
| Name: | FAIRFIELD INN & SUITES |
| Address: | 2730 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Agency: | 2003 Natomas Inn & Suites LP |
| Agency Address: | PO Box 1776, Fair Oaks, CA 95628 |
| Place/Project Type: | Construction - Commercial |
| SIC/NAICS: | Not reported |
| Region: | 5S |
| Program: | CONSTW |
| Regulatory Measure Status: | Terminated |
| Regulatory Measure Type: | Storm water construction |
| Order Number: | 2009-0009-DWQ |
| WDID: | 5S34C326307 |
| NPDES Number: | CAS000002 |
| Adoption Date: | Not reported |
| Effective Date: | Not reported |
| Termination Date: | Not reported |
| Expiration/Review Date: | Not reported |
| Design Flow: | Not reported |
| Major/Minor: | Not reported |
| Complexity: | Not reported |
| TTWQ: | Not reported |

**FAIRFIELD INN & SUITES (Continued)** **S117699936**

Enforcement Actions within 5 years: 0
Violations within 5 years: 0
Latitude: 38.61558
Longitude: -121.53936

---

**80** **BLACK BEAR DINER SACRAMENTO NATOMAS** **CIWQS** **S121623756**
**Target Property** **2700 EL CENTRO RD** **SACRAMENTO, CA 95833** **N/A**

**Actual: 15 ft.**
**Focus Map: 8**

CIWQS:

| | |
|---|---|
| Name: | BLACK BEAR DINER SACRAMENTO NATOMAS |
| Address: | 2700 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Agency: | WC80 Parcel 3 LLC |
| Agency Address: | P.O. BOX 1776, Fair Oaks, CA 95628 |
| Place/Project Type: | Construction - Commercial |
| SIC/NAICS: | Not reported |
| Region: | 5S |
| Program: | CONSTW |
| Regulatory Measure Status: | Terminated |
| Regulatory Measure Type: | Storm water construction |
| Order Number: | 2009-0009-DWQ |
| WDID: | 5S34C348420 |
| NPDES Number: | CAS000002 |
| Adoption Date: | Not reported |
| Effective Date: | 08/14/2007 |
| Termination Date: | 11/09/2010 |
| Expiration/Review Date: | Not reported |
| Design Flow: | Not reported |
| Major/Minor: | Not reported |
| Complexity: | Not reported |
| TTWQ: | Not reported |
| Enforcement Actions within 5 years: | 0 |
| Violations within 5 years: | 0 |
| Latitude: | Not reported |
| Longitude: | Not reported |

---

**81** **GABE MACHADO** **Sacramento Co. ML** **S105268770**
**Target Property** **2651 EL CENTRO RD** **SACRAMENTO, CA 95833** **N/A**

**Actual: 15 ft.**
**Focus Map: 8**

Sacramento Co. ML:

| | |
|---|---|
| Name: | GABE MACHADO |
| Address: | 2651 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Facility Id: | Not reported |
| Facility Status: | Inactive. Included on a listing no longer updated. |
| FD: | U |
| Billing Codes BP: | Farm-No Fee |
| Billing Codes UST: | Farm-No Fee |
| WG Bill Code: | Farm-No Fee |
| Target Property Bill Cod: | 50 |
| Food Bill Code: | 53 |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |

**GABE MACHADO (Continued)** **S105268770**

| | |
|---|---|
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | 0 |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

---

**H82** **ATLAS COPCO COMPRESSORS LLC** **HWTS** **S124890205**
**Target Property** **2640 EL CENTRO RD** **N/A**
**SACRAMENTO, CA 95833**

**Site 1 of 2 in cluster H**

**Actual:** **15 ft.**
**Focus Map:** **8**

HWTS:

| | |
|---|---|
| Name: | ATLAS COPCO COMPRESSORS LLC |
| Address: | 2640 EL CENTRO RD |
| Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| EPA ID: | CAL000373010 |
| Inactive Date: | 06/30/2013 |
| Create Date: | 03/22/2012 |
| Last Act Date: | 03/26/2014 |
| Mailing Name: | Not reported |
| Mailing Address: | 48434 MILMONT DR |
| Mailing Address 2: | Not reported |
| Mailing City,State,Zip: | FREMONT, CA 945380000 |
| Owner Name: | ATLAS COPCO COMPRESSORS LLC |
| Owner Address: | 1800 OVERVIEW DR |
| Owner Address 2: | Not reported |
| Owner City,State,Zip: | ROCK HILL, SC 297300000 |
| Contact Name: | KATHALYN CELESTE |
| Contact Address: | 48434 MILMONT DR |
| Contact Address 2: | Not reported |
| City,State,Zip: | FREMONT, CA 945380000 |

NAICS:

| | |
|---|---|
| EPA ID: | CAL000373010 |
| Create Date: | 2012-03-22 10:30:49.693 |
| NAICS Code: | 333912 |
| NAICS Description: | Air and Gas Compressor Manufacturing |
| Issued EPA ID Date: | 2012-03-22 10:30:49.66000 |
| Inactive Date: | 2013-06-30 00:00:00 |
| Facility Name: | ATLAS COPCO COMPRESSORS LLC |
| Facility Address: | 2640 EL CENTRO RD |
| Facility Address 2: | Not reported |
| Facility City: | SACRAMENTO |
| Facility County: | Not reported |
| Facility State: | CA |
| Facility Zip: | 95833 |

**H83** **ATLAS COPCO** **HWTS** **S124609430**
**Target Property** **2640 EL CENTRO RD** **N/A**
**SACRAMENTO, CA 95833**

**Site 2 of 2 in cluster H**

**Actual:** **15 ft.**
**Focus Map: 8**

HWTS:

| | |
|---|---|
| Name: | ATLAS COPCO |
| Address: | 2640 EL CENTRO RD |
| Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 958339703 |
| EPA ID: | CAC002673744 |
| Inactive Date: | 02/13/2012 |
| Create Date: | 08/16/2011 |
| Last Act Date: | 08/16/2011 |
| Mailing Name: | Not reported |
| Mailing Address: | 2640 EL CENTRO RD STE D165 |
| Mailing Address 2: | Not reported |
| Mailing City,State,Zip: | SACRAMENTO, CA 958339703 |
| Owner Name: | ATLAS COPCO |
| Owner Address: | 2640 EL CENTRO RD STE D165 |
| Owner Address 2: | Not reported |
| Owner City,State,Zip: | SACRAMENTO, CA 958339703 |
| Contact Name: | DARIN NOTT |
| Contact Address: | 2640 EL CENTRO RD STE D165 |
| Contact Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 958339703 |

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**84** **2600 EL CENTRO RD** **CIWQS** **S121614992**
**Target Property** **2600 EL CENTRO RD** **N/A**
**SACRAMENTO, CA 95833**

**Actual:** **15 ft.**
**Focus Map: 8**

CIWQS:

| | |
|---|---|
| Name: | 2600 EL CENTRO RD |
| Address: | 2600 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Agency: | Community Psychiatric Center |
| Agency Address: | 24502 Pacific Park Dr, Laguna Hills, CA 92656 |
| Place/Project Type: | Construction - Commercial |
| SIC/NAICS: | Not reported |
| Region: | 5S |
| Program: | CONSTW |
| Regulatory Measure Status: | Terminated |
| Regulatory Measure Type: | Storm water construction |
| Order Number: | 99-08DW |
| WDID: | 5S34C300969 |
| NPDES Number: | CAS000002 |
| Adoption Date: | Not reported |
| Effective Date: | 10/20/1992 |
| Termination Date: | 02/22/1999 |
| Expiration/Review Date: | Not reported |
| Design Flow: | Not reported |
| Major/Minor: | Not reported |
| Complexity: | Not reported |
| TTWQ: | Not reported |
| Enforcement Actions within 5 years: | 0 |
| Violations within 5 years: | 0 |
| Latitude: | Not reported |
| Longitude: | Not reported |

**85** **SACRAMENTO AREA FLOOD CONTROL AGENCY** **HWTS** **S126393094**
**Target** **2430 GARDEN HIGHWAY** **N/A**
**Property** **SACRAMENTO, CA 95833**

**Actual:** **23 ft.**
**Focus Map:** **8**

HWTS:

| | |
|---|---|
| Name: | SACRAMENTO AREA FLOOD CONTROL AGENCY |
| Address: | 2430 GARDEN HIGHWAY |
| Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| EPA ID: | CAC003085036 |
| Inactive Date: | Not reported |
| Create Date: | 09/22/2020 |
| Last Act Date: | 09/22/2020 |
| Mailing Name: | Not reported |
| Mailing Address: | 1007 7TH STREET, 7TH FLOOR |
| Mailing Address 2: | Not reported |
| Mailing City,State,Zip: | SACRAMENTO, CA 95814 |
| Owner Name: | SACRAMENTO AREA FLOOD CONTROL AGENC |
| Owner Address: | 1007 7TH STREET, 7TH FLOOR |
| Owner Address 2: | Not reported |
| Owner City,State,Zip: | SACRAMENTO, CA 95814 |
| Contact Name: | STEVE SMITH |
| Contact Address: | 1007 7TH STREET, 7TH FLOOR |
| Contact Address 2: | Not reported |
| City,State,Zip: | SACRAMENTO, CA 95814 |

NAICS:

| | |
|---|---|
| EPA ID: | CAC003085036 |
| Create Date: | 2020-09-22 14:15:40.507 |
| NAICS Code: | 92411 |
| NAICS Description: | Administration of Air and Water Resource and Solid Waste Management Programs |
| Issued EPA ID Date: | 2020-09-22 14:15:40.50700 |
| Inactive Date: | Not reported |
| Facility Name: | SACRAMENTO AREA FLOOD CONTROL AGENCY |
| Facility Address: | 2430 GARDEN HIGHWAY |
| Facility Address 2: | Not reported |
| Facility City: | SACRAMENTO |
| Facility County: | Not reported |
| Facility State: | CA |
| Facility Zip: | 95833 |

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**I86** **VERIZON WIRELESS REED** **Sacramento Co. ML** **S112437475**
**Target** **2196 GARDEN HWY** **CERS** **N/A**
**Property** **SACRAMENTO, CA 95833**

**Site 1 of 2 in cluster I**

**Actual:** **26 ft.**
**Focus Map:** **8**

Sacramento Co. ML:

| | |
|---|---|
| Name: | VERIZON WIRELESS REED |
| Address: | 2196 GARDEN HWY |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Facility Id: | Not reported |
| Facility Status: | Not reported |
| FD: | Not reported |
| Billing Codes BP: | A |
| Billing Codes UST: | Not reported |
| WG Bill Code: | Not reported |
| Target Property Bill Cod: | Not reported |

**VERIZON WIRELESS REED (Continued)** **S112437475**

| | |
|---|---|
| Food Bill Code: | Not reported |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | Not reported |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

CERS:

| | |
|---|---|
| Name: | VERIZON WIRELESS REED |
| Address: | 2196 GARDEN HWY |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Site ID: | 406384 |
| CERS ID: | 10144839 |
| CERS Description: | Chemical Storage Facilities |

Evaluation:

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 12-16-2015 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | No violations noted this date. |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | HMRRP |
| Eval Source: | CERS |

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 11-15-2018 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | NOTE: No violations observed at time of inspection. |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | HMRRP |
| Eval Source: | CERS |

Coordinates:

| | |
|---|---|
| Site ID: | 406384 |
| Facility Name: | Verizon Wireless Reed |
| Env Int Type Code: | HMBP |
| Program ID: | 10144839 |
| Coord Name: | Not reported |
| Ref Point Type Desc: | Center of a facility or station. |
| Latitude: | 38.601390 |
| Longitude: | -121.548010 |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | Document Preparer |
| Entity Name: | Steve Skanderson |
| Entity Title: | Not reported |

**VERIZON WIRELESS REED (Continued)** **S112437475**

| | |
|---|---|
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Environmental Contact |
| Entity Name: | Environmental Compliance |
| Entity Title: | Not reported |
| Affiliation Address: | 295 Parkshore Drive |
| Affiliation City: | Folsom |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 95630 |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Legal Owner |
| Entity Name: | Verizon Wireless |
| Entity Title: | Not reported |
| Affiliation Address: | 295 Parkshore Drive |
| Affiliation City: | Folsom |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 95630 |
| Affiliation Phone: | (866) 694-2415 |
| | |
| Affiliation Type Desc: | Parent Corporation |
| Entity Name: | Verizon Wireless [Northern California] |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Facility Mailing Address |
| Entity Name: | Mailing Address |
| Entity Title: | Not reported |
| Affiliation Address: | 295 Parkshore Drive |
| Affiliation City: | Folsom |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 95630 |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Identification Signer |
| Entity Name: | armand delgado |
| Entity Title: | environmental compliance mgr |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

**VERIZON WIRELESS REED (Continued)** **S112437475**

| | |
|---|---|
| Affiliation Type Desc: | Operator |
| Entity Name: | Verizon Wireless |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (866) 694-2415 |

| | |
|---|---|
| Affiliation Type Desc: | CUPA District |
| Entity Name: | Sacramento County Environmental Management Departm |
| Entity Title: | Not reported |
| Affiliation Address: | 10590 Armstrong Avenue, Suite A |
| Affiliation City: | Sacramento |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 95655 |
| Affiliation Phone: | (916) 875-8550 |

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**I87** **VERIZON WIRELESS REED** **FINDS** **1016421792**
**Target** **2196 GARDEN HWY** **N/A**
**Property** **SACRAMENTO, CA 95833**

**Site 2 of 2 in cluster I**

**Actual:** **26 ft.**

**Focus Map:** **8**

FINDS:
Registry ID: 110055695421

Click Here:

Environmental Interest/Information System:
STATE MASTER

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

---

**88** **LAWRENCE RAPOSA** **Sacramento Co. ML** **S123681235**
**SW** **2250 GARDEN HWY** **N/A**
**< 1/8** **SACRAMENTO, CA 95834**
**0.006 mi.**
**30 ft.**

**Actual:** **26 ft.**

**Focus Map:** **8**

Sacramento Co. ML:

| | |
|---|---|
| Name: | LAWRENCE RAPOSA |
| Address: | 2250 GARDEN HWY |
| City,State,Zip: | SACRAMENTO, CA 95834 |
| Facility Id: | Not reported |
| Facility Status: | Inactive. Included on a listing no longer updated. |
| FD: | U |
| Billing Codes BP: | Farm-No Fee |
| Billing Codes UST: | Farm-No Fee |
| WG Bill Code: | Farm-No Fee |
| Target Property Bill Cod: | 50 |
| Food Bill Code: | 53 |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |

**LAWRENCE RAPOSA (Continued)** **S123681235**

| | |
|---|---|
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | 0 |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

| | |
|---|---|
| Name: | LAWRENCE RAPOSA |
| Address: | 2250 GARDEN HWY |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Facility Id: | Not reported |
| Facility Status: | Not reported |
| FD: | Not reported |
| Billing Codes BP: | I |
| Billing Codes UST: | Not reported |
| WG Bill Code: | Not reported |
| Target Property Bill Cod: | Not reported |
| Food Bill Code: | Not reported |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | Not reported |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

---

**J89** **FARMING** **SWEEPS UST** **S101630723**
**SW** **2350 GARDEN HWY** **CA FID UST** **N/A**
**< 1/8** **SACRAMENTO, CA 95833**
**0.010 mi.**
**52 ft.** **Site 1 of 2 in cluster J**

**Actual:**
**28 ft.**

**Focus Map:**
**8**

SWEEPS UST:

| | |
|---|---|
| Name: | FARMING |
| Address: | 2350 GARDEN HWY |
| City: | SACRAMENTO |
| Status: | Active |
| Comp Number: | 22481 |
| Number: | 9 |
| Board Of Equalization: | Not reported |
| Referral Date: | 07-01-85 |
| Action Date: | Not reported |
| Created Date: | 02-29-88 |
| Owner Tank Id: | 1 |
| SWRCB Tank Id: | 34-000-022481-000001 |
| Tank Status: | A |
| Capacity: | 500 |

**FARMING (Continued)** **S101630723**

Active Date: 07-01-85
Tank Use: M.V. FUEL
STG: P
Content: LEADED
Number Of Tanks: 1

CA FID UST:
Facility ID: 34006983
Regulated By: UTNKA
Regulated ID: 00022481
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 9169258311
Mail To: Not reported
Mailing Address: 2350 GARDEN HWY
Mailing Address 2: Not reported
Mailing City,St,Zip: SACRAMENTO 95833
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

---

**J90** **FARMING** **HIST UST** **U001615943**
**SW** **2350 GARDEN HWY** **N/A**
**< 1/8** **SACRAMENTO, CA 95833**
**0.010 mi.**
**52 ft.** **Site 2 of 2 in cluster J**

**Actual:**
**28 ft.**

**Focus Map:**
**8**

HIST UST:
Name: FARMING
Address: 2350 GARDEN HWY
City,State,Zip: SACRAMENTO, CA 95833
File Number: 0001FEC2
URL: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0001FEC2.pdf
Region: STATE
Facility ID: 00000022481
Facility Type: Other
Other Type: FARM
Contact Name: Not reported
Telephone: 9169258311
Owner Name: LAWRENCE A. RAPOSA
Owner Address: 2350 GARDEN HWY
Owner City,St,Zip: SACRAMENTO, CA 95833
Total Tanks: 0001

Tank Num: 001
Container Num: 1
Year Installed: 1959
Tank Capacity: 00000500
Tank Used for: PRODUCT
Type of Fuel: REGULAR
Container Construction Thickness: Not reported
Leak Detection: Stock Inventor

**FARMING (Continued)** **U001615943**

Click here for Geo Tracker PDF:

**K91** **AT & T MOBILITY - SACRAMENTO AVE & TODHUNTER AVE (** **Sacramento Co. ML** **S122492445**
**SW** **2210 GARDEN HWY** **CERS** **N/A**
**< 1/8** **SACRAMENTO, CA 95833**
**0.016 mi.**
**87 ft.** **Site 1 of 2 in cluster K**

**Actual:**
**28 ft.**

**Focus Map:**
**8**

Sacramento Co. ML:

| | |
|---|---|
| Name: | AT & T MOBILITY - SACRAMENTO AVE & TODHUNTER AVE (USID141202) |
| Address: | 2210 GARDEN HWY |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Facility Id: | Not reported |
| Facility Status: | Not reported |
| FD: | Not reported |
| Billing Codes BP: | A |
| Billing Codes UST: | Not reported |
| WG Bill Code: | Not reported |
| Target Property Bill Cod: | Not reported |
| Food Bill Code: | Not reported |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | Not reported |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

CERS:

| | |
|---|---|
| Name: | AT&T MOBILITY - SACRAMENTO AVE. & TODHUNTER AVE. (USID141202) |
| Address: | 2210 GARDEN HWY |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Site ID: | 440748 |
| CERS ID: | 10767874 |
| CERS Description: | Chemical Storage Facilities |

Evaluation:

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 03-06-2019 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | NOTE: No violations observed at time of inspection. |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | HMRRP |
| Eval Source: | CERS |

Coordinates:

| | |
|---|---|
| Site ID: | 440748 |
| Facility Name: | AT&T Mobility - Sacramento Ave. & Todhunter Ave. (USID141202) |
| Env Int Type Code: | HMBP |
| Program ID: | 10767874 |

**AT & T MOBILITY - SACRAMENTO AVE & TODHUNTER AVE (USID141202 (Continued)** **S122492445**

Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.
Latitude: 38.600680
Longitude: -121.548800

Affiliation:
Affiliation Type Desc: Environmental Contact
Entity Name: AT&T EH&S Hotline - Option #1
Entity Title: Not reported
Affiliation Address: 308 S. Akard St., 17th Floor
Affiliation City: Dallas
Affiliation State: TX
Affiliation Country: Not reported
Affiliation Zip: 75202
Affiliation Phone: Not reported

Affiliation Type Desc: Parent Corporation
Entity Name: AT&T Mobility
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title: Not reported
Affiliation Address: 308 S. Akard St., 17th Floor
Affiliation City: Dallas
Affiliation State: TX
Affiliation Country: Not reported
Affiliation Zip: 75202
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner
Entity Name: New Cingular Wireless PCS, LLC dba AT&T Mobility
Entity Title: Not reported
Affiliation Address: 308 S. Akard St., 17th Floor
Affiliation City: Dallas
Affiliation State: TX
Affiliation Country: United States
Affiliation Zip: 75202
Affiliation Phone: (214) 464-1712

Affiliation Type Desc: CUPA District
Entity Name: Sacramento County Environmental Management Departm
Entity Title: Not reported
Affiliation Address: 10590 Armstrong Avenue, Suite A
Affiliation City: Sacramento
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 95655
Affiliation Phone: (916) 875-8550

Affiliation Type Desc: Document Preparer

**AT & T MOBILITY - SACRAMENTO AVE & TODHUNTER AVE (USID141202 (Continued)** **S122492445**

| | |
|---|---|
| Entity Name: | Peter Burnell, Sigma Consultants, Inc. |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Identification Signer |
| Entity Name: | Jeremy McGrue |
| Entity Title: | National EPCRA Manager |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Operator |
| Entity Name: | AT&T Mobility |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (800) 566-9347 |

---

**K92** **NEW CINGULAR WIRELESS PCS LLC** **RCRA NonGen / NLR** **1024868779**
**SW** **2210 GARDEN HIGHWAY** **CAL000437385**
**< 1/8** **SACRAMENTO, CA 95833**
**0.016 mi.**
**87 ft.** **Site 2 of 2 in cluster K**

**Actual:**
**28 ft.**

**Focus Map:**
**8**

RCRA NonGen / NLR:

| | |
|---|---|
| Date Form Received by Agency: | 2018-07-09 00:00:00.0 |
| Handler Name: | NEW CINGULAR WIRELESS PCS LLC |
| Handler Address: | 2210 GARDEN HIGHWAY |
| Handler City,State,Zip: | SACRAMENTO, CA 95833 |
| EPA ID: | CAL000437385 |
| Contact Name: | DERONICA LAMB |
| Contact Address: | 308 S AKARD ST 17TH FLR |
| Contact City,State,Zip: | DALLAS, TX 75202 |
| Contact Telephone: | 214-741-0464 |
| Contact Fax: | 214-464-1424 |
| Contact Email: | DR1429@ATT.COM |
| Contact Title: | Not reported |
| EPA Region: | 09 |
| Land Type: | Not reported |
| Federal Waste Generator Description: | Not a generator, verified |
| Non-Notifier: | Not reported |
| Biennial Report Cycle: | Not reported |
| Accessibility: | Not reported |
| Active Site Indicator: | Handler Activities |
| State District Owner: | Not reported |
| State District: | Not reported |

**NEW CINGULAR WIRELESS PCS LLC (Continued)** **1024868779**

| | |
|---|---|
| Mailing Address: | 308 S AKARD ST 17TH FLR |
| Mailing City,State,Zip: | DALLAS, TX 75202 |
| Owner Name: | NEW CINGULAR WIRELESS PCS LLC |
| Owner Type: | Other |
| Operator Name: | DERONICA LAMB |
| Operator Type: | Other |
| Short-Term Generator Activity: | No |
| Importer Activity: | No |
| Mixed Waste Generator: | No |
| Transporter Activity: | No |
| Transfer Facility Activity: | No |
| Recycler Activity with Storage: | No |
| Small Quantity On-Site Burner Exemption: | No |
| Smelting Melting and Refining Furnace Exemption: | No |
| Underground Injection Control: | No |
| Off-Site Waste Receipt: | No |
| Universal Waste Indicator: | Yes |
| Universal Waste Destination Facility: | Yes |
| Federal Universal Waste: | No |
| Active Site Fed-Reg Treatment Storage and Disposal Facility: | Not reported |
| Active Site Converter Treatment storage and Disposal Facility: | Not reported |
| Active Site State-Reg Treatment Storage and Disposal Facility: | Not reported |
| Active Site State-Reg Handler: | --- |
| Federal Facility Indicator: | Not reported |
| Hazardous Secondary Material Indicator: | N |
| Sub-Part K Indicator: | Not reported |
| Commercial TSD Indicator: | No |
| Treatment Storage and Disposal Type: | Not reported |
| 2018 GPRA Permit Baseline: | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | Not on the Baseline |
| Permit Renewals Workload Universe: | Not reported |
| Permit Workload Universe: | Not reported |
| Permit Progress Universe: | Not reported |
| Post-Closure Workload Universe: | Not reported |
| Closure Workload Universe: | Not reported |
| 202 GPRA Corrective Action Baseline: | No |
| Corrective Action Workload Universe: | No |
| Subject to Corrective Action Universe: | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | No |
| Corrective Action Priority Ranking: | No NCAPS ranking |
| Environmental Control Indicator: | No |
| Institutional Control Indicator: | No |
| Human Exposure Controls Indicator: | N/A |
| Groundwater Controls Indicator: | N/A |
| Operating TSDF Universe: | Not reported |
| Full Enforcement Universe: | Not reported |
| Significant Non-Complier Universe: | No |
| Unaddressed Significant Non-Complier Universe: | No |
| Addressed Significant Non-Complier Universe: | No |
| Significant Non-Complier With a Compliance Schedule Universe: | No |
| Financial Assurance Required: | Not reported |
| Handler Date of Last Change: | 2018-09-07 19:38:33.0 |
| Recognized Trader-Importer: | No |
| Recognized Trader-Exporter: | No |
| Importer of Spent Lead Acid Batteries: | No |

**NEW CINGULAR WIRELESS PCS LLC (Continued)** **1024868779**

| | |
|---|---|
| Exporter of Spent Lead Acid Batteries: | No |
| Recycler Activity Without Storage: | No |
| Manifest Broker: | No |
| Sub-Part P Indicator: | No |

Handler - Owner Operator:

| | |
|---|---|
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: | NEW CINGULAR WIRELESS PCS LLC |
| Legal Status: | Other |
| Date Became Current: | Not reported |
| Date Ended Current: | Not reported |
| Owner/Operator Address: | 308 S AKARD ST 17TH FLR |
| Owner/Operator City,State,Zip: | DALLAS, TX 75202 |
| Owner/Operator Telephone: | 214-741-0464 |
| Owner/Operator Telephone Ext: | Not reported |
| Owner/Operator Fax: | Not reported |
| Owner/Operator Email: | Not reported |

| | |
|---|---|
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: | DERONICA LAMB |
| Legal Status: | Other |
| Date Became Current: | Not reported |
| Date Ended Current: | Not reported |
| Owner/Operator Address: | 308 S AKARD ST 17TH FLR |
| Owner/Operator City,State,Zip: | DALLAS, TX 75202 |
| Owner/Operator Telephone: | 214-741-0464 |
| Owner/Operator Telephone Ext: | Not reported |
| Owner/Operator Fax: | Not reported |
| Owner/Operator Email: | Not reported |

Historic Generators:

| | |
|---|---|
| Receive Date: | 2018-07-09 00:00:00.0 |
| Handler Name: | NEW CINGULAR WIRELESS PCS LLC |
| Federal Waste Generator Description: | Not a generator, verified |
| State District Owner: | Not reported |
| Large Quantity Handler of Universal Waste: | No |
| Recognized Trader Importer: | No |
| Recognized Trader Exporter: | No |
| Spent Lead Acid Battery Importer: | No |
| Spent Lead Acid Battery Exporter: | No |
| Current Record: | Yes |
| Non Storage Recycler Activity: | Not reported |
| Electronic Manifest Broker: | Not reported |

List of NAICS Codes and Descriptions:

| | |
|---|---|
| NAICS Code: | 517911 |
| NAICS Description: | TELECOMMUNICATIONS RESELLERS |

Facility Has Received Notices of Violations:

| | |
|---|---|
| Violations: | No Violations Found |

Evaluation Action Summary:

| | |
|---|---|
| Evaluations: | No Evaluations Found |

**93**
**NE**
**< 1/8**
**0.026 mi.**
**135 ft.**

**CITY OF SAC - SUMP 017**
**SAN JUAN RD & WITTER WAY**
**SACRAMENTO, CA 95834**

**Sacramento Co. ML** **S113408455**
**N/A**

**Actual:**
**9 ft.**

**Focus Map:**
**5**

Sacramento Co. ML:

| | |
|---|---|
| Name: | CITY OF SAC - SUMP 017 |
| Address: | SAN JUAN RD & WITTER WAY |
| City,State,Zip: | SACRAMENTO, CA 95834 |
| Facility Id: | Not reported |
| Facility Status: | Not reported |
| FD: | Not reported |
| Billing Codes BP: | A |
| Billing Codes UST: | Not reported |
| WG Bill Code: | Not reported |
| Target Property Bill Cod: | Not reported |
| Food Bill Code: | Not reported |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | Not reported |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

---

**94**
**West**
**< 1/8**
**0.028 mi.**
**150 ft.**

**KCTC SAC-AMERICAN TOWER CORP #8114**
**3802 GARDEN HWY**
**SACRAMENTO, CA 95834**

**Sacramento Co. ML** **S106387796**
**N/A**

**Actual:**
**27 ft.**

**Focus Map:**
**4**

Sacramento Co. ML:

| | |
|---|---|
| Name: | KCTC SAC-AMERICAN TOWER CORP #8114 |
| Address: | 3802 GARDEN HWY |
| City,State,Zip: | SACRAMENTO, CA 95834 |
| Facility Id: | Not reported |
| Facility Status: | Not reported |
| FD: | Not reported |
| Billing Codes BP: | A |
| Billing Codes UST: | Not reported |
| WG Bill Code: | Not reported |
| Target Property Bill Cod: | Not reported |
| Food Bill Code: | Not reported |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | Not reported |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |

**KCTC SAC-AMERICAN TOWER CORP #8114 (Continued)** **S106387796**

Tier Permitting: Not reported
AST Bill Code: Not reported
CALARP Bill Code: Not reported

---

**95**
**ESE**
**< 1/8**
**0.052 mi.**
**274 ft.**

**E.D. WITTER**
**3480 WITTER WY**
**SACRAMENTO, CA 95834**

**HIST UST** **U001615959**
**Sacramento Co. ML** **N/A**

**Actual:**
**11 ft.**

**Focus Map:**
**5**

HIST UST:
Name: ED WITTER
Address: 3480 WITTER WAY
City,State,Zip: SACRAMENTO, CA 95834
File Number: 0001FD57
URL: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0001FD57.pdf
Region: STATE
Facility ID: 00000027692
Facility Type: Other
Other Type: Not reported
Contact Name: Not reported
Telephone: 9164448041
Owner Name: E.D. WITTER
Owner Address: 3480 WITTER WAY
Owner City,St,Zip: SACRAMENTO, CA 95834
Total Tanks: 0001

Tank Num: 001
Container Num: ONE
Year Installed: Not reported
Tank Capacity: 00000600
Tank Used for: Not reported
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: None

Click here for Geo Tracker PDF:

Sacramento Co. ML:
Name: E.D. WITTER
Address: 3480 WITTER WY
City,State,Zip: SACRAMENTO, CA 95834
Facility Id: Not reported
Facility Status: Inactive. Included on a listing no longer updated.
FD: U
Billing Codes BP: Disclaimer
Billing Codes UST: No Tanks
WG Bill Code: Oil Changed by Outside Company-No Fee
Target Property Bill Cod: 50
Food Bill Code: 50
CUPA Permit Date: Not reported
HAZMAT Permit Date: Not reported
HAZMAT Inspection Date: Not reported
Hazmat Date BP Received: Not reported
UST Permit Dt: Not reported
UST Inspection Date: Not reported
UST Tank Test Date: Not reported

**E.D. WITTER (Continued)** **U001615959**

| | |
|---|---|
| Number of Tanks: | 0 |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

---

**96** **BRIDGES ON THE RIVER RESTAURANT** **ENF** **S109419190**
**SE** **2125 GARDEN HIGHWAY** **Sacramento Co. ML** **N/A**
**< 1/8** **SACRAMENTO, CA 95833** **CIWQS**
**0.087 mi.**
**462 ft.**

**Actual:**
**27 ft.**

**Focus Map:**
**11**

ENF:

| | |
|---|---|
| Name: | BRIDGES ON THE RIVER RESTAURANT |
| Address: | 2125 GARDEN HIGHWAY |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Region: | Not reported |
| Facility Id: | 210375 |
| Agency Name: | Pacific Union Conference of Seventh-Day Adventists |
| Place Type: | Service/Commercial |
| Place Subtype: | Restaurant |
| Facility Type: | Municipal/Domestic |
| Agency Type: | Privately-Owned Business |
| # Of Agencies: | 1 |
| Place Latitude: | 38.60008 |
| Place Longitude: | -121.544343 |
| SIC Code 1: | Not reported |
| SIC Desc 1: | Not reported |
| SIC Code 2: | Not reported |
| SIC Desc 2: | Not reported |
| SIC Code 3: | Not reported |
| SIC Desc 3: | Not reported |
| NAICS Code 1: | Not reported |
| NAICS Desc 1: | Not reported |
| NAICS Code 2: | Not reported |
| NAICS Desc 2: | Not reported |
| NAICS Code 3: | Not reported |
| NAICS Desc 3: | Not reported |
| # Of Places: | 1 |
| Source Of Facility: | Reg Meas |
| Design Flow: | Not reported |
| Threat To Water Quality: | 3 |
| Complexity: | B |
| Pretreatment: | N - POTW does not have EPA approved pretreatment prog. |
| Facility Waste Type: | Domestic wastewater |
| Facility Waste Type 2: | Not reported |
| Facility Waste Type 3: | Not reported |
| Facility Waste Type 4: | Not reported |
| Program: | WDRMUNIOTH |
| Program Category1: | WDR |
| Program Category2: | WDR |
| # Of Programs: | 1 |
| WDID: | 5A34NC00020 |
| Reg Measure Id: | 173962 |
| Reg Measure Type: | WDR |
| Region: | Not reported |
| Order #: | R5-2005-0116 |

**BRIDGES ON THE RIVER RESTAURANT (Continued)** **S109419190**

| | |
|---|---|
| Npdes# CA#: | Not reported |
| Major-Minor: | Not reported |
| Npdes Type: | Not reported |
| Reclamation: | N - No |
| Dredge Fill Fee: | Not reported |
| 301H: | Not reported |
| Application Fee Amt Received: | 1962 |
| Status: | Historical |
| Status Date: | 09/08/2017 |
| Effective Date: | 08/05/2005 |
| Expiration/Review Date: | 08/04/2020 |
| Termination Date: | 02/01/2012 |
| WDR Review - Amend: | 4/8/2011 |
| WDR Review - Revise/Renew: | Not reported |
| WDR Review - Rescind: | Not reported |
| WDR Review - No Action Required: | Not reported |
| WDR Review - Pending: | Not reported |
| WDR Review - Planned: | Not reported |
| Status Enrollee: | N |
| Individual/General: | I |
| Fee Code: | 15 - WDRs pending rescission |
| Direction/Voice: | Passive |
| Enforcement Id(EID): | 372645 |
| Region: | Not reported |
| Order / Resolution Number: | Not reported |
| Enforcement Action Type: | Notice of Violation |
| Effective Date: | 03/16/2010 |
| Adoption/Issuance Date: | 03/16/2010 |
| Achieve Date: | Not reported |
| Termination Date: | 03/16/2010 |
| ACL Issuance Date: | Not reported |
| EPL Issuance Date: | Not reported |
| Status: | Historical |
| Title: | NOV 01/18/2010 for JAMES WHEELER & EIE LAMBDA LLC |
| Description: | NOV sent for failure to submit required technical document and monitoring reports |
| Program: | WDR |
| Latest Milestone Completion Date: | Not reported |
| # Of Programs1: | 1 |
| Total Assessment Amount: | 0 |
| Initial Assessed Amount: | 0 |
| Liability $ Amount: | 0 |
| Project $ Amount: | 0 |
| Liability $ Paid: | 0 |
| Project $ Completed: | 0 |
| Total $ Paid/Completed Amount: | 0 |

| | |
|---|---|
| Name: | BRIDGES ON THE RIVER RESTAURANT |
| Address: | 2125 GARDEN HIGHWAY |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Region: | Not reported |
| Facility Id: | 210375 |
| Agency Name: | Pacific Union Conference of Seventh-Day Adventists |
| Place Type: | Service/Commercial |
| Place Subtype: | Restaurant |
| Facility Type: | Municipal/Domestic |
| Agency Type: | Privately-Owned Business |

**BRIDGES ON THE RIVER RESTAURANT (Continued)** **S109419190**

| | |
|---|---|
| # Of Agencies: | 1 |
| Place Latitude: | 38.60008 |
| Place Longitude: | -121.544343 |
| SIC Code 1: | Not reported |
| SIC Desc 1: | Not reported |
| SIC Code 2: | Not reported |
| SIC Desc 2: | Not reported |
| SIC Code 3: | Not reported |
| SIC Desc 3: | Not reported |
| NAICS Code 1: | Not reported |
| NAICS Desc 1: | Not reported |
| NAICS Code 2: | Not reported |
| NAICS Desc 2: | Not reported |
| NAICS Code 3: | Not reported |
| NAICS Desc 3: | Not reported |
| # Of Places: | 1 |
| Source Of Facility: | Reg Meas |
| Design Flow: | Not reported |
| Threat To Water Quality: | 3 |
| Complexity: | B |
| Pretreatment: | N - POTW does not have EPA approved pretreatment prog. |
| Facility Waste Type: | Domestic wastewater |
| Facility Waste Type 2: | Not reported |
| Facility Waste Type 3: | Not reported |
| Facility Waste Type 4: | Not reported |
| Program: | WDRMUNIOTH |
| Program Category1: | WDR |
| Program Category2: | WDR |
| # Of Programs: | 1 |
| WDID: | 5A34NC00020 |
| Reg Measure Id: | 173962 |
| Reg Measure Type: | WDR |
| Region: | Not reported |
| Order #: | R5-2005-0116 |
| Npdes# CA#: | Not reported |
| Major-Minor: | Not reported |
| Npdes Type: | Not reported |
| Reclamation: | N - No |
| Dredge Fill Fee: | Not reported |
| 301H: | Not reported |
| Application Fee Amt Received: | 1962 |
| Status: | Historical |
| Status Date: | 09/08/2017 |
| Effective Date: | 08/05/2005 |
| Expiration/Review Date: | 08/04/2020 |
| Termination Date: | 02/01/2012 |
| WDR Review - Amend: | 4/8/2011 |
| WDR Review - Revise/Renew: | Not reported |
| WDR Review - Rescind: | Not reported |
| WDR Review - No Action Required: | Not reported |
| WDR Review - Pending: | Not reported |
| WDR Review - Planned: | Not reported |
| Status Enrollee: | N |
| Individual/General: | I |
| Fee Code: | 15 - WDRs pending rescission |
| Direction/Voice: | Passive |
| Enforcement Id(EID): | 336108 |

**BRIDGES ON THE RIVER RESTAURANT (Continued)** **S109419190**

| | |
|---|---|
| Region: | Not reported |
| Order / Resolution Number: | Not reported |
| Enforcement Action Type: | 13267 Letter |
| Effective Date: | 10/31/2007 |
| Adoption/Issuance Date: | Not reported |
| Achieve Date: | Not reported |
| Termination Date: | 12/31/2010 |
| ACL Issuance Date: | Not reported |
| EPL Issuance Date: | Not reported |
| Status: | Historical |
| Title: | 13267 Letter and NOV 10/19/2007 for Bridges on the River |
| Description: | 13267 and NOV sent for failure to submit reports, deficient reporting, deficient monitoring, lack of groundwater injection wells, employing an unregistered operator, and not informing operator of MRP and WDRs. |
| Program: | WDR |
| Latest Milestone Completion Date: | Not reported |
| # Of Programs1: | 1 |
| Total Assessment Amount: | 0 |
| Initial Assessed Amount: | 0 |
| Liability $ Amount: | 0 |
| Project $ Amount: | 0 |
| Liability $ Paid: | 0 |
| Project $ Completed: | 0 |
| Total $ Paid/Completed Amount: | 0 |

| | |
|---|---|
| Name: | BRIDGES ON THE RIVER RESTAURANT |
| Address: | 2125 GARDEN HIGHWAY |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Region: | Not reported |
| Facility Id: | 210375 |
| Agency Name: | Pacific Union Conference of Seventh-Day Adventists |
| Place Type: | Service/Commercial |
| Place Subtype: | Restaurant |
| Facility Type: | Municipal/Domestic |
| Agency Type: | Privately-Owned Business |
| # Of Agencies: | 1 |
| Place Latitude: | 38.60008 |
| Place Longitude: | -121.544343 |
| SIC Code 1: | Not reported |
| SIC Desc 1: | Not reported |
| SIC Code 2: | Not reported |
| SIC Desc 2: | Not reported |
| SIC Code 3: | Not reported |
| SIC Desc 3: | Not reported |
| NAICS Code 1: | Not reported |
| NAICS Desc 1: | Not reported |
| NAICS Code 2: | Not reported |
| NAICS Desc 2: | Not reported |
| NAICS Code 3: | Not reported |
| NAICS Desc 3: | Not reported |
| # Of Places: | 1 |
| Source Of Facility: | Reg Meas |
| Design Flow: | Not reported |
| Threat To Water Quality: | 3 |
| Complexity: | B |
| Pretreatment: | N - POTW does not have EPA approved pretreatment prog. |

**BRIDGES ON THE RIVER RESTAURANT (Continued)** **S109419190**

| | |
|---|---|
| Facility Waste Type: | Domestic wastewater |
| Facility Waste Type 2: | Not reported |
| Facility Waste Type 3: | Not reported |
| Facility Waste Type 4: | Not reported |
| Program: | WDRMUNIOTH |
| Program Category1: | WDR |
| Program Category2: | WDR |
| # Of Programs: | 1 |
| WDID: | 5A34NC00020 |
| Reg Measure Id: | 173962 |
| Reg Measure Type: | WDR |
| Region: | Not reported |
| Order #: | R5-2005-0116 |
| Npdes# CA#: | Not reported |
| Major-Minor: | Not reported |
| Npdes Type: | Not reported |
| Reclamation: | N - No |
| Dredge Fill Fee: | Not reported |
| 301H: | Not reported |
| Application Fee Amt Received: | 1962 |
| Status: | Historical |
| Status Date: | 09/08/2017 |
| Effective Date: | 08/05/2005 |
| Expiration/Review Date: | 08/04/2020 |
| Termination Date: | 02/01/2012 |
| WDR Review - Amend: | 4/8/2011 |
| WDR Review - Revise/Renew: | Not reported |
| WDR Review - Rescind: | Not reported |
| WDR Review - No Action Required: | Not reported |
| WDR Review - Pending: | Not reported |
| WDR Review - Planned: | Not reported |
| Status Enrollee: | N |
| Individual/General: | I |
| Fee Code: | 15 - WDRs pending rescission |
| Direction/Voice: | Passive |
| Enforcement Id(EID): | 319547 |
| Region: | Not reported |
| Order / Resolution Number: | Not reported |
| Enforcement Action Type: | Notice of Violation |
| Effective Date: | 01/18/2007 |
| Adoption/Issuance Date: | Not reported |
| Achieve Date: | Not reported |
| Termination Date: | 01/18/2007 |
| ACL Issuance Date: | Not reported |
| EPL Issuance Date: | Not reported |
| Status: | Historical |
| Title: | NOV 01/18/2007 for Bridges on the River |
| Description: | NOV sent for failure to submit required technical documents and monitoring reports |
| Program: | WDR |
| Latest Milestone Completion Date: | Not reported |
| # Of Programs1: | 1 |
| Total Assessment Amount: | 0 |
| Initial Assessed Amount: | 0 |
| Liability $ Amount: | 0 |
| Project $ Amount: | 0 |
| Liability $ Paid: | 0 |

**BRIDGES ON THE RIVER RESTAURANT (Continued)** **S109419190**

| | |
|---|---|
| Project $ Completed: | 0 |
| Total $ Paid/Completed Amount: | 0 |
| Name: | BRIDGES ON THE RIVER RESTAURANT |
| Address: | 2125 GARDEN HIGHWAY |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Region: | Not reported |
| Facility Id: | 210375 |
| Agency Name: | Not reported |
| Place Type: | Service/Commercial |
| Place Subtype: | Restaurant |
| Facility Type: | Municipal/Domestic |
| Agency Type: | Not reported |
| # Of Agencies: | Not reported |
| Place Latitude: | 38.60008 |
| Place Longitude: | -121.544343 |
| SIC Code 1: | Not reported |
| SIC Desc 1: | Not reported |
| SIC Code 2: | Not reported |
| SIC Desc 2: | Not reported |
| SIC Code 3: | Not reported |
| SIC Desc 3: | Not reported |
| NAICS Code 1: | Not reported |
| NAICS Desc 1: | Not reported |
| NAICS Code 2: | Not reported |
| NAICS Desc 2: | Not reported |
| NAICS Code 3: | Not reported |
| NAICS Desc 3: | Not reported |
| # Of Places: | 1 |
| Source Of Facility: | Enf Action |
| Design Flow: | Not reported |
| Threat To Water Quality: | Not reported |
| Complexity: | Not reported |
| Pretreatment: | Not reported |
| Facility Waste Type: | Not reported |
| Facility Waste Type 2: | Not reported |
| Facility Waste Type 3: | Not reported |
| Facility Waste Type 4: | Not reported |
| Program: | Not reported |
| Program Category1: | Not reported |
| Program Category2: | WDR |
| # Of Programs: | Not reported |
| WDID: | Not reported |
| Reg Measure Id: | Not reported |
| Reg Measure Type: | Not reported |
| Region: | Not reported |
| Order #: | Not reported |
| Npdes# CA#: | Not reported |
| Major-Minor: | Not reported |
| Npdes Type: | Not reported |
| Reclamation: | Not reported |
| Dredge Fill Fee: | Not reported |
| 301H: | Not reported |
| Application Fee Amt Received: | Not reported |
| Status: | Not reported |
| Status Date: | Not reported |
| Effective Date: | Not reported |

**BRIDGES ON THE RIVER RESTAURANT (Continued)** **S109419190**

| | |
|---|---|
| Expiration/Review Date: | Not reported |
| Termination Date: | Not reported |
| WDR Review - Amend: | Not reported |
| WDR Review - Revise/Renew: | Not reported |
| WDR Review - Rescind: | Not reported |
| WDR Review - No Action Required: | Not reported |
| WDR Review - Pending: | Not reported |
| WDR Review - Planned: | Not reported |
| Status Enrollee: | Not reported |
| Individual/General: | Not reported |
| Fee Code: | Not reported |
| Direction/Voice: | Not reported |
| Enforcement Id(EID): | 374871 |
| Region: | Not reported |
| Order / Resolution Number: | Not reported |
| Enforcement Action Type: | Staff Enforcement Letter |
| Effective Date: | 07/06/2010 |
| Adoption/Issuance Date: | 07/06/2010 |
| Achieve Date: | Not reported |
| Termination Date: | 07/06/2010 |
| ACL Issuance Date: | Not reported |
| EPL Issuance Date: | Not reported |
| Status: | Historical |
| Title: | SEL for James Wheeler & Eie Lambda LLC |
| Description: | Discharger failed to comply with 16 March 2010 Notice of Violation for the non-submittal certain reports required by a revised MRP. (see violation description) |
| Program: | WDR |
| Latest Milestone Completion Date: | Not reported |
| # Of Programs1: | 1 |
| Total Assessment Amount: | 0 |
| Initial Assessed Amount: | 0 |
| Liability $ Amount: | 0 |
| Project $ Amount: | 0 |
| Liability $ Paid: | 0 |
| Project $ Completed: | 0 |
| Total $ Paid/Completed Amount: | 0 |

| | |
|---|---|
| Name: | BRIDGES ON THE RIVER RESTAURANT |
| Address: | 2125 GARDEN HIGHWAY |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Region: | Not reported |
| Facility Id: | 210375 |
| Agency Name: | Not reported |
| Place Type: | Service/Commercial |
| Place Subtype: | Restaurant |
| Facility Type: | Municipal/Domestic |
| Agency Type: | Not reported |
| # Of Agencies: | Not reported |
| Place Latitude: | 38.60008 |
| Place Longitude: | -121.544343 |
| SIC Code 1: | Not reported |
| SIC Desc 1: | Not reported |
| SIC Code 2: | Not reported |
| SIC Desc 2: | Not reported |
| SIC Code 3: | Not reported |
| SIC Desc 3: | Not reported |

**BRIDGES ON THE RIVER RESTAURANT (Continued)** **S109419190**

| | |
|---|---|
| NAICS Code 1: | Not reported |
| NAICS Desc 1: | Not reported |
| NAICS Code 2: | Not reported |
| NAICS Desc 2: | Not reported |
| NAICS Code 3: | Not reported |
| NAICS Desc 3: | Not reported |
| # Of Places: | 1 |
| Source Of Facility: | Enf Action |
| Design Flow: | Not reported |
| Threat To Water Quality: | Not reported |
| Complexity: | Not reported |
| Pretreatment: | Not reported |
| Facility Waste Type: | Not reported |
| Facility Waste Type 2: | Not reported |
| Facility Waste Type 3: | Not reported |
| Facility Waste Type 4: | Not reported |
| Program: | Not reported |
| Program Category1: | Not reported |
| Program Category2: | WDR |
| # Of Programs: | Not reported |
| WDID: | Not reported |
| Reg Measure Id: | Not reported |
| Reg Measure Type: | Not reported |
| Region: | Not reported |
| Order #: | Not reported |
| Npdes# CA#: | Not reported |
| Major-Minor: | Not reported |
| Npdes Type: | Not reported |
| Reclamation: | Not reported |
| Dredge Fill Fee: | Not reported |
| 301H: | Not reported |
| Application Fee Amt Received: | Not reported |
| Status: | Not reported |
| Status Date: | Not reported |
| Effective Date: | Not reported |
| Expiration/Review Date: | Not reported |
| Termination Date: | Not reported |
| WDR Review - Amend: | Not reported |
| WDR Review - Revise/Renew: | Not reported |
| WDR Review - Rescind: | Not reported |
| WDR Review - No Action Required: | Not reported |
| WDR Review - Pending: | Not reported |
| WDR Review - Planned: | Not reported |
| Status Enrollee: | Not reported |
| Individual/General: | Not reported |
| Fee Code: | Not reported |
| Direction/Voice: | Not reported |
| Enforcement Id(EID): | 374870 |
| Region: | Not reported |
| Order / Resolution Number: | Not reported |
| Enforcement Action Type: | Notice of Violation |
| Effective Date: | 07/07/2010 |
| Adoption/Issuance Date: | 07/07/2010 |
| Achieve Date: | Not reported |
| Termination Date: | 07/07/2010 |
| ACL Issuance Date: | Not reported |
| EPL Issuance Date: | Not reported |

**BRIDGES ON THE RIVER RESTAURANT (Continued)** **S109419190**

| | |
|---|---|
| Status: | Historical |
| Title: | NOV issued 07/07/2010 for James Wheeler & Eie Lambda LLC |
| Description: | NOV issued for non submittal of reports. |
| Program: | WDR |
| Latest Milestone Completion Date: | Not reported |
| # Of Programs1: | 1 |
| Total Assessment Amount: | 0 |
| Initial Assessed Amount: | 0 |
| Liability $ Amount: | 0 |
| Project $ Amount: | 0 |
| Liability $ Paid: | 0 |
| Project $ Completed: | 0 |
| Total $ Paid/Completed Amount: | 0 |

Sacramento Co. ML:

| | |
|---|---|
| Name: | RESIDENCE |
| Address: | 2125 GARDEN HWY |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Facility Id: | 00094135 |
| Facility Status: | Inactive. Included on a listing no longer updated. |
| FD: | Not reported |
| Billing Codes BP: | Out of Business |
| Billing Codes UST: | No Tanks |
| WG Bill Code: | Oil Changed by Outside Company-No Fee |
| Target Property Bill Cod: | 51 |
| Food Bill Code: | 51 |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | 0 |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

CIWQS:

| | |
|---|---|
| Name: | BRIDGES ON THE RIVER RESTAURANT |
| Address: | 2125 GARDEN HIGHWAY |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Agency: | Pacific Union Conference of Seventh-Day Adventists |
| Agency Address: | Po Box 5005, Westlake Village, CA 91359 |
| Place/Project Type: | Restaurant |
| SIC/NAICS: | Not reported |
| Region: | 5S |
| Program: | WDRMUNIOTH |
| Regulatory Measure Status: | Historical |
| Regulatory Measure Type: | WDR |
| Order Number: | R5-2005-0116 |
| WDID: | 5A34NC00020 |
| NPDES Number: | Not reported |
| Adoption Date: | 08/05/2005 |

**BRIDGES ON THE RIVER RESTAURANT (Continued)** **S109419190**

| | |
|---|---|
| Effective Date: | 08/05/2005 |
| Termination Date: | 02/01/2012 |
| Expiration/Review Date: | 08/04/2020 |
| Design Flow: | Not reported |
| Major/Minor: | Not reported |
| Complexity: | B |
| TTWQ: | 3 |
| Enforcement Actions within 5 years: | 0 |
| Violations within 5 years: | 0 |
| Latitude: | 38.60008 |
| Longitude: | -121.544343 |

---

**97**
**NNE**
**1/8-1/4**
**0.170 mi.**
**896 ft.**

**SACRAMENTO CITY FIRE STATION 43**
**4201 EL CENTRO RD**
**SACRAMENTO, CA 95834**

**Sacramento Co. ML** **S113759336**
**CERS** **N/A**

**Actual:**
**15 ft.**

**Focus Map:**
**2**

Sacramento Co. ML:

| | |
|---|---|
| Name: | SACRAMENTO CITY FIRE STATION 43 |
| Address: | 4201 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95834 |
| Facility Id: | Not reported |
| Facility Status: | Not reported |
| FD: | Not reported |
| Billing Codes BP: | A |
| Billing Codes UST: | Not reported |
| WG Bill Code: | Not reported |
| Target Property Bill Cod: | Not reported |
| Food Bill Code: | Not reported |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | Not reported |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

CERS:

| | |
|---|---|
| Name: | SACRAMENTO CITY FIRE STATION 43 |
| Address: | 4201 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95834 |
| Site ID: | 173610 |
| CERS ID: | 10494133 |
| CERS Description: | Chemical Storage Facilities |

Violations:

| | |
|---|---|
| Site ID: | 173610 |
| Site Name: | SACRAMENTO CITY FIRE STATION 43 |
| Violation Date: | 6/23/2015 |
| Citation: | HSC 6.95 25507 - California Health and Safety Code, Chapter 6.95, Section(s) 25507 |

**SACRAMENTO CITY FIRE STATION 43 (Continued)** **S113759336**

Violation Description: Failure to adequately establish and implement a business plan when storing/handling a hazardous material at or above reportable quantities.
Violation Notes: Returned to compliance on 09/10/2015. OBSERVATION: The Emergency Response Plan has not been adequately implemented; Adequate spill control and spill mitigation materials are not available. CORRECTIVE ACTION: Submit photos/documentation to this department demonstrating that the Emergency Response Plan is being adequately implemented.
Violation Division: Sacramento County Env Management Department
Violation Program: HMRRP
Violation Source: CERS

Site ID: 173610
Site Name: SACRAMENTO CITY FIRE STATION 43
Violation Date: 5/2/2019
Citation: 22 CCR 12 66262.40(a) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.40(a)
Violation Description: Failure to keep a copy of each properly signed manifest for at least three years from the date the waste was accepted by the initial transporter. The manifest signed at the time the waste was accepted for transport shall be kept until receiving a signed copy from the designated facility which received the waste.
Violation Notes: OBSERVATION: Uniform Hazardous Waste Manifests for the parts washer were not available at the time of inspection. CORRECTIVE ACTION: Locate a copy of all Uniform Hazardous Waste Manifests for the parts washer and submit copies to this department.
Violation Division: Sacramento County Env Management Department
Violation Program: HW
Violation Source: CERS

Site ID: 173610
Site Name: SACRAMENTO CITY FIRE STATION 43
Violation Date: 5/2/2019
Citation: HSC 6.95 25507 - California Health and Safety Code, Chapter 6.95, Section(s) 25507
Violation Description: Failure to adequately establish and implement a business plan when storing/handling a hazardous material at or above reportable quantities.
Violation Notes: OBSERVATION: The facility does not have any spill mitigation material. CORRECTIVE ACTION: Submit documentation to this department demonstrating that adequate spill mitigation material was obtained.
Violation Division: Sacramento County Env Management Department
Violation Program: HMRRP
Violation Source: CERS

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 05-02-2019
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Sacramento County Env Management Department
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-23-2015

**SACRAMENTO CITY FIRE STATION 43 (Continued)** **S113759336**

| | |
|---|---|
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Not reported |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | HMRRP |
| Eval Source: | CERS |
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 05-02-2019 |
| Violations Found: | Yes |
| Eval Type: | Routine done by local agency |
| Eval Notes: | Not reported |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | HMRRP |
| Eval Source: | CERS |

Enforcement Action:

| | |
|---|---|
| Site ID: | 173610 |
| Site Name: | SACRAMENTO CITY FIRE STATION 43 |
| Site Address: | 4201 EL CENTRO RD |
| Site City: | SACRAMENTO |
| Site Zip: | 95834 |
| Enf Action Date: | 06-23-2015 |
| Enf Action Type: | Notice of Violation (Unified Program) |
| Enf Action Description: | Notice of Violation Issued by the Inspector at the Time of Inspection |
| Enf Action Notes: | Not reported |
| Enf Action Division: | Sacramento County Env Management Department |
| Enf Action Program: | HMRRP |
| Enf Action Source: | CERS |

Coordinates:

| | |
|---|---|
| Site ID: | 173610 |
| Facility Name: | SACRAMENTO CITY FIRE STATION 43 |
| Env Int Type Code: | HMBP |
| Program ID: | 10494133 |
| Coord Name: | Not reported |
| Ref Point Type Desc: | Center of a facility or station. |
| Latitude: | 38.644720 |
| Longitude: | -121.540320 |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | Identification Signer |
| Entity Name: | Sharneel Kumar |
| Entity Title: | EH&S Officer |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| Affiliation Type Desc: | Parent Corporation |
| Entity Name: | SACRAMENTO CITY FIRE STATIONS |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |

**SACRAMENTO CITY FIRE STATION 43 (Continued)** **S113759336**

| | |
|---|---|
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | CUPA District |
| Entity Name: | Sacramento County Environmental Management Departm |
| Entity Title: | Not reported |
| Affiliation Address: | 10590 Armstrong Avenue, Suite A |
| Affiliation City: | Sacramento |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 95655 |
| Affiliation Phone: | (916) 875-8550 |
| | |
| Affiliation Type Desc: | Document Preparer |
| Entity Name: | Sharneel Kumar |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Environmental Contact |
| Entity Name: | Ritu Singh |
| Entity Title: | Not reported |
| Affiliation Address: | 915 I Street, 4th floor |
| Affiliation City: | Sacramento |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 95814 |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Facility Mailing Address |
| Entity Name: | Mailing Address |
| Entity Title: | Not reported |
| Affiliation Address: | 5730 24TH ST BLDG 3 |
| Affiliation City: | SACRAMENTO |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 95822 |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Legal Owner |
| Entity Name: | SACRAMENTO CITY FIRE DEPARTMENT |
| Entity Title: | Not reported |
| Affiliation Address: | 5730 24TH ST BLDG 3 |
| Affiliation City: | SACRAMENTO |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 95822 |
| Affiliation Phone: | (916) 808-6398 |
| | |
| Affiliation Type Desc: | Operator |
| Entity Name: | City of Sacramento Station 43 |

**SACRAMENTO CITY FIRE STATION 43 (Continued)** **S113759336**

| | |
|---|---|
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (916) 808-8643 |

---

**L98** **SACRAMENTO DISTRICT ENGINEER YARD-WEIR AREA** **FUDS** **1007372678**
**SW** **N/A**
**1/8-1/4** **WEST SACRAMENTO, CA**
**0.176 mi.**
**927 ft.** **Site 1 of 3 in cluster L**

**Actual:**
**29 ft.**

**Focus Map:**
**8**

FUDS:

| | |
|---|---|
| EPA Region: | 09 |
| Installation ID: | CA99799F573800 |
| Congressional District Number: | 06 |
| Facility Name: | SACRAMENTO DISTRICT ENGINEER YARD-WEIR AREA |
| FUDS Number: | J09CA0798 |
| City: | WEST SACRAMENTO |
| State: | CA |
| County: | YOLO |
| Object ID: | 6928 |
| USACE District: | Sacramento District (SPK) |
| Status: | Properties with all projects at site closeout |
| Current Owner: | Local Government |
| EMS Map Link: | https://fudsportal.usace.army.mil/ems/ems/inventory/map/map?id=61251 |
| Eligibility: | Eligible |
| Has Projects: | Yes |
| NPL Status: | Not Listed |
| Latitude: | 38.60166667 |
| Longitude: | -121.553888889999 |

FUDS Detail as of Jan 2015:

| | |
|---|---|
| Fiscal Year: | 2013 |
| Federal Facility ID: | CA9799F5738 |
| RAB: | Not reported |
| NPL Status: | Not Listed |
| Description: | The 2.0-acre site is located 3 1/2 miles west of the City of Sacramento in West Sacramento, Yolo County, CA. The Sacramento and San Joaquin Drainage District currently own the land. |
| History: | The site was established prior to 1 January 1943 and was known as the Sacramento District Engineer Yard - Weir Area. The site was used by the Army for river and harbor purposes. On 11 August 1954, 2.0 fee acres were conveyed to the Sacramento and San Joaquin Drainage District. There were no recapture provisions. Currently, there are no potential hazards identified at this location, further investigation is needed. |
| CTC: | 20 |
| Current Program: | Not reported |
| Future Program: | Not reported |
| Institutional ID: | 61251 |

**99**
**NNE**
**1/8-1/4**
**0.182 mi.**
**960 ft.**

**STADIUM CLUB ESTATES**
**4200 EL CENTRO RD**
**SACRAMENTO, CA 95834**

**Sacramento Co. ML** **S105268772**
**N/A**

**Actual:**
**15 ft.**

**Focus Map:**
**2**

Sacramento Co. ML:

| | |
|---|---|
| Name: | STADIUM CLUB ESTATES |
| Address: | 4200 EL CENTRO RD |
| City,State,Zip: | SACRAMENTO, CA 95834 |
| Facility Id: | Not reported |
| Facility Status: | Inactive. Included on a listing no longer updated. |
| FD: | U |
| Billing Codes BP: | Disclaimer |
| Billing Codes UST: | No Tanks |
| WG Bill Code: | Oil Changed by Outside Company-No Fee |
| Target Property Bill Cod: | 50 |
| Food Bill Code: | 50 |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | 0 |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

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**L100**
**SW**
**1/8-1/4**
**0.182 mi.**
**961 ft.**

**SAC ENGR AREA-WEIR AREA (J09CA0798)**
**STATE OLD RIVER/NORTH HARBOR ROAD**
**WEST SACRAMENTO, CA 95605**

**Site 2 of 3 in cluster L**

**RESPONSE** **S109348518**
**ENVIROSTOR** **N/A**

**Actual:**
**28 ft.**

**Focus Map:**
**8**

RESPONSE:

| | |
|---|---|
| Name: | SAC ENGR AREA-WEIR AREA (J09CA0798) |
| Address: | STATE OLD RIVER/NORTH HARBOR ROAD |
| City,State,Zip: | WEST SACRAMENTO, CA 95605 |
| Facility ID: | 80000391 |
| Site Type: | State Response |
| Site Type Detail: | FUDS |
| Acres: | 2 |
| National Priorities List: | NO |
| Cleanup Oversight Agencies: | SMBRP |
| Lead Agency Description: | DTSC - Site Cleanup Program |
| Project Manager: | Ryan Batty |
| Supervisor: | Rizgar Ghazi |
| Division Branch: | Engineering & Special Projects |
| Site Code: | Not reported |
| Site Mgmt. Req.: | NONE SPECIFIED |
| Assembly: | 07 |
| Senate: | 06 |
| Special Program Status: | Not reported |
| Status: | No Further Action |
| Status Date: | 09/27/2012 |
| Restricted Use: | NO |

**SAC ENGR AREA-WEIR AREA (J09CA0798) (Continued)** **S109348518**

| | |
|---|---|
| Funding: | DERA |
| Latitude: | 38.60152 |
| Longitude: | -121.5539 |
| APN: | NONE SPECIFIED |
| Past Use: | EQUIPMENT/INSTRUMENT REPAIR |
| Potential COC : | Under Investigation |
| Confirmed COC: | Under Investigation |
| Potential Description: | UE |
| Alias Name: | CA99799F573800 |
| Alias Type: | Federal Facility ID |
| Alias Name: | J09CA0798 |
| Alias Type: | INPR |
| Alias Name: | 80000391 |
| Alias Type: | Envirostor ID Number |

Completed Info:

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Other Report |
| Completed Date: | 01/24/2012 |
| Comments: | Report submitted to Yolo County. |
| | |
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | No Department of Defense Action Indicated (NDAI) |
| Completed Date: | 09/27/2012 |
| Comments: | . |
| | |
| Future Area Name: | Not reported |
| Future Sub Area Name: | Not reported |
| Future Document Type: | Not reported |
| Future Due Date: | Not reported |
| Schedule Area Name: | Not reported |
| Schedule Sub Area Name: | Not reported |
| Schedule Document Type: | Not reported |
| Schedule Due Date: | Not reported |
| Schedule Revised Date: | Not reported |

ENVIROSTOR:

| | |
|---|---|
| Name: | SAC ENGR AREA-WEIR AREA (J09CA0798) |
| Address: | STATE OLD RIVER/NORTH HARBOR ROAD |
| City,State,Zip: | WEST SACRAMENTO, CA 95605 |
| Facility ID: | 80000391 |
| Status: | No Further Action |
| Status Date: | 09/27/2012 |
| Site Code: | Not reported |
| Site Type: | State Response |
| Site Type Detailed: | FUDS |
| Acres: | 2 |
| NPL: | NO |
| Regulatory Agencies: | SMBRP |
| Lead Agency: | SMBRP |
| Program Manager: | Ryan Batty |
| Supervisor: | Rizgar Ghazi |
| Division Branch: | Engineering & Special Projects |
| Assembly: | 07 |
| Senate: | 06 |

**SAC ENGR AREA-WEIR AREA (J09CA0798) (Continued)** **S109348518**

| | |
|---|---|
| Special Program: | Not reported |
| Restricted Use: | NO |
| Site Mgmt Req: | NONE SPECIFIED |
| Funding: | DERA |
| Latitude: | 38.60152 |
| Longitude: | -121.5539 |
| APN: | NONE SPECIFIED |
| Past Use: | EQUIPMENT/INSTRUMENT REPAIR |
| Potential COC: | Under Investigation |
| Confirmed COC: | Under Investigation |
| Potential Description: | UE |
| Alias Name: | CA99799F573800 |
| Alias Type: | Federal Facility ID |
| Alias Name: | J09CA0798 |
| Alias Type: | INPR |
| Alias Name: | 80000391 |
| Alias Type: | Envirostor ID Number |

Completed Info:

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Other Report |
| Completed Date: | 01/24/2012 |
| Comments: | Report submitted to Yolo County. |
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | No Department of Defense Action Indicated (NDAI) |
| Completed Date: | 09/27/2012 |
| Comments: | . |
| Future Area Name: | Not reported |
| Future Sub Area Name: | Not reported |
| Future Document Type: | Not reported |
| Future Due Date: | Not reported |
| Schedule Area Name: | Not reported |
| Schedule Sub Area Name: | Not reported |
| Schedule Document Type: | Not reported |
| Schedule Due Date: | Not reported |
| Schedule Revised Date: | Not reported |

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**L101** **LIGHTHOUSE MARINA** **UST** **U003895156**
**SW** **136 S RIVER RD** **N/A**
**1/8-1/4** **WEST SACRAMENTO, CA 95691**
**0.200 mi.**
**1054 ft.** **Site 3 of 3 in cluster L**

**Actual:**
**26 ft.**

**Focus Map:**
**8**

YOLO CO. UST:

| | |
|---|---|
| Name: | LIGHTHOUSE MARINA |
| Address: | 136 S RIVER RD |
| City,State,Zip: | WEST SACRAMENTO, CA 95691 |
| Facility Id: | FA0000559 |
| Owner Id: | OW0000450 |
| Owner Name: | LIGHTHOUSE MARINA & RIVERBEND |
| Owner Address: | 495 DOUGLAS ST |
| Owner City/State/Zip: | W SACRAMENTO, CA 95691 |
| Billing Name: | LIGHTHOUSE MARINA |
| Billing Address1: | 495 DOUGLAS STREET |

**LIGHTHOUSE MARINA (Continued)** **U003895156**

| | |
|---|---|
| Billing City/State/Zip: | WEST SACRAMENTO, CA 95691 |
| Contact Name: | Not reported |
| Contact Phone: | Not reported |
| Current Status: | Inactive, non-billable |
| Program Element: | Not reported |
| Business Code: | 09 - UNKNOWN |
| Business Type: | 6 - OTHER |
| | |
| Tank Number: | 1 |
| Tank Status: | Not reported |
| Tank Type: | Not reported |
| Tank Description: | Not reported |
| Tank Capacity: | Not reported |
| Product Type: | Not reported |
| Leak Detection Number: | Not reported |
| LEA Id: | Not reported |
| Surcharge Year: | Not reported |
| INVGEN: | 000559 |

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**102 SW 1/8-1/4 0.201 mi. 1059 ft.** **RGA BYPROODUCTS COMPANY INC** **HIST UST** **U001614238**
**120 S RIVER ROAD** **N/A**
**W SACRAMENTO, CA 95691**

**Actual: 25 ft.**

**Focus Map: 8**

HIST UST:

| | |
|---|---|
| Name: | RGA BYPROODUCTS COMPANY INC |
| Address: | 120 S RIVER ROAD |
| City,State,Zip: | W SACRAMENTO, CA 95691 |
| File Number: | 0002D418 |
| URL: | http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002D418.pdf |
| Region: | STATE |
| Facility ID: | 00000066231 |
| Facility Type: | Other |
| Other Type: | FEED MFG. |
| Contact Name: | RICHARD D. COVERT |
| Telephone: | 9163716762 |
| Owner Name: | RGA BYPRODUCTS COMPANY, INC. |
| Owner Address: | 1201 S. RIVER ROAD |
| Owner City,St,Zip: | W. SACRAMENTO, CA 95691 |
| Total Tanks: | 0004 |
| | |
| Tank Num: | 001 |
| Container Num: | G1 |
| Year Installed: | Not reported |
| Tank Capacity: | 00001000 |
| Tank Used for: | PRODUCT |
| Type of Fuel: | Not reported |
| Container Construction Thickness: | X |
| Leak Detection: | Stock Inventor |
| | |
| Tank Num: | 002 |
| Container Num: | D1 |
| Year Installed: | Not reported |
| Tank Capacity: | 00006000 |
| Tank Used for: | PRODUCT |
| Type of Fuel: | DIESEL |
| Container Construction Thickness: | Not reported |

**RGA BYPROODUCTS COMPANY INC (Continued)** **U001614238**

Leak Detection: Stock Inventor

Tank Num: 003
Container Num: D2
Year Installed: Not reported
Tank Capacity: 00008000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Container Construction Thickness: Not reported
Leak Detection: Stock Inventor

Tank Num: 004
Container Num: G2
Year Installed: Not reported
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: REGULAR
Container Construction Thickness: Not reported
Leak Detection: Stock Inventor

Click here for Geo Tracker PDF:

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**M103** **RESIDENT** **HIST UST** **U001615950**
**SE** **2700 ORCHARD LN** **N/A**
**1/8-1/4** **SACRAMENTO, CA 95833**
**0.230 mi.**
**1215 ft.** **Site 1 of 2 in cluster M**

**Actual:**
**14 ft.**

**Focus Map:**
**8**

HIST UST:
Name: RESIDENT
Address: 2700 ORCHARD LN
City,State,Zip: SACRAMENTO, CA 95833
File Number: Not reported
URL: Not reported
Region: STATE
Facility ID: 00000037386
Facility Type: Other
Other Type: HOME USE
Contact Name: Not reported
Telephone: 9169200220
Owner Name: MARTIN D. SOUZA
Owner Address: 2700 ORCHARD LANE
Owner City,St,Zip: SACRAMENTO, CA 95833
Total Tanks: 0001

Tank Num: 001
Container Num: #1
Year Installed: 1980
Tank Capacity: 00000500
Tank Used for: PRODUCT
Type of Fuel: REGULAR
Container Construction Thickness: Not reported
Leak Detection: Visual

**M104** **RESIDENT** **SWEEPS UST** **S101630724**
**SE** **2700 ORCHARD LN** **HIST UST** **N/A**
**1/8-1/4** **SACRAMENTO, CA 95833** **CA FID UST**
**0.230 mi.** **Sacramento Co. ML**
**1215 ft.** **Site 2 of 2 in cluster M**

**Actual:**
**14 ft.**

**Focus Map:**
**8**

SWEEPS UST:

| | |
|---|---|
| Name: | RESIDENT |
| Address: | 2700 ORCHARD LN |
| City: | SACRAMENTO |
| Status: | Active |
| Comp Number: | 37386 |
| Number: | 9 |
| Board Of Equalization: | Not reported |
| Referral Date: | 07-01-85 |
| Action Date: | Not reported |
| Created Date: | 02-29-88 |
| Owner Tank Id: | #1 |
| SWRCB Tank Id: | 34-000-037386-000001 |
| Tank Status: | A |
| Capacity: | 500 |
| Active Date: | 07-01-85 |
| Tank Use: | M.V. FUEL |
| STG: | P |
| Content: | LEADED |
| Number Of Tanks: | 1 |

HIST UST:

| | |
|---|---|
| Name: | RESIDENT |
| Address: | 2700 ORCHARD LANE |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| File Number: | 0001FF10 |
| URL: | http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0001FF10.pdf |
| Region: | Not reported |
| Facility ID: | Not reported |
| Facility Type: | Not reported |
| Other Type: | Not reported |
| Contact Name: | Not reported |
| Telephone: | Not reported |
| Owner Name: | Not reported |
| Owner Address: | Not reported |
| Owner City,St,Zip: | Not reported |
| Total Tanks: | Not reported |
| | |
| Tank Num: | Not reported |
| Container Num: | Not reported |
| Year Installed: | Not reported |
| Tank Capacity: | Not reported |
| Tank Used for: | Not reported |
| Type of Fuel: | Not reported |
| Container Construction Thickness: | Not reported |
| Leak Detection: | Not reported |

Click here for Geo Tracker PDF:

CA FID UST:

| | |
|---|---|
| Facility ID: | 34007087 |
| Regulated By: | UTNKA |

**RESIDENT (Continued)** **S101630724**

| | |
|---|---|
| Regulated ID: | 00037386 |
| Cortese Code: | Not reported |
| SIC Code: | Not reported |
| Facility Phone: | 9169200220 |
| Mail To: | Not reported |
| Mailing Address: | 2700 ORCHARD LN |
| Mailing Address 2: | Not reported |
| Mailing City,St,Zip: | SACRAMENTO 95833 |
| Contact: | Not reported |
| Contact Phone: | Not reported |
| DUNs Number: | Not reported |
| NPDES Number: | Not reported |
| EPA ID: | Not reported |
| Comments: | Not reported |
| Status: | Active |

Sacramento Co. ML:

| | |
|---|---|
| Name: | M. O. SOUZA |
| Address: | 2700 ORCHARD LN |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Facility Id: | Not reported |
| Facility Status: | Inactive. Included on a listing no longer updated. |
| FD: | C |
| Billing Codes BP: | Farm-No Fee |
| Billing Codes UST: | Farm-No Fee |
| WG Bill Code: | Farm-No Fee |
| Target Property Bill Cod: | 50 |
| Food Bill Code: | 53 |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | 1 |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

---

**105 West 1/8-1/4 0.241 mi. 1274 ft.**

**TAMANO FARMS**
**50980 COUNTY ROAD 128A**
**WEST SACRAMENTO, CA 95691**

**RCRA NonGen / NLR** **1024772367**
**CAC002992280**

**Actual: 27 ft.**

**Focus Map: 7**

RCRA NonGen / NLR:

| | | |
|---|---|---|
| Date Form Received by Agency: | | 2018-12-07 00:00:00.0 |
| Handler Name: | TAMANO FARMS | |
| Handler Address: | | 50980 COUNTY ROAD 128A |
| Handler City,State,Zip: | | WEST SACRAMENTO, CA 95691-8001 |
| EPA ID: | | CAC002992280 |
| Contact Name: | | JANE TAMANO |
| Contact Address: | | 50980 COUNTY ROAD 128A |
| Contact City,State,Zip: | | WEST SACRAMENTO, CA 95691-8001 |

**TAMANO FARMS (Continued)** **1024772367**

| | |
|---|---|
| Contact Telephone: | 191-676-9587 |
| Contact Fax: | Not reported |
| Contact Email: | JTTAMANO@AOL.COM |
| Contact Title: | Not reported |
| EPA Region: | 09 |
| Land Type: | Not reported |
| Federal Waste Generator Description: | Not a generator, verified |
| Non-Notifier: | Not reported |
| Biennial Report Cycle: | Not reported |
| Accessibility: | Not reported |
| Active Site Indicator: | Handler Activities |
| State District Owner: | Not reported |
| State District: | Not reported |
| Mailing Address: | 50980 COUNTY ROAD 128A |
| Mailing City,State,Zip: | WEST SACRAMENTO, CA 95691-8001 |
| Owner Name: | JANE TAMANO |
| Owner Type: | Other |
| Operator Name: | JANE TAMANO |
| Operator Type: | Other |
| Short-Term Generator Activity: | No |
| Importer Activity: | No |
| Mixed Waste Generator: | No |
| Transporter Activity: | No |
| Transfer Facility Activity: | No |
| Recycler Activity with Storage: | No |
| Small Quantity On-Site Burner Exemption: | No |
| Smelting Melting and Refining Furnace Exemption: | No |
| Underground Injection Control: | No |
| Off-Site Waste Receipt: | No |
| Universal Waste Indicator: | Yes |
| Universal Waste Destination Facility: | Yes |
| Federal Universal Waste: | No |
| Active Site Fed-Reg Treatment Storage and Disposal Facility: | Not reported |
| Active Site Converter Treatment storage and Disposal Facility: | Not reported |
| Active Site State-Reg Treatment Storage and Disposal Facility: | Not reported |
| Active Site State-Reg Handler: | --- |
| Federal Facility Indicator: | Not reported |
| Hazardous Secondary Material Indicator: | N |
| Sub-Part K Indicator: | Not reported |
| Commercial TSD Indicator: | No |
| Treatment Storage and Disposal Type: | Not reported |
| 2018 GPRA Permit Baseline: | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | Not on the Baseline |
| Permit Renewals Workload Universe: | Not reported |
| Permit Workload Universe: | Not reported |
| Permit Progress Universe: | Not reported |
| Post-Closure Workload Universe: | Not reported |
| Closure Workload Universe: | Not reported |
| 202 GPRA Corrective Action Baseline: | No |
| Corrective Action Workload Universe: | No |
| Subject to Corrective Action Universe: | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | No |
| Corrective Action Priority Ranking: | No NCAPS ranking |
| Environmental Control Indicator: | No |
| Institutional Control Indicator: | No |

**TAMANO FARMS (Continued)** **1024772367**

| | |
|---|---|
| Human Exposure Controls Indicator: | N/A |
| Groundwater Controls Indicator: | N/A |
| Operating TSDF Universe: | Not reported |
| Full Enforcement Universe: | Not reported |
| Significant Non-Complier Universe: | No |
| Unaddressed Significant Non-Complier Universe: | No |
| Addressed Significant Non-Complier Universe: | No |
| Significant Non-Complier With a Compliance Schedule Universe: | No |
| Financial Assurance Required: | Not reported |
| Handler Date of Last Change: | 2018-12-20 13:52:13.0 |
| Recognized Trader-Importer: | No |
| Recognized Trader-Exporter: | No |
| Importer of Spent Lead Acid Batteries: | No |
| Exporter of Spent Lead Acid Batteries: | No |
| Recycler Activity Without Storage: | No |
| Manifest Broker: | No |
| Sub-Part P Indicator: | No |

Handler - Owner Operator:

| | |
|---|---|
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: | JANE TAMANO |
| Legal Status: | Other |
| Date Became Current: | Not reported |
| Date Ended Current: | Not reported |
| Owner/Operator Address: | 50980 COUNTY ROAD 128A |
| Owner/Operator City,State,Zip: | WEST SACRAMENTO, CA 95691-8001 |
| Owner/Operator Telephone: | 191-676-9587 |
| Owner/Operator Telephone Ext: | Not reported |
| Owner/Operator Fax: | Not reported |
| Owner/Operator Email: | Not reported |

| | |
|---|---|
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: | JANE TAMANO |
| Legal Status: | Other |
| Date Became Current: | Not reported |
| Date Ended Current: | Not reported |
| Owner/Operator Address: | 50980 COUNTY ROAD 128A |
| Owner/Operator City,State,Zip: | WEST SACRAMENTO, CA 95691-8001 |
| Owner/Operator Telephone: | 191-676-9587 |
| Owner/Operator Telephone Ext: | Not reported |
| Owner/Operator Fax: | Not reported |
| Owner/Operator Email: | Not reported |

Historic Generators:

| | |
|---|---|
| Receive Date: | 2018-12-07 00:00:00.0 |
| Handler Name: TAMANO FARMS | |
| Federal Waste Generator Description: | Not a generator, verified |
| State District Owner: | Not reported |
| Large Quantity Handler of Universal Waste: | No |
| Recognized Trader Importer: | No |
| Recognized Trader Exporter: | No |
| Spent Lead Acid Battery Importer: | No |
| Spent Lead Acid Battery Exporter: | No |
| Current Record: | Yes |
| Non Storage Recycler Activity: | Not reported |

**TAMANO FARMS (Continued)** **1024772367**

Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 111199
NAICS Description: ALL OTHER GRAIN FARMING

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

---

**N106** **AST** **A100344742**
**West** **21450 OLD RIVER** **N/A**
**1/8-1/4** **WEST SACRAMENTO, CA**
**0.244 mi.**
**1287 ft.** **Site 1 of 4 in cluster N**

**Actual:**
**27 ft.**

**Focus Map:**
**4**

AST:
Name: Not reported
Address: 21450 OLD RIVER
City/Zip: WEST SACRAMENTO,
Certified Unified Program Agencies: Yolo
Owner: LANG FARMS #1
Total Gallons: 4350
CERSID: Not reported
Facility ID: Not reported
Business Name: Not reported
Phone: Not reported
Fax: Not reported
Mailing Address: Not reported
Mailing Address City: Not reported
Mailing Address State: Not reported
Mailing Address Zip Code: Not reported
Operator Name: Not reported
Operator Phone: Not reported
Owner Phone: Not reported
Owner Mail Address: Not reported
Owner State: Not reported
Owner Zip Code: Not reported
Owner Country: Not reported
Property Owner Name: Not reported
Property Owner Phone: Not reported
Property Owner Mailing Address: Not reported
Property Owner City: Not reported
Property Owner Stat : Not reported
Property Owner Zip Code: Not reported
Property Owner Country: Not reported
EPAID: Not reported

**N107** **HAMM'S RANCH** **RCRA NonGen / NLR** **1024808432**
**West** **21450 OLD RIVER RD** **CAL000279777**
**1/8-1/4** **WEST SACRAMENTO, CA 95691**
**0.244 mi.**
**1287 ft.** **Site 2 of 4 in cluster N**

**Actual:**
**27 ft.**

**Focus Map:**
**4**

RCRA NonGen / NLR:

| | | |
|---|---|---|
| Date Form Received by Agency: | | 2004-03-08 00:00:00.0 |
| Handler Name: | HAMM'S RANCH | |
| Handler Address: | | 21450 OLD RIVER RD |
| Handler City,State,Zip: | | WEST SACRAMENTO, CA 95691 |
| EPA ID: | | CAL000279777 |
| Contact Name: | | KYLE LANG |
| Contact Address: | | PO BOX 1303 |
| Contact City,State,Zip: | | WOODLAND, CA 95776 |
| Contact Telephone: | | 916-716-3703 |
| Contact Fax: | | 530-406-1752 |
| Contact Email: | | LANGORCHARDSLLC@AOL.COM |
| Contact Title: | | Not reported |
| EPA Region: | | 09 |
| Land Type: | | Not reported |
| Federal Waste Generator Description: | | Not a generator, verified |
| Non-Notifier: | | Not reported |
| Biennial Report Cycle: | | Not reported |
| Accessibility: | | Not reported |
| Active Site Indicator: | | Handler Activities |
| State District Owner: | | Not reported |
| State District: | | Not reported |
| Mailing Address: | | PO BOX 1303 |
| Mailing City,State,Zip: | | WOODLAND, CA 95776-0000 |
| Owner Name: | | LANG FAMILY NO 1 PARTNERSHIP |
| Owner Type: | | Other |
| Operator Name: | | KYLE LANG |
| Operator Type: | | Other |
| Short-Term Generator Activity: | | No |
| Importer Activity: | | No |
| Mixed Waste Generator: | | No |
| Transporter Activity: | | No |
| Transfer Facility Activity: | | No |
| Recycler Activity with Storage: | | No |
| Small Quantity On-Site Burner Exemption: | | No |
| Smelting Melting and Refining Furnace Exemption: | | No |
| Underground Injection Control: | | No |
| Off-Site Waste Receipt: | | No |
| Universal Waste Indicator: | | Yes |
| Universal Waste Destination Facility: | | Yes |
| Federal Universal Waste: | | No |
| Active Site Fed-Reg Treatment Storage and Disposal Facility: | | Not reported |
| Active Site Converter Treatment storage and Disposal Facility: | | Not reported |
| Active Site State-Reg Treatment Storage and Disposal Facility: | | Not reported |
| Active Site State-Reg Handler: | | --- |
| Federal Facility Indicator: | | Not reported |
| Hazardous Secondary Material Indicator: | | N |
| Sub-Part K Indicator: | | Not reported |
| Commercial TSD Indicator: | | No |
| Treatment Storage and Disposal Type: | | Not reported |
| 2018 GPRA Permit Baseline: | | Not on the Baseline |
| 2018 GPRA Renewals Baseline: | | Not on the Baseline |
| Permit Renewals Workload Universe: | | Not reported |

**HAMM'S RANCH (Continued)** **1024808432**

| | |
|---|---|
| Permit Workload Universe: | Not reported |
| Permit Progress Universe: | Not reported |
| Post-Closure Workload Universe: | Not reported |
| Closure Workload Universe: | Not reported |
| 202 GPRA Corrective Action Baseline: | No |
| Corrective Action Workload Universe: | No |
| Subject to Corrective Action Universe: | No |
| Non-TSDFs Where RCRA CA has Been Imposed Universe: | No |
| TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: | No |
| TSDFs Only Subject to CA under Discretionary Auth Universe: | No |
| Corrective Action Priority Ranking: | No NCAPS ranking |
| Environmental Control Indicator: | No |
| Institutional Control Indicator: | No |
| Human Exposure Controls Indicator: | N/A |
| Groundwater Controls Indicator: | N/A |
| Operating TSDF Universe: | Not reported |
| Full Enforcement Universe: | Not reported |
| Significant Non-Complier Universe: | No |
| Unaddressed Significant Non-Complier Universe: | No |
| Addressed Significant Non-Complier Universe: | No |
| Significant Non-Complier With a Compliance Schedule Universe: | No |
| Financial Assurance Required: | Not reported |
| Handler Date of Last Change: | 2018-09-05 20:25:33.0 |
| Recognized Trader-Importer: | No |
| Recognized Trader-Exporter: | No |
| Importer of Spent Lead Acid Batteries: | No |
| Exporter of Spent Lead Acid Batteries: | No |
| Recycler Activity Without Storage: | No |
| Manifest Broker: | No |
| Sub-Part P Indicator: | No |

Handler - Owner Operator:

| | |
|---|---|
| Owner/Operator Indicator: | Operator |
| Owner/Operator Name: | KYLE LANG |
| Legal Status: | Other |
| Date Became Current: | Not reported |
| Date Ended Current: | Not reported |
| Owner/Operator Address: | PO BOX 1303 |
| Owner/Operator City,State,Zip: | WOODLAND, CA 95776 |
| Owner/Operator Telephone: | 916-716-3703 |
| Owner/Operator Telephone Ext: | Not reported |
| Owner/Operator Fax: | Not reported |
| Owner/Operator Email: | Not reported |

| | |
|---|---|
| Owner/Operator Indicator: | Owner |
| Owner/Operator Name: | LANG FAMILY NO 1 PARTNERSHIP |
| Legal Status: | Other |
| Date Became Current: | Not reported |
| Date Ended Current: | Not reported |
| Owner/Operator Address: | PO BOX 1303 |
| Owner/Operator City,State,Zip: | WOODLAND, CA 95776-0000 |
| Owner/Operator Telephone: | 916-719-3703 |
| Owner/Operator Telephone Ext: | Not reported |
| Owner/Operator Fax: | Not reported |
| Owner/Operator Email: | Not reported |

**HAMM'S RANCH (Continued)** **1024808432**

Historic Generators:
- Receive Date: 2004-03-08 00:00:00.0
- Handler Name: HAMM'S RANCH
- Federal Waste Generator Description: Not a generator, verified
- State District Owner: Not reported
- Large Quantity Handler of Universal Waste: No
- Recognized Trader Importer: No
- Recognized Trader Exporter: No
- Spent Lead Acid Battery Importer: No
- Spent Lead Acid Battery Exporter: No
- Current Record: Yes
- Non Storage Recycler Activity: Not reported
- Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
- NAICS Code: 111335
- NAICS Description: TREE NUT FARMING

Facility Has Received Notices of Violations:
- Violations: No Violations Found

Evaluation Action Summary:
- Evaluations: No Evaluations Found

---

**N108** **LANG FARMS #1** **AST** **A100421662**
**West** **21450 OLD RIVER RD** **N/A**
**1/8-1/4** **WEST SACRAMENTO, CA 95691**
**0.244 mi.**
**1287 ft.** **Site 3 of 4 in cluster N**

**Actual:**
**27 ft.**

**Focus Map:**
**4**

AST:
- Name: LANG FARMS #1
- Address: 21450 OLD RIVER RD
- City/Zip: WEST SACRAMENTO,95691
- Certified Unified Program Agencies: Not reported
- Owner: KENT LANG & LANG FAMILY
- Total Gallons: Not reported
- CERSID: 10213996
- Facility ID: Not reported
- Business Name: LANG FARMS #1
- Phone: (916) 716-3703
- Fax: Not reported
- Mailing Address: 21450 OLD RIVER ROAD
- Mailing Address City: WEST SACRAMENTO
- Mailing Address State: CA
- Mailing Address Zip Code: 95691
- Operator Name: Lang Family
- Operator Phone: 530-406-1752
- Owner Phone: 530-406-1752
- Owner Mail Address: 21548 OLD RIVER ROAD
- Owner State: CA
- Owner Zip Code: 95691
- Owner Country: United States
- Property Owner Name: Not reported
- Property Owner Phone: Not reported

**LANG FARMS #1 (Continued)** **A100421662**

Property Owner Mailing Address: Not reported
Property Owner City: Not reported
Property Owner Stat : Not reported
Property Owner Zip Code: Not reported
Property Owner Country: Not reported
EPAID: CAL000279777

---

**N109** **LANG FARMS #1** **CERS HAZ WASTE** **S121774051**
**West** **21450 OLD RIVER RD** **CERS TANKS** **N/A**
**1/8-1/4** **WEST SACRAMENTO, CA 95691** **CERS**
**0.244 mi.**
**1287 ft.** **Site 4 of 4 in cluster N**

**Actual:**
**27 ft.**

**Focus Map:**
**4**

CERS HAZ WASTE:
Name: LANG FARMS #1
Address: 21450 OLD RIVER RD
City,State,Zip: WEST SACRAMENTO, CA 95691
Site ID: 396270
CERS ID: 10213996
CERS Description: Hazardous Waste Generator

CERS TANKS:
Name: LANG FARMS #1
Address: 21450 OLD RIVER RD
City,State,Zip: WEST SACRAMENTO, CA 95691
Site ID: 396270
CERS ID: 10213996
CERS Description: Aboveground Petroleum Storage

CERS:
Name: LANG FARMS #1
Address: 21450 OLD RIVER RD
City,State,Zip: WEST SACRAMENTO, CA 95691
Site ID: 396270
CERS ID: 10213996
CERS Description: Chemical Storage Facilities

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-19-2017
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Yolo County Environmental Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-19-2017
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Yolo County Environmental Health
Eval Program: APSA
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection

**LANG FARMS #1 (Continued)** **S121774051**

Eval Date: 04-19-2017
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Yolo County Environmental Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-05-2013
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Yolo County Environmental Health
Eval Program: APSA
Eval Source: CERS

Coordinates:
Site ID: 396270
Facility Name: LANG FARMS #1
Env Int Type Code: APSA
Program ID: 10213996
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.
Latitude: 38.626820
Longitude: -121.571510

Affiliation:
Affiliation Type Desc: Environmental Contact
Entity Name: KENT LANG & LANG FAMILY
Entity Title: Not reported
Affiliation Address: P. O. BOX 1303
Affiliation City: WOODLAND
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 95776
Affiliation Phone: Not reported

Affiliation Type Desc: Parent Corporation
Entity Name: LANG FARMS #1
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: CUPA District
Entity Name: YOLO COUNTY
Entity Title: Not reported
Affiliation Address: 292 West Beamer Street
Affiliation City: Woodland
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 95695

**LANG FARMS #1 (Continued)** **S121774051**

| | |
|---|---|
| Affiliation Phone: | (530) 666-8646 |
| | |
| Affiliation Type Desc: | Facility Mailing Address |
| Entity Name: | Mailing Address |
| Entity Title: | Not reported |
| Affiliation Address: | 21450 OLD RIVER ROAD |
| Affiliation City: | WEST SACRAMENTO |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 95691 |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Identification Signer |
| Entity Name: | Kyle Lang |
| Entity Title: | Owner |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| | |
| Affiliation Type Desc: | Legal Owner |
| Entity Name: | KENT LANG & LANG FAMILY |
| Entity Title: | Not reported |
| Affiliation Address: | PO Box 1303 |
| Affiliation City: | WOODLAND |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 95776 |
| Affiliation Phone: | (530) 406-1752 |
| | |
| Affiliation Type Desc: | Operator |
| Entity Name: | Lang Family |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (530) 406-1752 |
| | |
| Affiliation Type Desc: | Document Preparer |
| Entity Name: | Elizabeth Heckles |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

**110 ESE 1/8-1/4 0.248 mi. 1310 ft.**

**VERIZON WIRELESS GATEWAY OAKS**
**2870 GATEWAY OAKS DR**
**SACRAMENTO, CA 95833**

**Sacramento Co. ML, CERS**

**S118691329**
**N/A**

**Actual:**
**13 ft.**

**Focus Map:**
**9**

Sacramento Co. ML:

| | |
|---|---|
| Name: | VERIZON WIRELESS GATEWAY OAKS |
| Address: | 2870 GATEWAY OAKS DR |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Facility Id: | Not reported |
| Facility Status: | Not reported |
| FD: | Not reported |
| Billing Codes BP: | A |
| Billing Codes UST: | Not reported |
| WG Bill Code: | Not reported |
| Target Property Bill Cod: | Not reported |
| Food Bill Code: | Not reported |
| CUPA Permit Date: | Not reported |
| HAZMAT Permit Date: | Not reported |
| HAZMAT Inspection Date: | Not reported |
| Hazmat Date BP Received: | Not reported |
| UST Permit Dt: | Not reported |
| UST Inspection Date: | Not reported |
| UST Tank Test Date: | Not reported |
| Number of Tanks: | Not reported |
| UST Tank Test Date: | Not reported |
| SIC Code: | Not reported |
| Tier Permitting: | Not reported |
| AST Bill Code: | Not reported |
| CALARP Bill Code: | Not reported |

CERS:

| | |
|---|---|
| Name: | VERIZON WIRELESS GATEWAY OAKS |
| Address: | 2870 GATEWAY OAKS DR |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Site ID: | 405917 |
| CERS ID: | 10143321 |
| CERS Description: | Chemical Storage Facilities |

Evaluation:

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 12-16-2015 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | No violations noted this date. |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | HMRRP |
| Eval Source: | CERS |

| | |
|---|---|
| Eval General Type: | Compliance Evaluation Inspection |
| Eval Date: | 10-05-2018 |
| Violations Found: | No |
| Eval Type: | Routine done by local agency |
| Eval Notes: | NOTE: No violations observed at time of inspection. |
| Eval Division: | Sacramento County Env Management Department |
| Eval Program: | HMRRP |
| Eval Source: | CERS |

**VERIZON WIRELESS GATEWAY OAKS (Continued)** **S118691329**

Coordinates:

| | |
|---|---|
| Site ID: | 405917 |
| Facility Name: | Verizon Wireless Gateway Oaks |
| Env Int Type Code: | HMBP |
| Program ID: | 10143321 |
| Coord Name: | Not reported |
| Ref Point Type Desc: | Center of a facility or station. |
| Latitude: | 38.621970 |
| Longitude: | -121.520510 |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | Legal Owner |
| Entity Name: | Verizon Wireless |
| Entity Title: | Not reported |
| Affiliation Address: | 295 Parkshore Drive |
| Affiliation City: | Folsom |
| Affiliation State: | CA |
| Affiliation Country: | United States |
| Affiliation Zip: | 95630 |
| Affiliation Phone: | (866) 694-2415 |

| | |
|---|---|
| Affiliation Type Desc: | CUPA District |
| Entity Name: | Sacramento County Environmental Management Departm |
| Entity Title: | Not reported |
| Affiliation Address: | 10590 Armstrong Avenue, Suite A |
| Affiliation City: | Sacramento |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 95655 |
| Affiliation Phone: | (916) 875-8550 |

| | |
|---|---|
| Affiliation Type Desc: | Document Preparer |
| Entity Name: | Steve Skanderson |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Environmental Contact |
| Entity Name: | Environmental Compliance |
| Entity Title: | Not reported |
| Affiliation Address: | 295 Parkshore Drive |
| Affiliation City: | Folsom |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 95630 |
| Affiliation Phone: | Not reported |

| | |
|---|---|
| Affiliation Type Desc: | Facility Mailing Address |
| Entity Name: | Mailing Address |
| Entity Title: | Not reported |
| Affiliation Address: | 295 Parkshore Drive |
| Affiliation City: | Folsom |

**VERIZON WIRELESS GATEWAY OAKS (Continued)** **S118691329**

| | |
|---|---|
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | 95630 |
| Affiliation Phone: | Not reported |
| Affiliation Type Desc: | Identification Signer |
| Entity Name: | armand delgado |
| Entity Title: | environmental compliance mgr |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| Affiliation Type Desc: | Operator |
| Entity Name: | Verizon Wireless |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | (866) 694-2415 |
| Affiliation Type Desc: | Parent Corporation |
| Entity Name: | Verizon Wireless [Northern California] |
| Entity Title: | Not reported |
| Affiliation Address: | Not reported |
| Affiliation City: | Not reported |
| Affiliation State: | Not reported |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

---

**111 East 1/4-1/2 0.276 mi. 1455 ft.** **WITTER RANCH ELEMENTARY SCHOOL** **ENVIROSTOR SCH** **S118756771 N/A**
**STEMMLER DRIVE/POPPY HILL WAY**
**SACRAMENTO, CA 95834**

**Actual: 17 ft.**

**Focus Map: 5**

ENVIROSTOR:

| | |
|---|---|
| Name: | WITTER RANCH ELEMENTARY SCHOOL |
| Address: | STEMMLER DRIVE/POPPY HILL WAY |
| City,State,Zip: | SACRAMENTO, CA 95834 |
| Facility ID: | 34010013 |
| Status: | No Action Required |
| Status Date: | 11/30/2001 |
| Site Code: | 104241 |
| Site Type: | School Investigation |
| Site Type Detailed: | School |
| Acres: | 10 |
| NPL: | NO |
| Regulatory Agencies: | SMBRP |
| Lead Agency: | SMBRP |
| Program Manager: | Not reported |
| Supervisor: | Charles Ridenour |

**WITTER RANCH ELEMENTARY SCHOOL (Continued)** **S118756771**

Division Branch: Northern California Schools & Santa Susana
Assembly: 07
Senate: 06
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 38.63533
Longitude: -121.5313
APN: NONE SPECIFIED
Past Use: AGRICULTURAL - ROW CROPS
Potential COC: NONE SPECIFIED No Contaminants found
Confirmed COC: NONE SPECIFIED
Potential Description: NMA
Alias Name: NATOMAS UNIFIED SCHOOL DISTRICT
Alias Type: Alternate Name
Alias Name: NATOMAS USD-WITTER RANCH ELEM
Alias Type: Alternate Name
Alias Name: WITTER RANCH ELEMENTARY SCHOOL
Alias Type: Alternate Name
Alias Name: 104241
Alias Type: Project Code (Site Code)
Alias Name: 34010013
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 11/30/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 11/30/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 12/05/2001
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SCH:

Name: WITTER RANCH ELEMENTARY SCHOOL

**WITTER RANCH ELEMENTARY SCHOOL (Continued)** **S118756771**

| | |
|---|---|
| Address: | STEMMLER DRIVE/POPPY HILL WAY |
| City,State,Zip: | SACRAMENTO, CA 95834 |
| Facility ID: | 34010013 |
| Site Type: | School Investigation |
| Site Type Detail: | School |
| Site Mgmt. Req.: | NONE SPECIFIED |
| Acres: | 10 |
| National Priorities List: | NO |
| Cleanup Oversight Agencies: | SMBRP |
| Lead Agency: | SMBRP |
| Lead Agency Description: | DTSC - Site Cleanup Program |
| Project Manager: | Not reported |
| Supervisor: | Charles Ridenour |
| Division Branch: | Northern California Schools & Santa Susana |
| Site Code: | 104241 |
| Assembly: | 07 |
| Senate: | 06 |
| Special Program Status: | Not reported |
| Status: | No Action Required |
| Status Date: | 11/30/2001 |
| Restricted Use: | NO |
| Funding: | School District |
| Latitude: | 38.63533 |
| Longitude: | -121.5313 |
| APN: | NONE SPECIFIED |
| Past Use: | AGRICULTURAL - ROW CROPS |
| Potential COC: | NONE SPECIFIED, No Contaminants found |
| Confirmed COC: | NONE SPECIFIED |
| Potential Description: | NMA |
| Alias Name: | NATOMAS UNIFIED SCHOOL DISTRICT |
| Alias Type: | Alternate Name |
| Alias Name: | NATOMAS USD-WITTER RANCH ELEM |
| Alias Type: | Alternate Name |
| Alias Name: | WITTER RANCH ELEMENTARY SCHOOL |
| Alias Type: | Alternate Name |
| Alias Name: | 104241 |
| Alias Type: | Project Code (Site Code) |
| Alias Name: | 34010013 |
| Alias Type: | Envirostor ID Number |

Completed Info:

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Phase 1 |
| Completed Date: | 11/30/2001 |
| Comments: | Not reported |
| | |
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Site Inspections/Visit (Non LUR) |
| Completed Date: | 11/30/2001 |
| Comments: | Not reported |
| | |
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Cost Recovery Closeout Memo |
| Completed Date: | 12/05/2001 |
| Comments: | Not reported |

**WITTER RANCH ELEMENTARY SCHOOL (Continued)** **S118756771**

| | |
|---|---|
| Future Area Name: | Not reported |
| Future Sub Area Name: | Not reported |
| Future Document Type: | Not reported |
| Future Due Date: | Not reported |
| Schedule Area Name: | Not reported |
| Schedule Sub Area Name: | Not reported |
| Schedule Document Type: | Not reported |
| Schedule Due Date: | Not reported |
| Schedule Revised Date: | Not reported |

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**112**
**SE**
**1/4-1/2**
**0.302 mi.**
**1592 ft.**

**BRYTE SEND STORAGE**
**1645 RIVERBANK RD**
**BRYTE, CA 95605**

**LUST** **S104163435**
**Cortese** **N/A**
**HIST CORTESE**
**CERS**

**Actual:**
**28 ft.**

**Focus Map:**
**11**

LUST REG 5:

| | |
|---|---|
| Name: | BRYTE SEND STORAGE |
| Address: | 1645 RIVERBANK RD |
| City: | BRYTE |
| Region: | 5 |
| Status: | Case Closed |
| Case Number: | 570087 |
| Case Type: | Soil only |
| Substance: | REGULR GASOLINE |
| Staff Initials: | DFS |
| Lead Agency: | Local |
| Program: | LUST |
| MTBE Code: | N/A |

LUST:

| | |
|---|---|
| Name: | BRYTE SEND STORAGE |
| Address: | 1645 RIVERBANK RD |
| City,State,Zip: | BRYTE, CA 95605 |
| Lead Agency: | YOLO COUNTY |
| Case Type: | LUST Cleanup Site |
| Geo Track: | http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0611300059 |
| Global Id: | T0611300059 |
| Latitude: | 38.596525 |
| Longitude: | -121.5433277 |
| Status: | Completed - Case Closed |
| Status Date: | 07/01/1990 |
| Case Worker: | Not reported |
| RB Case Number: | 570087 |
| Local Agency: | Not reported |
| File Location: | Not reported |
| Local Case Number: | Not reported |
| Potential Media Affect: | Soil |
| Potential Contaminants of Concern: | Gasoline |
| Site History: | Not reported |

LUST:

| | |
|---|---|
| Global Id: | T0611300059 |
| Contact Type: | Regional Board Caseworker |
| Contact Name: | DAVID STAVAREK |
| Organization Name: | CENTRAL VALLEY RWQCB (REGION 5S) |
| Address: | 11020 SUN CENTER DRIVE #200 |
| City: | RANCHO CORDOVA |

**BRYTE SEND STORAGE (Continued)** **S104163435**

Email: dstavarek@waterboards.ca.gov
Phone Number: Not reported

LUST:
Global Id: T0611300059
Action Type: Other
Date: 06/13/1989
Action: Leak Reported

Global Id: T0611300059
Action Type: Other
Date: 04/14/1989
Action: Leak Discovery

Global Id: T0611300059
Action Type: Other
Date: 04/14/1989
Action: Leak Stopped

LUST:
Global Id: T0611300059
Status: Open - Case Begin Date
Status Date: 04/14/1989

Global Id: T0611300059
Status: Open - Site Assessment
Status Date: 08/09/1989

Global Id: T0611300059
Status: Completed - Case Closed
Status Date: 07/01/1990

CORTESE:
Name: BRYTE SEND STORAGE
Address: 1645 RIVERBANK RD
City,State,Zip: BRYTE, CA 95605
Region: CORTESE
Envirostor Id: Not reported
Global ID: T0611300059
Site/Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Status Date: Not reported
Site Code: Not reported
Latitude: Not reported
Longitude: Not reported
Owner: Not reported
Enf Type: Not reported
Swat R: Not reported
Flag: active
Order No: Not reported
Waste Discharge System No: Not reported
Effective Date: Not reported
Region 2: Not reported
WID Id: Not reported
Solid Waste Id No: Not reported

**BRYTE SEND STORAGE (Continued)** **S104163435**

Waste Management Uit Name: Not reported
File Name: Active Open

HIST CORTESE:
edr_fname: BRYTE SEND STORAGE
edr_fadd1: 1645 RIVERBANK
City,State,Zip: BRYTE, CA
Region: CORTESE
Facility County Code: 57
Reg By: LTNKA
Reg Id: 570087

CERS:
Name: BRYTE SEND STORAGE
Address: 1645 RIVERBANK RD
City,State,Zip: BRYTE, CA 95605
Site ID: 208149
CERS ID: T0611300059
CERS Description: Leaking Underground Storage Tank Cleanup Site

Affiliation:
Affiliation Type Desc: Regional Board Caseworker
Entity Name: DAVID STAVAREK - CENTRAL VALLEY RWQCB (REGION 5S)
Entity Title: Not reported
Affiliation Address: 11020 SUN CENTER DRIVE #200
Affiliation City: RANCHO CORDOVA
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

---

**113** **BRYTE BEND WATER TREATMENT PLANT** **CPS-SLIC** **S113804586**
**SSW** **400 NORTH HARBOR BLVD.** **CHMIRS** **N/A**
**1/4-1/2** **WEST SACRAMENTO, CA 95605** **CERS**
**0.314 mi.**
**1660 ft.**

**Actual:**
**24 ft.**

**Focus Map:**
**11**

CPS-SLIC:
Name: BRYTE BEND WATER TREATMENT PLANT
Address: 400 NORTH HARBOR BLVD.
City,State,Zip: WEST SACRAMENTO, CA 95605
Region: STATE
**Facility Status:** **Open - Remediation**
Status Date: 02/02/2016
Global Id: T10000004924
Lead Agency: CENTRAL VALLEY RWQCB (REGION 5S)
Lead Agency Case Number: Not reported
Latitude: 38.5961355314019
Longitude: -121.550769522754
Case Type: Cleanup Program Site
Case Worker: JJT
Local Agency: Not reported
RB Case Number: Not reported
File Location: Regional Board
Potential Media Affected: Not reported
Potential Contaminants of Concern: Other Acid or Corrosive

**BRYTE BEND WATER TREATMENT PLANT (Continued)** **S113804586**

Site History: A slow leak in a caustic feed line appears to have mixed with treated water to fill a cylindrical cement access vault. Soil removed around access vault. Groundwater extraction pumps installed at supply pipe elevation. When groundwater returns, groundwater extraction will be conducted to remove traces of caustic, if any remain.

Click here to access the California GeoTracker records for this facility:

CHMIRS:

| | |
|---|---|
| Name: | Not reported |
| Address: | 400 NORTH HARBOR BLVD |
| City,State,Zip: | WEST SACRAMENTO, CA 95605 |
| OES Incident Number: | 13-3703 |
| OES notification: | 06/18/2013 |
| OES Date: | Not reported |
| OES Time: | Not reported |
| **Date Completed:** | **Not reported** |
| Property Use: | Not reported |
| Agency Id Number: | Not reported |
| Agency Incident Number: | Not reported |
| Time Notified: | Not reported |
| Time Completed: | Not reported |
| Surrounding Area: | Not reported |
| Estimated Temperature: | Not reported |
| Property Management: | Not reported |
| More Than Two Substances Involved?: | Not reported |
| Resp Agncy Personel # Of Decontaminated: | Not reported |
| Responding Agency Personel # Of Injuries: | Not reported |
| Responding Agency Personel # Of Fatalities: | Not reported |
| Others Number Of Decontaminated: | Not reported |
| Others Number Of Injuries: | Not reported |
| Others Number Of Fatalities: | Not reported |
| Vehicle Make/year: | Not reported |
| Vehicle License Number: | Not reported |
| Vehicle State: | Not reported |
| Vehicle Id Number: | Not reported |
| CA DOT PUC/ICC Number: | Not reported |
| Company Name: | Not reported |
| Reporting Officer Name/ID: | Not reported |
| Report Date: | Not reported |
| Facility Telephone: | Not reported |
| Waterway Involved: | No |
| Waterway: | Not reported |
| Spill Site: | Other |
| Cleanup By: | Reporting Party |
| Containment: | Not reported |
| What Happened: | Not reported |
| Type: | Not reported |
| Measure: | Gal(s) |
| Other: | Not reported |
| Date/Time: | 1000 |
| Year: | 2013 |
| Agency: | City of West Sacramento |
| Incident Date: | 4/2/2013 |
| Admin Agency: | Yolo County Office of Emergency Services |
| Amount: | Not reported |
| Contained: | Yes |

**BRYTE BEND WATER TREATMENT PLANT (Continued)** **S113804586**

| | |
|---|---|
| Site Type: | Not reported |
| E Date: | Not reported |
| Substance: | Sodium Hydroxide |
| Quantity Released: | 4,000 |
| Unknown: | Not reported |
| Substance #2: | Not reported |
| Substance #3: | Not reported |
| Evacuations: | Not reported |
| Number of Injuries: | 1 |
| Number of Fatalities: | Not reported |
| #1 Pipeline: | Not reported |
| #2 Pipeline: | Not reported |
| #3 Pipeline: | Not reported |
| #1 Vessel >= 300 Tons: | Not reported |
| #2 Vessel >= 300 Tons: | Not reported |
| #3 Vessel >= 300 Tons: | Not reported |
| Evacs: | Not reported |
| Injuries: | Not reported |
| Fatals: | Not reported |
| Comments: | Not reported |
| Description: | Historical: Caller states substance released to a containment vault due to a leaking pipe. Caller states the release occurred over an unknown period of time. Caller states the pipe has been fixed and the majority of the released has been pumped to drying beds with the remainder to be cleaned up by another party. Caller states one employee received a burn to his arm due to a drop splashing onto his skin. Caller states the employee was sent to a clinic for treatment and released the same day. |

CERS:

| | |
|---|---|
| Name: | BRYTE BEND WATER TREATMENT PLANT |
| Address: | 400 NORTH HARBOR BLVD. |
| City,State,Zip: | WEST SACRAMENTO, CA 95605 |
| Site ID: | 192987 |
| CERS ID: | T10000004924 |
| CERS Description: | Cleanup Program Site |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | Regional Board Caseworker |
| Entity Name: | AMY TERRELL - CENTRAL VALLEY RWQCB (REGION 5S) |
| Entity Title: | Not reported |
| Affiliation Address: | 11020 SUN CENTER DRIVE #200 |
| Affiliation City: | RANCHO CORDOVA |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | 9164644680 |

**114**
**ESE**
**1/4-1/2**
**0.379 mi.**
**1999 ft.**

**TWO RIVERS ELEMENTARY SCHOOL**
**3201 WEST RIVER DRIVE**
**SACRAMENTO, CA 95833**

**ENVIROSTOR**
**SCH**

**S104549121**
**N/A**

**Actual:**
**18 ft.**

**Focus Map:**
**8**

ENVIROSTOR:

| | |
|---|---|
| Name: | TWO RIVERS ELEMENTARY SCHOOL |
| Address: | 3201 WEST RIVER DRIVE |
| City,State,Zip: | SACRAMENTO, CA 95833 |
| Facility ID: | 34010001 |
| Status: | No Further Action |
| Status Date: | 03/24/2000 |
| Site Code: | 104078 |
| Site Type: | School Investigation |
| Site Type Detailed: | School |
| Acres: | 11.5 |
| NPL: | NO |
| Regulatory Agencies: | DTSC |
| Lead Agency: | DTSC |
| Program Manager: | Not reported |
| Supervisor: | Charles Ridenour |
| Division Branch: | Northern California Schools & Santa Susana |
| Assembly: | 07 |
| Senate: | 06 |
| Special Program: | Not reported |
| Restricted Use: | NO |
| Site Mgmt Req: | NONE SPECIFIED |
| Funding: | School District |
| Latitude: | 38.61047 |
| Longitude: | -121.5336 |
| APN: | 27405100410000 |
| Past Use: | AGRICULTURAL - ROW CROPS |
| Potential COC: | Heptachlor DDT * delta-BHC (delta-HCH DDD DDE |
| Confirmed COC: | NONE SPECIFIED |
| Potential Description: | NMA |
| Alias Name: | NATOMAS USD |
| Alias Type: | Alternate Name |
| Alias Name: | NATOMAS USD-WILLOW CREEK ELEM/VCA |
| Alias Type: | Alternate Name |
| Alias Name: | TWO RIVERS ELEMENTARY SCHOOL |
| Alias Type: | Alternate Name |
| Alias Name: | 27405100410000 |
| Alias Type: | APN |
| Alias Name: | 104078 |
| Alias Type: | Project Code (Site Code) |
| Alias Name: | 34010001 |
| Alias Type: | Envirostor ID Number |

Completed Info:

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Preliminary Endangerment Assessment Report |
| Completed Date: | 05/18/2000 |
| Comments: | Not reported |
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | * Workplan |
| Completed Date: | 05/11/2000 |

**TWO RIVERS ELEMENTARY SCHOOL (Continued)** **S104549121**

Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 02/02/2001
Comments: DTSC sent a CRU to they accounting to summarize costs associated with the Voluntary Cleanup Agreement

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 03/24/2000
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SCH:

Name: TWO RIVERS ELEMENTARY SCHOOL
Address: 3201 WEST RIVER DRIVE
City,State,Zip: SACRAMENTO, CA 95833
Facility ID: 34010001
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 11.5
National Priorities List: NO
Cleanup Oversight Agencies: DTSC
Lead Agency: DTSC
Lead Agency Description: * DTSC
Project Manager: Not reported
Supervisor: Charles Ridenour
Division Branch: Northern California Schools & Santa Susana
Site Code: 104078
Assembly: 07
Senate: 06
Special Program Status: Not reported
Status: No Further Action
Status Date: 03/24/2000
Restricted Use: NO
Funding: School District
Latitude: 38.61047
Longitude: -121.5336
APN: 27405100410000
Past Use: AGRICULTURAL - ROW CROPS
Potential COC: Heptachlor, Heptachlor, DDT, * delta-BHC (delta-HCH, DDD, DDE
Confirmed COC: NONE SPECIFIED
Potential Description: NMA

**TWO RIVERS ELEMENTARY SCHOOL (Continued)** **S104549121**

Alias Name: NATOMAS USD
Alias Type: Alternate Name
Alias Name: NATOMAS USD-WILLOW CREEK ELEM/VCA
Alias Type: Alternate Name
Alias Name: TWO RIVERS ELEMENTARY SCHOOL
Alias Type: Alternate Name
Alias Name: 27405100410000
Alias Type: APN
Alias Name: 104078
Alias Type: Project Code (Site Code)
Alias Name: 34010001
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 05/18/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Workplan
Completed Date: 05/11/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 02/02/2001
Comments: DTSC sent a CRU to they accounting to summarize costs associated with the Voluntary Cleanup Agreement

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 03/24/2000
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

**115 SACRAMENTO MAINTENANCE YA** **LUST S101306137**
**ESE 1450 RIVERBANK** **Cortese N/A**
**1/4-1/2 BRYTE, CA 95691** **HIST CORTESE**
**0.399 mi.** **NPDES**
**2109 ft.** **CERS**

**Actual:**
**28 ft.**

**Focus Map:**
**11**

LUST REG 5:

| | |
|---|---|
| Name: | SACRAMENTO MAINTENANCE YARD |
| Address: | 1450 RIVERBANK RD |
| City: | WEST SACRAMENTO |
| Region: | 5 |
| Status: | Pollution Characterization |
| Case Number: | 570033 |
| Case Type: | Drinking Water Aquifer affected |
| Substance: | GASOLINE |
| Staff Initials: | DFS |
| Lead Agency: | Regional |
| Program: | LUST |
| MTBE Code: | 4 |

LUST:

| | |
|---|---|
| Name: | SACRAMENTO MAINTENANCE YARD |
| Address: | 1450 RIVERBANK RD |
| City,State,Zip: | WEST SACRAMENTO, CA 95691 |
| Lead Agency: | CENTRAL VALLEY RWQCB (REGION 5S) |
| Case Type: | LUST Cleanup Site |
| Geo Track: | http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0611300022 |
| Global Id: | T0611300022 |
| Latitude: | 38.600588153 |
| Longitude: | -121.5374116 |
| Status: | Completed - Case Closed |
| Status Date: | 08/01/2017 |
| Case Worker: | DFS |
| RB Case Number: | 570033 |
| Local Agency: | YOLO COUNTY |
| File Location: | Regional Board |
| Local Case Number: | Not reported |
| Potential Media Affect: | Aquifer used for drinking water supply |
| Potential Contaminants of Concern: | Diesel, Gasoline |
| Site History: | The case was opened following an unauthorized release from an underground storage tank system at the subject site. Corrective action is underway as directed by the CVRWQCB. Corrective action may consist of preliminary site investigation, planning and implementation of remedial action, verification monitoring, or a combination thereof. A summary of the site history is available by clicking on either the "Cleanup Status History", "Regulatory Activities" or the "Site Maps/Documents" tab. For a complete site history the case file at the CVRWQCB should be consulted. |

LUST:

| | |
|---|---|
| Global Id: | T0611300022 |
| Contact Type: | Local Agency Caseworker |
| Contact Name: | ALEEM SHAFI |
| Organization Name: | YOLO COUNTY |
| Address: | 137 NORTH COTTONWOOD STREET, SUITE 2400 |
| City: | WOODLAND |
| Email: | Not reported |
| Phone Number: | Not reported |

**SACRAMENTO MAINTENANCE YA (Continued)** **S101306137**

| | |
|---|---|
| Global Id: | T0611300022 |
| Contact Type: | Regional Board Caseworker |
| Contact Name: | DAVID STAVAREK |
| Organization Name: | CENTRAL VALLEY RWQCB (REGION 5S) |
| Address: | 11020 SUN CENTER DRIVE #200 |
| City: | RANCHO CORDOVA |
| Email: | dstavarek@waterboards.ca.gov |
| Phone Number: | Not reported |

LUST:

| | |
|---|---|
| Global Id: | T0611300022 |
| Action Type: | ENFORCEMENT |
| Date: | 07/28/2008 |
| Action: | Meeting |
| Global Id: | T0611300022 |
| Action Type: | ENFORCEMENT |
| Date: | 06/04/2008 |
| Action: | Staff Letter |
| Global Id: | T0611300022 |
| Action Type: | ENFORCEMENT |
| Date: | 09/18/2008 |
| Action: | Technical Correspondence / Assistance / Other |
| Global Id: | T0611300022 |
| Action Type: | ENFORCEMENT |
| Date: | 05/07/2013 |
| Action: | Staff Letter |
| Global Id: | T0611300022 |
| Action Type: | RESPONSE |
| Date: | 01/09/2007 |
| Action: | Other Report / Document |
| Global Id: | T0611300022 |
| Action Type: | RESPONSE |
| Date: | 01/31/2008 |
| Action: | Monitoring Report - Quarterly |
| Global Id: | T0611300022 |
| Action Type: | RESPONSE |
| Date: | 07/09/2012 |
| Action: | Verbal Communication |
| Global Id: | T0611300022 |
| Action Type: | RESPONSE |
| Date: | 09/25/2012 |
| Action: | Other Report / Document |
| Global Id: | T0611300022 |
| Action Type: | RESPONSE |
| Date: | 11/05/2012 |
| Action: | Correspondence |
| Global Id: | T0611300022 |
| Action Type: | RESPONSE |

**SACRAMENTO MAINTENANCE YA (Continued)** **S101306137**

Date: 10/12/2012
Action: Verbal Communication

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 08/22/2008
Action: Technical Correspondence / Assistance / Other

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 09/25/2008
Action: Technical Correspondence / Assistance / Other

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 10/24/2012
Action: Staff Letter

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 01/24/2013
Action: Staff Letter

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 02/05/2013
Action: Staff Letter

Global Id: T0611300022
Action Type: RESPONSE
Date: 07/31/2004
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 07/15/2007
Action: Other Workplan

Global Id: T0611300022
Action Type: RESPONSE
Date: 05/26/2006
Action: Soil and Water Investigation Workplan

Global Id: T0611300022
Action Type: RESPONSE
Date: 07/31/2012
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 01/31/2013
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 11/15/2012
Action: Well Installation Workplan

**SACRAMENTO MAINTENANCE YA (Continued)** **S101306137**

Global Id: T0611300022
Action Type: RESPONSE
Date: 10/19/2012
Action: Verbal Communication

Global Id: T0611300022
Action Type: RESPONSE
Date: 11/16/2012
Action: Verbal Communication

Global Id: T0611300022
Action Type: RESPONSE
Date: 07/31/2012
Action: Other Report / Document

Global Id: T0611300022
Action Type: RESPONSE
Date: 12/27/2012
Action: Verbal Communication

Global Id: T0611300022
Action Type: RESPONSE
Date: 10/31/2012
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 02/04/2013
Action: Verbal Communication

Global Id: T0611300022
Action Type: RESPONSE
Date: 04/30/2011
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 03/13/2013
Action: Verbal Communication

Global Id: T0611300022
Action Type: RESPONSE
Date: 03/13/2013
Action: Correspondence

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 10/20/2008
Action: Technical Correspondence / Assistance / Other

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 06/12/2007
Action: Technical Correspondence / Assistance / Other

Global Id: T0611300022
Action Type: ENFORCEMENT

**SACRAMENTO MAINTENANCE YA (Continued)** **S101306137**

Date: 02/02/2006
Action: Technical Correspondence / Assistance / Other

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 05/31/2006
Action: Staff Letter

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 03/20/2007
Action: Verbal Communication

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 12/13/2006
Action: Staff Letter

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 01/09/2007
Action: Meeting

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 10/14/2004
Action: Meeting

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 07/22/2009
Action: Staff Letter

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 08/01/2017
Action: Closure/No Further Action Letter

Global Id: T0611300022
Action Type: Other
Date: 01/01/1994
Action: Leak Reported

Global Id: T0611300022
Action Type: RESPONSE
Date: 08/29/2008
Action: Soil and Water Investigation Report

Global Id: T0611300022
Action Type: RESPONSE
Date: 10/31/2006
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 03/16/2007
Action: Other Report / Document

**SACRAMENTO MAINTENANCE YA (Continued)** **S101306137**

Global Id: T0611300022
Action Type: RESPONSE
Date: 01/31/2007
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 08/11/2006
Action: Soil and Water Investigation Report

Global Id: T0611300022
Action Type: RESPONSE
Date: 07/30/2007
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 04/30/2007
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 04/19/2013
Action: Pilot Study / Treatability Workplan

Global Id: T0611300022
Action Type: RESPONSE
Date: 04/30/2010
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 05/05/2013
Action: Verbal Communication

Global Id: T0611300022
Action Type: RESPONSE
Date: 01/31/2011
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 07/31/2010
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 09/26/2013
Action: Correspondence

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 07/02/2001
Action: Staff Letter

Global Id: T0611300022
Action Type: ENFORCEMENT

**SACRAMENTO MAINTENANCE YA (Continued)** **S101306137**

Date: 05/24/2000
Action: Staff Letter

Global Id: T0611300022
Action Type: RESPONSE
Date: 10/31/2008
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 10/31/2009
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 01/31/2009
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 03/30/2008
Action: Soil and Water Investigation Report

Global Id: T0611300022
Action Type: RESPONSE
Date: 04/30/2008
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 11/06/2013
Action: Correspondence

Global Id: T0611300022
Action Type: RESPONSE
Date: 07/31/2013
Action: Monitoring Report - Semi-Annually

Global Id: T0611300022
Action Type: RESPONSE
Date: 12/15/2013
Action: Correspondence

Global Id: T0611300022
Action Type: RESPONSE
Date: 10/31/2013
Action: Correspondence

Global Id: T0611300022
Action Type: RESPONSE
Date: 01/15/2014
Action: Correspondence

Global Id: T0611300022
Action Type: RESPONSE
Date: 05/10/2013
Action: Other Report / Document

**SACRAMENTO MAINTENANCE YA (Continued)** **S101306137**

Global Id: T0611300022
Action Type: RESPONSE
Date: 01/31/2014
Action: Monitoring Report - Semi-Annually

Global Id: T0611300022
Action Type: RESPONSE
Date: 02/15/2014
Action: Other Report / Document

Global Id: T0611300022
Action Type: RESPONSE
Date: 01/31/2014
Action: Well Installation Report

Global Id: T0611300022
Action Type: RESPONSE
Date: 07/31/2014
Action: Monitoring Report - Semi-Annually

Global Id: T0611300022
Action Type: RESPONSE
Date: 02/15/2015
Action: Remedial Progress Report

Global Id: T0611300022
Action Type: RESPONSE
Date: 12/15/2014
Action: Email Correspondence

Global Id: T0611300022
Action Type: RESPONSE
Date: 08/14/2015
Action: Well Destruction Report

Global Id: T0611300022
Action Type: RESPONSE
Date: 05/05/2014
Action: Correspondence

Global Id: T0611300022
Action Type: RESPONSE
Date: 04/15/2015
Action: Remedial Progress Report

Global Id: T0611300022
Action Type: RESPONSE
Date: 07/15/2014
Action: Remedial Progress Report

Global Id: T0611300022
Action Type: RESPONSE
Date: 08/30/2014
Action: Remedial Progress Report

Global Id: T0611300022
Action Type: ENFORCEMENT

**SACRAMENTO MAINTENANCE YA (Continued)** **S101306137**

Date: 10/31/2003
Action: * Verbal Communication

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 05/21/2001
Action: Staff Letter

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 04/25/2007
Action: Site Visit / Inspection / Sampling

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 05/12/2015
Action: Staff Letter

Global Id: T0611300022
Action Type: RESPONSE
Date: 12/10/2009
Action: Verbal Communication

Global Id: T0611300022
Action Type: RESPONSE
Date: 07/25/2008
Action: Verbal Communication

Global Id: T0611300022
Action Type: RESPONSE
Date: 04/30/2009
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 12/05/2008
Action: Well Destruction Report

Global Id: T0611300022
Action Type: RESPONSE
Date: 07/31/2008
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 07/30/2009
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 11/30/2008
Action: Correspondence

Global Id: T0611300022
Action Type: RESPONSE
Date: 05/30/2008
Action: Soil and Water Investigation Workplan

**SACRAMENTO MAINTENANCE YA (Continued)** **S101306137**

Global Id: T0611300022
Action Type: RESPONSE
Date: 07/31/2006
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 06/30/2007
Action: Other Workplan

Global Id: T0611300022
Action Type: RESPONSE
Date: 03/31/2014
Action: Other Report / Document

Global Id: T0611300022
Action Type: RESPONSE
Date: 12/31/2014
Action: Remedial Progress Report

Global Id: T0611300022
Action Type: RESPONSE
Date: 10/15/2014
Action: Other Report / Document

Global Id: T0611300022
Action Type: RESPONSE
Date: 05/01/2014
Action: Correspondence

Global Id: T0611300022
Action Type: RESPONSE
Date: 05/07/2014
Action: Correspondence

Global Id: T0611300022
Action Type: RESPONSE
Date: 04/30/2014
Action: Verbal Communication

Global Id: T0611300022
Action Type: RESPONSE
Date: 07/11/2014
Action: Verbal Communication

Global Id: T0611300022
Action Type: RESPONSE
Date: 06/15/2014
Action: Other Report / Document

Global Id: T0611300022
Action Type: RESPONSE
Date: 02/26/2015
Action: Correspondence

Global Id: T0611300022
Action Type: RESPONSE

**SACRAMENTO MAINTENANCE YA (Continued)** **S101306137**

Date: 06/15/2015
Action: Remedial Progress Report

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 08/04/2003
Action: * Historical Enforcement

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 05/23/2011
Action: Meeting

Global Id: T0611300022
Action Type: RESPONSE
Date: 05/17/2010
Action: Verbal Communication

Global Id: T0611300022
Action Type: RESPONSE
Date: 04/30/2012
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 03/18/2015
Action: Verbal Communication

Global Id: T0611300022
Action Type: RESPONSE
Date: 11/03/2014
Action: Verbal Communication

Global Id: T0611300022
Action Type: RESPONSE
Date: 05/15/2015
Action: Remedial Progress Report

Global Id: T0611300022
Action Type: RESPONSE
Date: 07/15/2014
Action: Other Report / Document

Global Id: T0611300022
Action Type: RESPONSE
Date: 07/14/2014
Action: Verbal Communication

Global Id: T0611300022
Action Type: RESPONSE
Date: 01/15/2015
Action: Email Correspondence

Global Id: T0611300022
Action Type: RESPONSE
Date: 02/21/2014
Action: Verbal Communication

**SACRAMENTO MAINTENANCE YA (Continued)** **S101306137**

Global Id: T0611300022
Action Type: RESPONSE
Date: 08/18/2014
Action: Other Report / Document

Global Id: T0611300022
Action Type: RESPONSE
Date: 08/15/2014
Action: Other Report / Document

Global Id: T0611300022
Action Type: RESPONSE
Date: 11/15/2014
Action: Email Correspondence

Global Id: T0611300022
Action Type: RESPONSE
Date: 09/15/2014
Action: Email Correspondence

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 07/02/2007
Action: Staff Letter

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 03/17/2006
Action: Technical Correspondence / Assistance / Other

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 05/26/2004
Action: Staff Letter

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 11/21/2005
Action: Meeting

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 06/02/2011
Action: Staff Letter

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 11/04/2016
Action: Staff Letter

Global Id: T0611300022
Action Type: RESPONSE
Date: 10/31/2003
Action: Unknown

Global Id: T0611300022
Action Type: RESPONSE

**SACRAMENTO MAINTENANCE YA (Continued)** **S101306137**

Date: 03/15/2015
Action: Remedial Progress Report

Global Id: T0611300022
Action Type: RESPONSE
Date: 10/31/2015
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 07/31/2015
Action: Monitoring Report - Semi-Annually

Global Id: T0611300022
Action Type: RESPONSE
Date: 04/15/2017
Action: Other Report / Document

Global Id: T0611300022
Action Type: RESPONSE
Date: 01/30/2016
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 07/31/2015
Action: Final Remedial Action Report / Corrective Action Report

Global Id: T0611300022
Action Type: RESPONSE
Date: 02/23/2016
Action: Email Correspondence

Global Id: T0611300022
Action Type: RESPONSE
Date: 08/12/2016
Action: Well Destruction Report

Global Id: T0611300022
Action Type: RESPONSE
Date: 12/08/1994
Action: Other Report / Document

Global Id: T0611300022
Action Type: RESPONSE
Date: 06/23/1995
Action: Other Report / Document

Global Id: T0611300022
Action Type: RESPONSE
Date: 12/14/1998
Action: Other Report / Document

Global Id: T0611300022
Action Type: RESPONSE
Date: 09/01/2016
Action: Fact Sheets - Public Participation

**SACRAMENTO MAINTENANCE YA (Continued)** **S101306137**

Global Id: T0611300022
Action Type: RESPONSE
Date: 08/26/2016
Action: Email Correspondence

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 05/26/2004
Action: Technical Correspondence / Assistance / Other

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 02/04/2008
Action: Verbal Communication

Global Id: T0611300022
Action Type: RESPONSE
Date: 07/30/2001
Action: Soil and Water Investigation Report

Global Id: T0611300022
Action Type: RESPONSE
Date: 11/21/2003
Action: Soil and Water Investigation Workplan

Global Id: T0611300022
Action Type: RESPONSE
Date: 11/21/2003
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 07/30/2000
Action: Soil and Water Investigation Workplan

Global Id: T0611300022
Action Type: RESPONSE
Date: 08/16/2010
Action: Verbal Communication

Global Id: T0611300022
Action Type: RESPONSE
Date: 12/30/2010
Action: Soil and Water Investigation Report

Global Id: T0611300022
Action Type: RESPONSE
Date: 01/24/2011
Action: Other Report / Document

Global Id: T0611300022
Action Type: RESPONSE
Date: 01/12/2011
Action: Verbal Communication

Global Id: T0611300022
Action Type: RESPONSE

**SACRAMENTO MAINTENANCE YA (Continued)** **S101306137**

Date: 02/22/2017
Action: Email Correspondence

Global Id: T0611300022
Action Type: RESPONSE
Date: 11/02/1994
Action: Other Report / Document

Global Id: T0611300022
Action Type: RESPONSE
Date: 04/11/2017
Action: Email Correspondence

Global Id: T0611300022
Action Type: RESPONSE
Date: 07/08/2016
Action: Verbal Communication

Global Id: T0611300022
Action Type: RESPONSE
Date: 06/10/2016
Action: Email Correspondence

Global Id: T0611300022
Action Type: RESPONSE
Date: 04/19/2013
Action: Pilot Study / Treatability Workplan - Regulator Responded

Global Id: T0611300022
Action Type: RESPONSE
Date: 03/23/2015
Action: Email Correspondence - Regulator Responded

Global Id: T0611300022
Action Type: RESPONSE
Date: 05/30/2015
Action: Well Destruction Workplan - Regulator Responded

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 06/03/2008
Action: Verbal Communication

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 05/08/2008
Action: Verbal Communication

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 06/04/2008
Action: Technical Correspondence / Assistance / Other

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 07/05/2016
Action: Staff Letter

**SACRAMENTO MAINTENANCE YA (Continued)** **S101306137**

Global Id: T0611300022
Action Type: Other
Date: 09/13/1994
Action: Leak Discovery

Global Id: T0611300022
Action Type: RESPONSE
Date: 04/30/2004
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 04/25/2011
Action: Verbal Communication

Global Id: T0611300022
Action Type: RESPONSE
Date: 05/11/2011
Action: Verbal Communication

Global Id: T0611300022
Action Type: RESPONSE
Date: 06/01/2011
Action: Verbal Communication

Global Id: T0611300022
Action Type: RESPONSE
Date: 05/17/2011
Action: Verbal Communication

Global Id: T0611300022
Action Type: RESPONSE
Date: 05/27/2011
Action: Verbal Communication

Global Id: T0611300022
Action Type: RESPONSE
Date: 08/01/2011
Action: Correspondence

Global Id: T0611300022
Action Type: RESPONSE
Date: 06/30/2011
Action: Other Workplan

Global Id: T0611300022
Action Type: RESPONSE
Date: 08/01/2011
Action: Correspondence

Global Id: T0611300022
Action Type: RESPONSE
Date: 05/23/2011
Action: Conceptual Site Model

Global Id: T0611300022
Action Type: RESPONSE

**SACRAMENTO MAINTENANCE YA (Continued)** **S101306137**

Date: 07/11/2016
Action: Verbal Communication - Regulator Responded

Global Id: T0611300022
Action Type: RESPONSE
Date: 06/02/2017
Action: Well Destruction Report - Regulator Responded

Global Id: T0611300022
Action Type: RESPONSE
Date: 05/15/2016
Action: Request for Closure - Regulator Responded

Global Id: T0611300022
Action Type: RESPONSE
Date: 01/13/2017
Action: Email Correspondence - Regulator Responded

Global Id: T0611300022
Action Type: RESPONSE
Date: 12/15/2016
Action: Well Destruction Workplan - Regulator Responded

Global Id: T0611300022
Action Type: ENFORCEMENT
Date: 08/04/2003
Action: Staff Letter

Global Id: T0611300022
Action Type: RESPONSE
Date: 10/31/2007
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 09/19/2011
Action: Correspondence

Global Id: T0611300022
Action Type: RESPONSE
Date: 02/15/2013
Action: Well Installation Workplan

Global Id: T0611300022
Action Type: RESPONSE
Date: 01/18/2012
Action: Verbal Communication

Global Id: T0611300022
Action Type: RESPONSE
Date: 01/31/2012
Action: Monitoring Report - Quarterly

Global Id: T0611300022
Action Type: RESPONSE
Date: 02/28/2012
Action: Verbal Communication

**SACRAMENTO MAINTENANCE YA (Continued)** **S101306137**

Global Id: T0611300022
Action Type: RESPONSE
Date: 02/16/2012
Action: Other Report / Document

Global Id: T0611300022
Action Type: RESPONSE
Date: 06/08/2012
Action: Verbal Communication

LUST:
Global Id: T0611300022
Status: Open - Case Begin Date
Status Date: 07/15/1986

Global Id: T0611300022
Status: Open - Site Assessment
Status Date: 08/26/1988

Global Id: T0611300022
Status: Open - Site Assessment
Status Date: 09/13/1994

Global Id: T0611300022
Status: Open - Site Assessment
Status Date: 05/14/2001

Global Id: T0611300022
Status: Open - Site Assessment
Status Date: 11/18/2003

Global Id: T0611300022
Status: Open - Site Assessment
Status Date: 05/08/2006

Global Id: T0611300022
Status: Open - Site Assessment
Status Date: 05/02/2008

Global Id: T0611300022
Status: Open - Site Assessment
Status Date: 05/30/2008

Global Id: T0611300022
Status: Open - Remediation
Status Date: 04/15/2014

Global Id: T0611300022
Status: Open - Verification Monitoring
Status Date: 07/01/2016

Global Id: T0611300022
Status: Open - Eligible for Closure
Status Date: 07/05/2016

Global Id: T0611300022
Status: Open - Eligible for Closure

**SACRAMENTO MAINTENANCE YA (Continued)** **S101306137**

Status Date: 07/14/2016

Global Id: T0611300022
Status: Completed - Case Closed
Status Date: 08/01/2017

CORTESE:
Name: SACRAMENTO MAINTENANCE YARD
Address: 1450 RIVERBANK RD
City,State,Zip: WEST SACRAMENTO, CA 95691
Region: CORTESE
Envirostor Id: Not reported
Global ID: T0611300022
Site/Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Status Date: Not reported
Site Code: Not reported
Latitude: Not reported
Longitude: Not reported
Owner: Not reported
Enf Type: Not reported
Swat R: Not reported
Flag: active
Order No: Not reported
Waste Discharge System No: Not reported
Effective Date: Not reported
Region 2: Not reported
WID Id: Not reported
Solid Waste Id No: Not reported
Waste Management Uit Name: Not reported
File Name: Active Open

HIST CORTESE:
edr_fname: SACRAMENTO MAINTENANCE YA
edr_fadd1: 1450 RIVERBANK
City,State,Zip: BRYTE, CA 95691
Region: CORTESE
Facility County Code: 57
Reg By: LTNKA
Reg Id: 570033

NPDES:
Name: SITE REHABILITATION PHASE 1 PAVEMENT AND UTILITIES
Address: 1450 RIVERBANK ROAD
City,State,Zip: WEST SACRAMENTO, CA 95605
Facility Status: Terminated
NPDES Number: CAS000002
Region: 5S
Agency Number: 0
Regulatory Measure ID: 502063
Place ID: Not reported
Order Number: 2009-0009-DWQ
WDID: 5S57C384779
Regulatory Measure Type: Enrollee
Program Type: Construction

**SACRAMENTO MAINTENANCE YA (Continued)** **S101306137**

| | |
|---|---|
| Adoption Date Of Regulatory Measure: | Not reported |
| Effective Date Of Regulatory Measure: | 10/02/2018 |
| Termination Date Of Regulatory Measure: | 11/27/2019 |
| Expiration Date Of Regulatory Measure: | Not reported |
| Discharge Address: | 1416 9th Street Room 452 5 |
| Discharge Name: | Department of Water ResourcesDivision of Engineering |
| Discharge City: | Sacramento |
| Discharge State: | California |
| Discharge Zip: | 95814 |
| Status: | Not reported |
| Status Date: | Not reported |
| Operator Name: | Not reported |
| Operator Address: | Not reported |
| Operator City: | Not reported |
| Operator State: | Not reported |
| Operator Zip: | Not reported |

| | |
|---|---|
| Name: | SITE REHABILITATION PHASE 1 PAVEMENT AND UTILITIES |
| Address: | 1450 RIVERBANK ROAD |
| City,State,Zip: | WEST SACRAMENTO, CA 95605 |
| Facility Status: | Not reported |
| NPDES Number: | Not reported |
| Region: | Not reported |
| Agency Number: | Not reported |
| Regulatory Measure ID: | Not reported |
| Place ID: | Not reported |
| Order Number: | Not reported |
| WDID: | 5S57C384779 |
| Regulatory Measure Type: | Construction |
| Program Type: | Not reported |
| Adoption Date Of Regulatory Measure: | Not reported |
| Effective Date Of Regulatory Measure: | Not reported |
| Termination Date Of Regulatory Measure: | Not reported |
| Expiration Date Of Regulatory Measure: | Not reported |
| Discharge Address: | Not reported |
| Discharge Name: | Not reported |
| Discharge City: | Not reported |
| Discharge State: | Not reported |
| Discharge Zip: | Not reported |
| Status: | Terminated |
| Status Date: | 12/03/2019 |
| Operator Name: | Department of Water ResourcesDivision of Engineering |
| Operator Address: | 1416 9th Street Room 452 5 |
| Operator City: | Sacramento |
| Operator State: | California |
| Operator Zip: | 95814 |

CERS:

| | |
|---|---|
| Name: | SACRAMENTO MAINTENANCE YARD |
| Address: | 1450 RIVERBANK RD |
| City,State,Zip: | WEST SACRAMENTO, CA 95691 |
| Site ID: | 211078 |
| CERS ID: | T0611300022 |
| CERS Description: | Leaking Underground Storage Tank Cleanup Site |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | Local Agency Caseworker |

**SACRAMENTO MAINTENANCE YA (Continued)** **S101306137**

| | |
|---|---|
| Entity Name: | ALEEM SHAFI - YOLO COUNTY |
| Entity Title: | Not reported |
| Affiliation Address: | 137 NORTH COTTONWOOD STREET, SUITE 2400 |
| Affiliation City: | WOODLAND |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |
| Affiliation Type Desc: | Regional Board Caseworker |
| Entity Name: | DAVID STAVAREK - CENTRAL VALLEY RWQCB (REGION 5S) |
| Entity Title: | Not reported |
| Affiliation Address: | 11020 SUN CENTER DRIVE #200 |
| Affiliation City: | RANCHO CORDOVA |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

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**116** **RIVERPOINT OFFICE BLDG** **CPS-SLIC** **S107869619**
**SSW** **700 RIVERPOINT DR** **DEED** **N/A**
**1/4-1/2** **WEST SACRAMENTO, CA 95605** **NPDES**
**0.438 mi.** **CIWQS**
**2310 ft.** **CERS**

**Actual:**
**22 ft.**

**Focus Map:**
**11**

CPS-SLIC:

| | |
|---|---|
| Name: | HOME DEPOT |
| Address: | 700 RIVERPOINT CIRCLE |
| City,State,Zip: | WEST SACRAMENTO, CA |
| Region: | STATE |
| **Facility Status:** | **Completed - Case Closed** |
| Status Date: | 01/29/2007 |
| Global Id: | SL0611367066 |
| Lead Agency: | CENTRAL VALLEY RWQCB (REGION 5S) |
| Lead Agency Case Number: | Not reported |
| Latitude: | 38.588297 |
| Longitude: | -121.54803 |
| Case Type: | Cleanup Program Site |
| Case Worker: | AST |
| Local Agency: | YOLO COUNTY |
| RB Case Number: | Not reported |
| File Location: | Regional Board |
| Potential Media Affected: | Soil |
| Potential Contaminants of Concern: | Arsenic |
| Site History: | Not reported |

Click here to access the California GeoTracker records for this facility:

DEED:

| | |
|---|---|
| Name: | HOME DEPOT |
| Address: | 700 RIVERPOINT CIRCLE |
| City,State,Zip: | WEST SACRAMENTO, CA |
| Envirostor ID: | SL0611367066 |
| Area: | Not reported |
| Sub Area: | Not reported |
| Site Type: | SLIC |

**RIVERPOINT OFFICE BLDG (Continued)** **S107869619**

Status: COMPLETED - CASE CLOSED
Agency: SWRCB
Covenant Uploaded: Not reported
Deed Date(s): 03/08/2007
File Name: Geotracker Land Use/Deed Restrictions

NPDES:

| | |
|---|---|
| Name: | RIVERPOINT OFFICE BLDG |
| Address: | 700 RIVERPOINT DR |
| City,State,Zip: | WEST SACRAMENTO, CA 95605 |
| Facility Status: | Not reported |
| NPDES Number: | Not reported |
| Region: | Not reported |
| Agency Number: | Not reported |
| Regulatory Measure ID: | Not reported |
| Place ID: | Not reported |
| Order Number: | Not reported |
| WDID: | 5S57C348584 |
| Regulatory Measure Type: | Construction |
| Program Type: | Not reported |
| Adoption Date Of Regulatory Measure: | Not reported |
| Effective Date Of Regulatory Measure: | Not reported |
| Termination Date Of Regulatory Measure: | Not reported |
| Expiration Date Of Regulatory Measure: | Not reported |
| Discharge Address: | Not reported |
| Discharge Name: | Not reported |
| Discharge City: | Not reported |
| Discharge State: | Not reported |
| Discharge Zip: | Not reported |
| Status: | Terminated |
| Status Date: | 01/17/2017 |
| Operator Name: | Buzz Oates Construction Inc |
| Operator Address: | 555 Capitol Mall Ninth Floor |
| Operator City: | Sacramento |
| Operator State: | California |
| Operator Zip: | 95814 |

NPDES as of 03/2018:

| | |
|---|---|
| NPDES Number: | Not reported |
| Status: | Not reported |
| Agency Number: | Not reported |
| Region: | 5S |
| Regulatory Measure ID: | 330561 |
| Order Number: | Not reported |
| Regulatory Measure Type: | Construction |
| Place ID: | Not reported |
| WDID: | 5S57C348584 |
| Program Type: | Not reported |
| Adoption Date Of Regulatory Measure: | Not reported |
| Effective Date Of Regulatory Measure: | Not reported |
| Expiration Date Of Regulatory Measure: | Not reported |
| Termination Date Of Regulatory Measure: | 01/17/2017 |
| Discharge Name: | Not reported |
| Discharge Address: | Not reported |
| Discharge City: | Not reported |
| Discharge State: | Not reported |
| Discharge Zip: | Not reported |

**RIVERPOINT OFFICE BLDG (Continued)** **S107869619**

| | |
|---|---|
| Received Date: | 05/09/2008 |
| Processed Date: | 08/28/2007 |
| Status: | Terminated |
| Status Date: | 01/17/2017 |
| Place Size: | 6.01 |
| Place Size Unit: | Acres |
| Contact: | Troy Estacio |
| Contact Title: | Not reported |
| Contact Phone: | 916-381-3600 |
| Contact Phone Ext: | Not reported |
| Contact Email: | Not reported |
| Operator Name: | Buzz Oates Construction Inc |
| Operator Address: | 555 Capitol Mall Ninth Floor |
| Operator City: | Sacramento |
| Operator State: | California |
| Operator Zip: | 95814 |
| Operator Contact: | Troy Estacio |
| Operator Contact Title: | PM |
| Operator Contact Phone: | 916-381-3600 |
| Operator Contact Phone Ext: | Not reported |
| Operator Contact Email: | troyestacio@buzzoates.com |
| Operator Type: | Private Business |
| Developer: | Buzz Oates Enterprises |
| Developer Address: | 8615 Elder Creek Rd |
| Developer City: | Sacramento |
| Developer State: | California |
| Developer Zip: | 95828 |
| Developer Contact: | Troy Estacio |
| Developer Contact Title: | PM |
| Constype Linear Utility Ind: | Not reported |
| Emergency Phone: | Not reported |
| Emergency Phone Ext: | Not reported |
| Constype Above Ground Ind: | Not reported |
| Constype Below Ground Ind: | Not reported |
| Constype Cable Line Ind: | Not reported |
| Constype Comm Line Ind: | Not reported |
| Constype Commertial Ind: | Y |
| Constype Electrical Line Ind: | Not reported |
| Constype Gas Line Ind: | Not reported |
| Constype Industrial Ind: | Not reported |
| Constype Other Description: | Not reported |
| Constype Other Ind: | Not reported |
| Constype Recons Ind: | Not reported |
| Constype Residential Ind: | Not reported |
| Constype Transport Ind: | Not reported |
| Constype Utility Description: | Not reported |
| Constype Utility Ind: | Not reported |
| Constype Water Sewer Ind: | Not reported |
| Dir Discharge Uswater Ind: | Not reported |
| Receiving Water Name: | Sacramento River |
| Certifier: | Alison Hull |
| Certifier Title: | Not reported |
| Certification Date: | 03-JUN-10 |
| Primary Sic: | Not reported |
| Secondary Sic: | Not reported |
| Tertiary Sic: | Not reported |

**RIVERPOINT OFFICE BLDG (Continued)** **S107869619**

| | |
|---|---|
| NPDES Number: | CAS000002 |
| Status: | Terminated |
| Agency Number: | 0 |
| Region: | 5S |
| Regulatory Measure ID: | 330561 |
| Order Number: | 2009-0009-DWQ |
| Regulatory Measure Type: | Enrollee |
| Place ID: | Not reported |
| WDID: | 5S57C348584 |
| Program Type: | Construction |
| Adoption Date Of Regulatory Measure: | Not reported |
| Effective Date Of Regulatory Measure: | 08/28/2007 |
| Expiration Date Of Regulatory Measure: | Not reported |
| Termination Date Of Regulatory Measure: | 01/17/2017 |
| Discharge Name: | Buzz Oates Construction Inc |
| Discharge Address: | 555 Capitol Mall Ninth Floor |
| Discharge City: | Sacramento |
| Discharge State: | California |
| Discharge Zip: | 95814 |
| Received Date: | Not reported |
| Processed Date: | Not reported |
| Status: | Not reported |
| Status Date: | Not reported |
| Place Size: | Not reported |
| Place Size Unit: | Not reported |
| Contact: | Not reported |
| Contact Title: | Not reported |
| Contact Phone: | Not reported |
| Contact Phone Ext: | Not reported |
| Contact Email: | Not reported |
| Operator Name: | Not reported |
| Operator Address: | Not reported |
| Operator City: | Not reported |
| Operator State: | Not reported |
| Operator Zip: | Not reported |
| Operator Contact: | Not reported |
| Operator Contact Title: | Not reported |
| Operator Contact Phone: | Not reported |
| Operator Contact Phone Ext: | Not reported |
| Operator Contact Email: | Not reported |
| Operator Type: | Not reported |
| Developer: | Not reported |
| Developer Address: | Not reported |
| Developer City: | Not reported |
| Developer State: | Not reported |
| Developer Zip: | Not reported |
| Developer Contact: | Not reported |
| Developer Contact Title: | Not reported |
| Constype Linear Utility Ind: | Not reported |
| Emergency Phone: | Not reported |
| Emergency Phone Ext: | Not reported |
| Constype Above Ground Ind: | Not reported |
| Constype Below Ground Ind: | Not reported |
| Constype Cable Line Ind: | Not reported |
| Constype Comm Line Ind: | Not reported |
| Constype Commertial Ind: | Not reported |
| Constype Electrical Line Ind: | Not reported |

**RIVERPOINT OFFICE BLDG (Continued)** **S107869619**

| | |
|---|---|
| Constype Gas Line Ind: | Not reported |
| Constype Industrial Ind: | Not reported |
| Constype Other Description: | Not reported |
| Constype Other Ind: | Not reported |
| Constype Recons Ind: | Not reported |
| Constype Residential Ind: | Not reported |
| Constype Transport Ind: | Not reported |
| Constype Utility Description: | Not reported |
| Constype Utility Ind: | Not reported |
| Constype Water Sewer Ind: | Not reported |
| Dir Discharge Uswater Ind: | Not reported |
| Receiving Water Name: | Not reported |
| Certifier: | Not reported |
| Certifier Title: | Not reported |
| Certification Date: | Not reported |
| Primary Sic: | Not reported |
| Secondary Sic: | Not reported |
| Tertiary Sic: | Not reported |

CIWQS:

| | |
|---|---|
| Name: | RIVERPOINT OFFICE BLDG |
| Address: | 700 RIVERPOINT DR |
| City,State,Zip: | WEST SACRAMENTO, CA 95605 |
| Agency: | Buzz Oates Construction Inc |
| Agency Address: | 555 Capitol Mall Ninth Floor, Sacramento, CA 95814 |
| Place/Project Type: | Construction - Commercial |
| SIC/NAICS: | Not reported |
| Region: | 5S |
| Program: | CONSTW |
| Regulatory Measure Status: | Terminated |
| Regulatory Measure Type: | Storm water construction |
| Order Number: | 2009-0009-DWQ |
| WDID: | 5S57C348584 |
| NPDES Number: | CAS000002 |
| Adoption Date: | Not reported |
| Effective Date: | 08/28/2007 |
| Termination Date: | 01/17/2017 |
| Expiration/Review Date: | Not reported |
| Design Flow: | Not reported |
| Major/Minor: | Not reported |
| Complexity: | Not reported |
| TTWQ: | Not reported |
| Enforcement Actions within 5 years: | 2 |
| Violations within 5 years: | 1 |
| Latitude: | 38.593911 |
| Longitude: | -121.549449 |

CERS:

| | |
|---|---|
| Name: | HOME DEPOT |
| Address: | 700 RIVERPOINT CIRCLE |
| City,State,Zip: | WEST SACRAMENTO, CA |
| Site ID: | 213522 |
| CERS ID: | SL0611367066 |
| CERS Description: | Cleanup Program Site |

**RIVERPOINT OFFICE BLDG (Continued)** **S107869619**

Affiliation:
Affiliation Type Desc: Regional Board Caseworker
Entity Name: AMY TERRELL - CENTRAL VALLEY RWQCB (REGION 5S)
Entity Title: Not reported
Affiliation Address: 11020 SUN CENTER DRIVE #200
Affiliation City: RANCHO CORDOVA
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: 9164644680

Affiliation Type Desc: Local Agency Caseworker
Entity Name: JEFF PINNOW - YOLO COUNTY
Entity Title: Not reported
Affiliation Address: 137 N. COTTONWOOD STREET, SUITE 2400
Affiliation City: WOODLAND
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

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**117 South 1/4-1/2 0.446 mi. 2356 ft.** **MCI COMMUNICATION SERVICES, INC** **CPS-SLIC** **S102792639**
**2820 KOVR DRIVE** **EMI** **N/A**
**WEST SACRAMENTO, CA 95605** **CERS**

**Actual: 23 ft.**

**Focus Map: 11**

SLIC REG 5:
Name: MCI Telecommunication Corporation** [UP TO 1997 ARCHIVED]
Address: 2820 KOVR Dr
City: West Sacramento
Region: 5
Facility Status: Closed by County
Unit: Facility is a Spill or site
Pollutant: TPH as hydraulic oil
Lead Agency: Not reported
Date Filed: 02/13/97
Report Date: 12/27/96
Date Added: Not reported
Date Closed: Not reported

EMI:
Name: MCI TELECOMMUNICATIONS CORP
Address: 2820 KOVR DRIVE
City,State,Zip: WEST SACRAMENTO, CA
Year: 1996
County Code: 57
Air Basin: SV
Facility ID: 509
Air District Name: YS
SIC Code: 4813
Air District Name: YOLO/SOLANO AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0

**MCI COMMUNICATION SERVICES, INC (Continued)** **S102792639**

Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 1
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr: 0

Name: MCI TELECOMMUNICATIONS CORP
Address: 2820 KOVR DRIVE
City,State,Zip: WEST SACRAMENTO, CA
Year: 1997
County Code: 57
Air Basin: SV
Facility ID: 509
Air District Name: YS
SIC Code: 4813
Air District Name: YOLO/SOLANO AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 1
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr: 0

Name: MCI TELECOMMUNICATIONS
Address: 2820 KOVR DRIVE
City,State,Zip: WEST SACRAMENTO, CA
Year: 1998
County Code: 57
Air Basin: SV
Facility ID: 845
Air District Name: YS
SIC Code: 4813
Air District Name: YOLO/SOLANO AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr: 0

Name: MCI TELECOMMUNICATIONS CORP
Address: 2820 KOVR DRIVE
City,State,Zip: WEST SACRAMENTO, CA
Year: 1998
County Code: 57
Air Basin: SV
Facility ID: 509
Air District Name: YS
SIC Code: 4813
Air District Name: YOLO/SOLANO AQMD
Community Health Air Pollution Info System: Not reported

**MCI COMMUNICATION SERVICES, INC (Continued)** **S102792639**

| | |
|---|---|
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0 |
| Reactive Organic Gases Tons/Yr: | 0 |
| Carbon Monoxide Emissions Tons/Yr: | 0 |
| NOX - Oxides of Nitrogen Tons/Yr: | 1 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 0 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0 |

| | |
|---|---|
| Name: | MCI TELECOMMUNICATIONS CORP |
| Address: | 2820 KOVR DRIVE |
| City,State,Zip: | WEST SACRAMENTO, CA |
| Year: | 1999 |
| County Code: | 57 |
| Air Basin: | SV |
| Facility ID: | 845 |
| Air District Name: | YS |
| SIC Code: | 4813 |
| Air District Name: | YOLO/SOLANO AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0 |
| Reactive Organic Gases Tons/Yr: | 0 |
| Carbon Monoxide Emissions Tons/Yr: | 0 |
| NOX - Oxides of Nitrogen Tons/Yr: | 0 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 0 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0 |

| | |
|---|---|
| Name: | MCI WORLDCOM |
| Address: | 2820 KOVR DRIVE |
| City,State,Zip: | WEST SACRAMENTO, CA |
| Year: | 1999 |
| County Code: | 57 |
| Air Basin: | SV |
| Facility ID: | 509 |
| Air District Name: | YS |
| SIC Code: | 4813 |
| Air District Name: | YOLO/SOLANO AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0 |
| Reactive Organic Gases Tons/Yr: | 0 |
| Carbon Monoxide Emissions Tons/Yr: | 0 |
| NOX - Oxides of Nitrogen Tons/Yr: | 1 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 0 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0 |

| | |
|---|---|
| Name: | MCI WORLDCOM |
| Address: | 2820 KOVR DRIVE |
| City,State,Zip: | WEST SACRAMENTO, CA |
| Year: | 2000 |
| County Code: | 57 |
| Air Basin: | SV |
| Facility ID: | 509 |
| Air District Name: | YS |

**MCI COMMUNICATION SERVICES, INC (Continued)** **S102792639**

| | |
|---|---|
| SIC Code: | 4813 |
| Air District Name: | YOLO/SOLANO AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0 |
| Reactive Organic Gases Tons/Yr: | 0 |
| Carbon Monoxide Emissions Tons/Yr: | 0 |
| NOX - Oxides of Nitrogen Tons/Yr: | 3 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 0 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0 |

| | |
|---|---|
| Name: | MCI TELECOMMUNICATIONS CORP |
| Address: | 2820 KOVR DRIVE |
| City,State,Zip: | WEST SACRAMENTO, CA |
| Year: | 2000 |
| County Code: | 57 |
| Air Basin: | SV |
| Facility ID: | 845 |
| Air District Name: | YS |
| SIC Code: | 4813 |
| Air District Name: | YOLO/SOLANO AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0 |
| Reactive Organic Gases Tons/Yr: | 0 |
| Carbon Monoxide Emissions Tons/Yr: | 0 |
| NOX - Oxides of Nitrogen Tons/Yr: | 0 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 0 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0 |

| | |
|---|---|
| Name: | MCI WORLDCOM |
| Address: | 2820 KOVR DRIVE |
| City,State,Zip: | WEST SACRAMENTO, CA |
| Year: | 2001 |
| County Code: | 57 |
| Air Basin: | SV |
| Facility ID: | 509 |
| Air District Name: | YS |
| SIC Code: | 4813 |
| Air District Name: | YOLO/SOLANO AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0 |
| Reactive Organic Gases Tons/Yr: | 0 |
| Carbon Monoxide Emissions Tons/Yr: | 0 |
| NOX - Oxides of Nitrogen Tons/Yr: | 3 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 0 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0 |

| | |
|---|---|
| Name: | MCI TELECOMMUNICATIONS CORP |
| Address: | 2820 KOVR DRIVE |
| City,State,Zip: | WEST SACRAMENTO, CA |
| Year: | 2001 |
| County Code: | 57 |

**MCI COMMUNICATION SERVICES, INC (Continued)** **S102792639**

| | |
|---|---|
| Air Basin: | SV |
| Facility ID: | 845 |
| Air District Name: | YS |
| SIC Code: | 4813 |
| Air District Name: | YOLO/SOLANO AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0 |
| Reactive Organic Gases Tons/Yr: | 0 |
| Carbon Monoxide Emissions Tons/Yr: | 0 |
| NOX - Oxides of Nitrogen Tons/Yr: | 0 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 0 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0 |

| | |
|---|---|
| Name: | WORLDCOM |
| Address: | 2820 KOVR DRIVE |
| City,State,Zip: | WEST SACRAMENTO, CA |
| Year: | 2002 |
| County Code: | 57 |
| Air Basin: | SV |
| Facility ID: | 509 |
| Air District Name: | YS |
| SIC Code: | 4813 |
| Air District Name: | YOLO/SOLANO AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0 |
| Reactive Organic Gases Tons/Yr: | 0 |
| Carbon Monoxide Emissions Tons/Yr: | 0 |
| NOX - Oxides of Nitrogen Tons/Yr: | 0 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 0 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0 |

| | |
|---|---|
| Name: | MCI TELECOMMUNICATIONS CORP |
| Address: | 2820 KOVR DRIVE |
| City,State,Zip: | WEST SACRAMENTO, CA |
| Year: | 2002 |
| County Code: | 57 |
| Air Basin: | SV |
| Facility ID: | 845 |
| Air District Name: | YS |
| SIC Code: | 4813 |
| Air District Name: | YOLO/SOLANO AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0 |
| Reactive Organic Gases Tons/Yr: | 0 |
| Carbon Monoxide Emissions Tons/Yr: | 0 |
| NOX - Oxides of Nitrogen Tons/Yr: | 0 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 0 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0 |

| | |
|---|---|
| Name: | WORLDCOM |
| Address: | 2820 KOVR DRIVE |

**MCI COMMUNICATION SERVICES, INC (Continued)** **S102792639**

| | |
|---|---|
| City,State,Zip: | WEST SACRAMENTO, CA |
| Year: | 2003 |
| County Code: | 57 |
| Air Basin: | SV |
| Facility ID: | 509 |
| Air District Name: | YS |
| SIC Code: | 4813 |
| Air District Name: | YOLO/SOLANO AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0 |
| Reactive Organic Gases Tons/Yr: | 0 |
| Carbon Monoxide Emissions Tons/Yr: | 0 |
| NOX - Oxides of Nitrogen Tons/Yr: | 0 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 0 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0 |

| | |
|---|---|
| Name: | WORLDCOM |
| Address: | 2820 KOVR DRIVE |
| City,State,Zip: | WEST SACRAMENTO, CA |
| Year: | 2004 |
| County Code: | 57 |
| Air Basin: | SV |
| Facility ID: | 509 |
| Air District Name: | YS |
| SIC Code: | 4813 |
| Air District Name: | YOLO/SOLANO AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0 |
| Reactive Organic Gases Tons/Yr: | 0 |
| Carbon Monoxide Emissions Tons/Yr: | 0 |
| NOX - Oxides of Nitrogen Tons/Yr: | 0.2 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 0 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0 |

| | |
|---|---|
| Name: | WORLDCOM |
| Address: | 2820 KOVR DRIVE |
| City,State,Zip: | WEST SACRAMENTO, CA |
| Year: | 2005 |
| County Code: | 57 |
| Air Basin: | SV |
| Facility ID: | 509 |
| Air District Name: | YS |
| SIC Code: | 4813 |
| Air District Name: | YOLO/SOLANO AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0 |
| Reactive Organic Gases Tons/Yr: | 0 |
| Carbon Monoxide Emissions Tons/Yr: | .04 |
| NOX - Oxides of Nitrogen Tons/Yr: | .59 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 0 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0 |

**MCI COMMUNICATION SERVICES, INC (Continued)** **S102792639**

| | |
|---|---|
| Name: | WORLDCOM |
| Address: | 2820 KOVR DRIVE |
| City,State,Zip: | WEST SACRAMENTO, CA |
| Year: | 2006 |
| County Code: | 57 |
| Air Basin: | SV |
| Facility ID: | 509 |
| Air District Name: | YS |
| SIC Code: | 4813 |
| Air District Name: | YOLO/SOLANO AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0 |
| Reactive Organic Gases Tons/Yr: | 0 |
| Carbon Monoxide Emissions Tons/Yr: | .04 |
| NOX - Oxides of Nitrogen Tons/Yr: | .59 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 0 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0 |

| | |
|---|---|
| Name: | MCI COMMUNICATION SERVICES, INC |
| Address: | 2820 KOVR DRIVE |
| City,State,Zip: | WEST SACRAMENTO, CA |
| Year: | 2007 |
| County Code: | 57 |
| Air Basin: | SV |
| Facility ID: | 509 |
| Air District Name: | YS |
| SIC Code: | 4813 |
| Air District Name: | YOLO/SOLANO AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0 |
| Reactive Organic Gases Tons/Yr: | 0 |
| Carbon Monoxide Emissions Tons/Yr: | .04 |
| NOX - Oxides of Nitrogen Tons/Yr: | .73 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 0 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0 |

| | |
|---|---|
| Name: | MCI COMMUNICATION SERVICES, INC |
| Address: | 2820 KOVR DRIVE |
| City,State,Zip: | WEST SACRAMENTO, CA 95605 |
| Year: | 2008 |
| County Code: | 57 |
| Air Basin: | SV |
| Facility ID: | 509 |
| Air District Name: | YS |
| SIC Code: | 4813 |
| Air District Name: | YOLO/SOLANO AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0 |
| Reactive Organic Gases Tons/Yr: | 0 |
| Carbon Monoxide Emissions Tons/Yr: | .04 |
| NOX - Oxides of Nitrogen Tons/Yr: | .73 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |

**MCI COMMUNICATION SERVICES, INC (Continued)** **S102792639**

Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr: 0

Name: MCI COMMUNICATION SERVICES, INC
Address: 2820 KOVR DRIVE
City,State,Zip: WEST SACRAMENTO, CA 95605
Year: 2009
County Code: 57
Air Basin: SV
Facility ID: 509
Air District Name: YS
SIC Code: 4813
Air District Name: YOLO/SOLANO AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 4.0000000000000001E-2
NOX - Oxides of Nitrogen Tons/Yr: 0.72999999999999998
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr: 0

Name: MCI COMMUNICATION SERVICES, INC
Address: 2820 KOVR DRIVE
City,State,Zip: WEST SACRAMENTO, CA 95605
Year: 2010
County Code: 57
Air Basin: SV
Facility ID: 509
Air District Name: YS
SIC Code: 4813
Air District Name: YOLO/SOLANO AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 4.0000000000000001E-2
NOX - Oxides of Nitrogen Tons/Yr: 0.56000000000000005
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr: 0

Name: MCI COMMUNICATION SERVICES, INC
Address: 2820 KOVR DRIVE
City,State,Zip: WEST SACRAMENTO, CA 95605
Year: 2011
County Code: 57
Air Basin: SV
Facility ID: 509
Air District Name: YS
SIC Code: 4813
Air District Name: YOLO/SOLANO AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0

**MCI COMMUNICATION SERVICES, INC (Continued)** **S102792639**

| | |
|---|---|
| Carbon Monoxide Emissions Tons/Yr: | 0.04 |
| NOX - Oxides of Nitrogen Tons/Yr: | 0.56 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 0 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0 |

| | |
|---|---|
| Name: | MCI COMMUNICATION SERVICES, INC |
| Address: | 2820 KOVR DRIVE |
| City,State,Zip: | WEST SACRAMENTO, CA 95605 |
| Year: | 2012 |
| County Code: | 57 |
| Air Basin: | SV |
| Facility ID: | 509 |
| Air District Name: | YS |
| SIC Code: | 4813 |
| Air District Name: | YOLO/SOLANO AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0 |
| Reactive Organic Gases Tons/Yr: | 0 |
| Carbon Monoxide Emissions Tons/Yr: | 0.04 |
| NOX - Oxides of Nitrogen Tons/Yr: | 0.56 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 0 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0 |

| | |
|---|---|
| Name: | MCI COMMUNICATION SERVICES, INC |
| Address: | 2820 KOVR DRIVE |
| City,State,Zip: | WEST SACRAMENTO, CA 95605 |
| Year: | 2013 |
| County Code: | 57 |
| Air Basin: | SV |
| Facility ID: | 509 |
| Air District Name: | YS |
| SIC Code: | 4813 |
| Air District Name: | YOLO/SOLANO AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0.047806860284 |
| Reactive Organic Gases Tons/Yr: | 0.04 |
| Carbon Monoxide Emissions Tons/Yr: | 0.12 |
| NOX - Oxides of Nitrogen Tons/Yr: | 2.54 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 0 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0 |

| | |
|---|---|
| Name: | MCI COMMUNICATION SERVICES, INC |
| Address: | 2820 KOVR DRIVE |
| City,State,Zip: | WEST SACRAMENTO, CA 95605 |
| Year: | 2014 |
| County Code: | 57 |
| Air Basin: | SV |
| Facility ID: | 509 |
| Air District Name: | YS |
| SIC Code: | 4813 |
| Air District Name: | YOLO/SOLANO AQMD |
| Community Health Air Pollution Info System: | Not reported |

**MCI COMMUNICATION SERVICES, INC (Continued)** **S102792639**

| | |
|---|---|
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0 |
| Reactive Organic Gases Tons/Yr: | 0 |
| Carbon Monoxide Emissions Tons/Yr: | 0.05 |
| NOX - Oxides of Nitrogen Tons/Yr: | 1.23 |
| SOX - Oxides of Sulphur Tons/Yr: | 0.01 |
| Particulate Matter Tons/Yr: | 0 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0 |

| | |
|---|---|
| Name: | MCI COMMUNICATION SERVICES, INC |
| Address: | 2820 KOVR DRIVE |
| City,State,Zip: | WEST SACRAMENTO, CA 95605 |
| Year: | 2015 |
| County Code: | 57 |
| Air Basin: | SV |
| Facility ID: | 509 |
| Air District Name: | YS |
| SIC Code: | 4813 |
| Air District Name: | YOLO/SOLANO AQMD |
| Community Health Air Pollution Info System: | N |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0 |
| Reactive Organic Gases Tons/Yr: | 0 |
| Carbon Monoxide Emissions Tons/Yr: | 0.05 |
| NOX - Oxides of Nitrogen Tons/Yr: | 1.23 |
| SOX - Oxides of Sulphur Tons/Yr: | 0.01 |
| Particulate Matter Tons/Yr: | 0 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0 |

| | |
|---|---|
| Name: | MCI COMMUNICATION SERVICES, INC |
| Address: | 2820 KOVR DRIVE |
| City,State,Zip: | WEST SACRAMENTO, CA 95605 |
| Year: | 2016 |
| County Code: | 57 |
| Air Basin: | SV |
| Facility ID: | 509 |
| Air District Name: | YS |
| SIC Code: | 4813 |
| Air District Name: | YOLO-SOLANO AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0.022766078543 |
| Reactive Organic Gases Tons/Yr: | 0.02 |
| Carbon Monoxide Emissions Tons/Yr: | 0.22 |
| NOX - Oxides of Nitrogen Tons/Yr: | 1.1 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 0.10245901639 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0.1 |

| | |
|---|---|
| Name: | MCI COMMUNICATION SERVICES, INC |
| Address: | 2820 KOVR DRIVE |
| City,State,Zip: | WEST SACRAMENTO, CA 95605 |
| Year: | 2017 |
| County Code: | 57 |
| Air Basin: | SV |
| Facility ID: | 509 |
| Air District Name: | YS |

**MCI COMMUNICATION SERVICES, INC (Continued)** **S102792639**

| | |
|---|---|
| SIC Code: | 4813 |
| Air District Name: | YOLO-SOLANO AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0.045532157086 |
| Reactive Organic Gases Tons/Yr: | 0.04 |
| Carbon Monoxide Emissions Tons/Yr: | 0.41 |
| NOX - Oxides of Nitrogen Tons/Yr: | 1.9 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 0.16096579477 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0.16 |

| | |
|---|---|
| Name: | MCI COMMUNICATION SERVICES, INC |
| Address: | 2820 KOVR DRIVE |
| City,State,Zip: | WEST SACRAMENTO, CA 95605 |
| Year: | 2018 |
| County Code: | 57 |
| Air Basin: | SV |
| Facility ID: | 509 |
| Air District Name: | YS |
| SIC Code: | 4813 |
| Air District Name: | YOLO-SOLANO AQMD |
| Community Health Air Pollution Info System: | Not reported |
| Consolidated Emission Reporting Rule: | Not reported |
| Total Organic Hydrocarbon Gases Tons/Yr: | 0.047484122304 |
| Reactive Organic Gases Tons/Yr: | 0.04 |
| Carbon Monoxide Emissions Tons/Yr: | 0.19 |
| NOX - Oxides of Nitrogen Tons/Yr: | 0.88 |
| SOX - Oxides of Sulphur Tons/Yr: | 0 |
| Particulate Matter Tons/Yr: | 0.082620724346 |
| Part. Matter 10 Micrometers and Smllr Tons/Yr: | 0.08 |

CERS:

| | |
|---|---|
| Name: | MCI COMMUNICATION SERVICES, INC |
| Address: | 2820 KOVR DRIVE |
| City,State,Zip: | WEST SACRAMENTO, CA 95605 |
| Site ID: | 479803 |
| CERS ID: | 110041118082 |
| CERS Description: | US EPA Air Emission Inventory System (EIS) |

| | |
|---|---|
| Name: | MCI TELECOMMUNICATIONS CORP |
| Address: | 2820 KOVR DRIVE |
| City,State,Zip: | WEST SACRAMENTO, CA 95605 |
| Site ID: | 479809 |
| CERS ID: | 110040992637 |
| CERS Description: | US EPA Air Emission Inventory System (EIS) |

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**O118** **PG&E CALL CENTER** **LUST** **S105911360**
**SE** **2740 GATEWAY OAKS DRIVE** **Cortese** **N/A**
**1/4-1/2** **SACRAMENTO, CA 95833** **CERS**
**0.473 mi.**
**2495 ft.** **Site 1 of 3 in cluster O**

**Actual:**
**17 ft.**

**Focus Map:**
**9**

LUST REG 5:

| | |
|---|---|
| Name: | PG&E CALL CENTER |
| Address: | 2740 GATEWAY OAKS DRIVE |
| City: | SACRAMENTO |

**PG&E CALL CENTER (Continued)** **S105911360**

Region: 5
Status: Case Closed
Case Number: 341390
Case Type: Other ground water affected
Substance: GASOLINE
Staff Initials: VJF
Lead Agency: Local
Program: LUST
MTBE Code: N/A

CORTESE:

| | |
|---|---|
| Name: | PG&E CALL CENTER |
| Address: | 2740 GATEWAY OAKS DRIVE |
| City,State,Zip: | SACRAMENTO, CA |
| Region: | CORTESE |
| Envirostor Id: | Not reported |
| Global ID: | T0606774789 |
| Site/Facility Type: | LUST CLEANUP SITE |
| Cleanup Status: | COMPLETED - CASE CLOSED |
| Status Date: | Not reported |
| Site Code: | Not reported |
| Latitude: | Not reported |
| Longitude: | Not reported |
| Owner: | Not reported |
| Enf Type: | Not reported |
| Swat R: | Not reported |
| Flag: | active |
| Order No: | Not reported |
| Waste Discharge System No: | Not reported |
| Effective Date: | Not reported |
| Region 2: | Not reported |
| WID Id: | Not reported |
| Solid Waste Id No: | Not reported |
| Waste Management Uit Name: | Not reported |
| File Name: | Active Open |

CERS:

| | |
|---|---|
| Name: | PG&E CALL CENTER |
| Address: | 2740 GATEWAY OAKS DRIVE |
| City,State,Zip: | SACRAMENTO, CA 95833-3599 |
| Site ID: | 225383 |
| CERS ID: | T0606774789 |
| CERS Description: | Leaking Underground Storage Tank Cleanup Site |

Affiliation:

| | |
|---|---|
| Affiliation Type Desc: | Regional Board Caseworker |
| Entity Name: | VERA FISCHER - CENTRAL VALLEY RWQCB (REGION 5S) |
| Entity Title: | Not reported |
| Affiliation Address: | 11020 SUN CENTER DRIVE #200 |
| Affiliation City: | RANCHO CORDOVA |
| Affiliation State: | CA |
| Affiliation Country: | Not reported |
| Affiliation Zip: | Not reported |
| Affiliation Phone: | Not reported |

**O119** **PG&E CALL CENTER** **LUST** **U003786806**
**SE** **2740 GATEWAY OAKS DRIVE** **N/A**
**1/4-1/2** **SACRAMENTO, CA 95833**
**0.473 mi.**
**2495 ft.** **Site 2 of 3 in cluster O**

**Actual:**
**17 ft.**

**Focus Map:**
**9**

LUST:

| | |
|---|---|
| Name: | PG&E CALL CENTER |
| Address: | 2740 GATEWAY OAKS DRIVE |
| City,State,Zip: | SACRAMENTO, CA 95833-3599 |
| Lead Agency: | SACRAMENTO COUNTY LOP |
| Case Type: | LUST Cleanup Site |
| Geo Track: | http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0606774789 |
| Global Id: | T0606774789 |
| Latitude: | 38.617677 |
| Longitude: | -121.517198 |
| Status: | Completed - Case Closed |
| Status Date: | 12/07/2005 |
| Case Worker: | Not reported |
| RB Case Number: | 341390 |
| Local Agency: | Not reported |
| File Location: | Local Agency |
| Local Case Number: | G027 |
| Potential Media Affect: | Other Groundwater (uses other than drinking water) |
| Potential Contaminants of Concern: | Gasoline |
| Site History: | Not reported |

LUST:

| | |
|---|---|
| Global Id: | T0606774789 |
| Contact Type: | Regional Board Caseworker |
| Contact Name: | VERA FISCHER |
| Organization Name: | CENTRAL VALLEY RWQCB (REGION 5S) |
| Address: | 11020 SUN CENTER DRIVE #200 |
| City: | RANCHO CORDOVA |
| Email: | vera.fischer@waterboards.ca.gov |
| Phone Number: | Not reported |

LUST:

| | |
|---|---|
| Global Id: | T0606774789 |
| Action Type: | ENFORCEMENT |
| Date: | 02/02/2005 |
| Action: | * Verbal Communication |
| | |
| Global Id: | T0606774789 |
| Action Type: | ENFORCEMENT |
| Date: | 11/22/2004 |
| Action: | File review |
| | |
| Global Id: | T0606774789 |
| Action Type: | ENFORCEMENT |
| Date: | 02/03/2005 |
| Action: | * Verbal Communication |
| | |
| Global Id: | T0606774789 |
| Action Type: | ENFORCEMENT |
| Date: | 06/01/2004 |
| Action: | File review |
| | |
| Global Id: | T0606774789 |

**PG&E CALL CENTER (Continued)** **U003786806**

Action Type: Other
Date: 02/26/2003
Action: Leak Reported

Global Id: T0606774789
Action Type: ENFORCEMENT
Date: 09/03/2004
Action: File review

Global Id: T0606774789
Action Type: ENFORCEMENT
Date: 04/22/2005
Action: LOP Case Closure Summary to RB

Global Id: T0606774789
Action Type: ENFORCEMENT
Date: 09/02/2004
Action: File review

Global Id: T0606774789
Action Type: ENFORCEMENT
Date: 12/07/2005
Action: Closure/No Further Action Letter

Global Id: T0606774789
Action Type: ENFORCEMENT
Date: 05/01/2003
Action: Notice of Responsibility

Global Id: T0606774789
Action Type: ENFORCEMENT
Date: 04/02/2004
Action: File review

Global Id: T0606774789
Action Type: ENFORCEMENT
Date: 05/01/2003
Action: File review

Global Id: T0606774789
Action Type: ENFORCEMENT
Date: 06/11/2003
Action: File review

Global Id: T0606774789
Action Type: ENFORCEMENT
Date: 03/22/2004
Action: File review

Global Id: T0606774789
Action Type: ENFORCEMENT
Date: 11/14/2005
Action: * Verbal Communication

Global Id: T0606774789
Action Type: ENFORCEMENT
Date: 09/12/2005

**PG&E CALL CENTER (Continued)** **U003786806**

Action: Site Visit / Inspection / Sampling

Global Id: T0606774789
Action Type: ENFORCEMENT
Date: 05/01/2003
Action: Unauthorized Release Form - #5/1/2003

Global Id: T0606774789
Action Type: Other
Date: 11/20/2002
Action: Leak Discovery

Global Id: T0606774789
Action Type: ENFORCEMENT
Date: 06/10/2003
Action: Other Report - #5/11/2017

Global Id: T0606774789
Action Type: REMEDIATION
Date: 11/20/2002
Action: Not reported

Global Id: T0606774789
Action Type: ENFORCEMENT
Date: 04/25/2005
Action: Staff Letter - #5/2/2003

Global Id: T0606774789
Action Type: Other
Date: 11/20/2002
Action: Leak Stopped

LUST:
Global Id: T0606774789
Status: Open - Case Begin Date
Status Date: 11/20/2002

Global Id: T0606774789
Status: Completed - Case Closed
Status Date: 12/07/2005

---

**O120** **PG&E CALL CENTER** **Sacramento Co. CS** **S119102382**
**SE** **2740 GATEWAY OAKS DR** **N/A**
**1/4-1/2** **SACRAMENTO, CA**
**0.473 mi.**
**2495 ft.** **Site 3 of 3 in cluster O**

**Actual:**
**17 ft.**

**Focus Map:**
**9**

Sacramento Co. CS:
Name: PG&E CALL CENTER
Address: 2740 GATEWAY OAKS DR
City,State,Zip: SACRAMENTO, CA
State Site Number: G027
Lead Staff: Marcus, B.
Lead Agency: HM
Remedial Action Taken: NO
Substance: Not reported

**PG&E CALL CENTER (Continued)** **S119102382**

| | |
|---|---|
| Date Reported: | Not reported |
| Facility Id: | RO0001514 |
| Case Type: | Undefined |
| Case Closed: | Y |
| **Date Closed:** | **11/28/2005** |
| **Case Type:** | **Undetermined affected** |
| **Substance:** | **Not reported** |

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**121**
**SSW**
**1/2-1**
**0.770 mi.**
**4063 ft.**

**RIVERPOINT BUSINESS PARK**
**BETWN I-80, REED AVE, HARBOR BLVD.**
**WEST SACRAMENTO, CA 95691**

**ENVIROSTOR** **S100204298**
**N/A**

**Actual:**
**18 ft.**

**Focus Map:**
**11**

ENVIROSTOR:

| | |
|---|---|
| Name: | RIVERPOINT BUSINESS PARK |
| Address: | BETWN I-80, REED AVE, HARBOR BLVD. |
| City,State,Zip: | WEST SACRAMENTO, CA 95691 |
| Facility ID: | 57990002 |
| Status: | Refer: RWQCB |
| Status Date: | 01/28/2009 |
| Site Code: | Not reported |
| Site Type: | Evaluation |
| Site Type Detailed: | Evaluation |
| Acres: | 1 |
| NPL: | NO |
| Regulatory Agencies: | NONE SPECIFIED |
| Lead Agency: | NONE SPECIFIED |
| Program Manager: | Not reported |
| Supervisor: | Referred - Not Assigned |
| Division Branch: | Cleanup Sacramento |
| Assembly: | 07 |
| Senate: | 06 |
| Special Program: | Not reported |
| Restricted Use: | NO |
| Site Mgmt Req: | NONE SPECIFIED |
| Funding: | Not reported |
| Latitude: | 38.58904 |
| Longitude: | -121.5501 |
| APN: | NONE SPECIFIED |
| Past Use: | BATTERY RECLAMATION |
| Potential COC: | * CONTAMINATED SOIL Lead |
| Confirmed COC: | Lead |
| Potential Description: | SOIL |
| Alias Name: | Home Depot, Wal-Mart, RANBO |
| Alias Type: | Alternate Name |
| Alias Name: | Southern Pacific Riverpoint Property 57990001 |
| Alias Type: | Alternate Name |
| Alias Name: | L10007745621 |
| Alias Type: | GeoTracker Global ID |
| Alias Name: | SL0611367066 |
| Alias Type: | GeoTracker Global ID |
| Alias Name: | SL0611386604 |
| Alias Type: | GeoTracker Global ID |
| Alias Name: | T10000000661 |
| Alias Type: | GeoTracker Global ID |
| Alias Name: | T10000000662 |
| Alias Type: | GeoTracker Global ID |

**RIVERPOINT BUSINESS PARK (Continued)** **S100204298**

Alias Name: 57990002
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 08/21/1991
Comments: Surface soils contaminated with total lead exceeding 1000 parts per million. Lead contaminated soils were remediated in 1990 & replaced onsite under Regional Water Quality Control Board (RWQCB) oversight. RWQCB monitoring groundwater. Recommend referral to RWQCB with request for deed restriction.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 01/12/1995
Comments: In November 1994, Yolo County Environmental Health contacted the Department to obtain information on the site. They informed Department staff that they would be providing oversight for the project. The Department agreed to refer the site to the County. The County file is #H95.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

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**122**
**North**
**1/2-1**
**0.840 mi.**
**4437 ft.**

**NATOMAS MIDDLE SCHOOL**
**3700 DEL PASO RD**
**SACRAMENTO, CA 95834**

**ENVIROSTOR** **S101628547**
**SCH** **N/A**
**SWEEPS UST**
**CA FID UST**

**Actual:**
**19 ft.**

**Focus Map:**
**2**

ENVIROSTOR:
Name: NATOMAS MIDDLE SCHOOL
Address: 3710 DEL PASO BOULEVARD
City,State,Zip: SACRAMENTO, CA 95834
Facility ID: 34010009
Status: No Further Action
Status Date: 01/08/2001
Site Code: 104129
Site Type: School Investigation
Site Type Detailed: School
Acres: 10
NPL: NO
Regulatory Agencies: DTSC
Lead Agency: DTSC
Program Manager: Not reported
Supervisor: Charles Ridenour
Division Branch: Northern California Schools & Santa Susana
Assembly: 07

**NATOMAS MIDDLE SCHOOL (Continued)** **S101628547**

Senate: 06
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 38.6561
Longitude: -121.5563
APN: NONE SPECIFIED
Past Use: AGRICULTURAL - ROW CROPS
Potential COC: Arsenic Chlordane DDD DDE DDT Lead
Confirmed COC: 30001-NO 30004-NO 30006-NO 30007-NO 30008-NO 30013-NO
Potential Description: SOIL
Alias Name: NATOMAS MIDDLE SCHOOL
Alias Type: Alternate Name
Alias Name: NATOMAS UNIFIED SCHOOL DISTRICT
Alias Type: Alternate Name
Alias Name: NATOMAS USD-NATOMAS MS/VCA
Alias Type: Alternate Name
Alias Name: 104129
Alias Type: Project Code (Site Code)
Alias Name: 34010009
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 01/08/2001
Comments: DTSC Approved the PEA with a no further action determination. DTSC's determination is based on a 1-3-2001 letter from NUSD indicating that all prblic participation requirements have been met.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 09/05/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 02/02/2001
Comments: DTSC sent a CRU to the accounting unit to summarize costs associated with the PEA

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 06/30/2000
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported

**NATOMAS MIDDLE SCHOOL (Continued)** **S101628547**

Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SCH:

Name: NATOMAS MIDDLE SCHOOL
Address: 3710 DEL PASO BOULEVARD
City,State,Zip: SACRAMENTO, CA 95834
Facility ID: 34010009
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 10
National Priorities List: NO
Cleanup Oversight Agencies: DTSC
Lead Agency: DTSC
Lead Agency Description: * DTSC
Project Manager: Not reported
Supervisor: Charles Ridenour
Division Branch: Northern California Schools & Santa Susana
Site Code: 104129
Assembly: 07
Senate: 06
Special Program Status: Not reported
Status: No Further Action
Status Date: 01/08/2001
Restricted Use: NO
Funding: School District
Latitude: 38.6561
Longitude: -121.5563
APN: NONE SPECIFIED
Past Use: AGRICULTURAL - ROW CROPS
Potential COC: Arsenic, Chlordane, DDD, DDE, DDT, Lead
Confirmed COC: 30001-NO, 30004-NO, 30006-NO, 30007-NO, 30008-NO, 30013-NO
Potential Description: SOIL
Alias Name: NATOMAS MIDDLE SCHOOL
Alias Type: Alternate Name
Alias Name: NATOMAS UNIFIED SCHOOL DISTRICT
Alias Type: Alternate Name
Alias Name: NATOMAS USD-NATOMAS MS/VCA
Alias Type: Alternate Name
Alias Name: 104129
Alias Type: Project Code (Site Code)
Alias Name: 34010009
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 01/08/2001
Comments: DTSC Approved the PEA with a no further action determination. DTSC's determination is based on a 1-3-2001 letter from NUSD indicating that all prblic participation requirements have been met.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported

**NATOMAS MIDDLE SCHOOL (Continued)** **S101628547**

Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 09/05/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 02/02/2001
Comments: DTSC sent a CRU to the accounting unit to summarize costs associated with the PEA

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 06/30/2000
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SWEEPS UST:
Name: NATOMAS MIDDLE SCHOOL
Address: 3700 DEL PASO RD
City: SACRAMENTO
Status: Not reported
Comp Number: 22743
Number: Not reported
Board Of Equalization: 44-019117
Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported
Owner Tank Id: Not reported
SWRCB Tank Id: 34-000-022743-000002
Tank Status: Not reported
Capacity: 1000
Active Date: Not reported
Tank Use: M.V. FUEL
STG: PRODUCT
Content: REG UNLEADED
Number Of Tanks: 2

Name: NATOMAS MIDDLE SCHOOL
Address: 3700 DEL PASO RD
City: SACRAMENTO
Status: Not reported
Comp Number: 22743
Number: Not reported
Board Of Equalization: 44-019117
Referral Date: Not reported
Action Date: Not reported

**NATOMAS MIDDLE SCHOOL (Continued)** **S101628547**

| | |
|---|---|
| Created Date: | Not reported |
| Owner Tank Id: | Not reported |
| SWRCB Tank Id: | 34-000-022743-000003 |
| Tank Status: | Not reported |
| Capacity: | 4000 |
| Active Date: | Not reported |
| Tank Use: | M.V. FUEL |
| STG: | PRODUCT |
| Content: | DIESEL |
| Number Of Tanks: | Not reported |

CA FID UST:

| | |
|---|---|
| Facility ID: | 34000170 |
| Regulated By: | UTNKI |
| Regulated ID: | 00022743 |
| Cortese Code: | Not reported |
| SIC Code: | Not reported |
| Facility Phone: | 9166413307 |
| Mail To: | Not reported |
| Mailing Address: | 1515 SPORTS DR |
| Mailing Address 2: | Not reported |
| Mailing City,St,Zip: | SACRAMENTO 95834 |
| Contact: | Not reported |
| Contact Phone: | Not reported |
| DUNs Number: | Not reported |
| NPDES Number: | Not reported |
| EPA ID: | Not reported |
| Comments: | Not reported |
| Status: | Inactive |

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**123** **WESTLAKE ELEMENTARY SCHOOL** **ENVIROSTOR** **S105954549**
**NNW** **DEL PASO ROAD/WYNDVIEW WAY** **SCH** **N/A**
**1/2-1** **SACRAMENTO, CA 95834**
**0.930 mi.**
**4911 ft.**

**Actual:**
**21 ft.**

**Focus Map:**
**2**

ENVIROSTOR:

| | |
|---|---|
| Name: | WESTLAKE ELEMENTARY SCHOOL |
| Address: | DEL PASO ROAD/WYNDVIEW WAY |
| City,State,Zip: | SACRAMENTO, CA 95834 |
| Facility ID: | 34010019 |
| Status: | Inactive - Withdrawn |
| Status Date: | 01/22/2013 |
| Site Code: | 104330 |
| Site Type: | School Investigation |
| Site Type Detailed: | School |
| Acres: | 10.5 |
| NPL: | NO |
| Regulatory Agencies: | SMBRP |
| Lead Agency: | SMBRP |
| Program Manager: | Not reported |
| Supervisor: | Juan Koponen |
| Division Branch: | Northern California Schools & Santa Susana |
| Assembly: | 07 |
| Senate: | 06 |
| Special Program: | Not reported |
| Restricted Use: | NO |

**WESTLAKE ELEMENTARY SCHOOL (Continued)** **S105954549**

Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 38.65642
Longitude: -121.5491
APN: NONE SPECIFIED
Past Use: AGRICULTURAL - ROW CROPS
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: NATOMAS USD
Alias Type: Alternate Name
Alias Name: NATOMAS USD-WESTLAKE ELEMENTARY SCHOOL
Alias Type: Alternate Name
Alias Name: WESTLAKE ELEMENTARY SCHOOL
Alias Type: Alternate Name
Alias Name: 104330
Alias Type: Project Code (Site Code)
Alias Name: 34010019
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 03/21/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 06/10/2003
Comments: Imput date in all fields to clear deliverable.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 03/22/2005
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SCH:

Name: WESTLAKE ELEMENTARY SCHOOL
Address: DEL PASO ROAD/WYNDVIEW WAY
City,State,Zip: SACRAMENTO, CA 95834
Facility ID: 34010019
Site Type: School Investigation
Site Type Detail: School

**WESTLAKE ELEMENTARY SCHOOL (Continued)** **S105954549**

| | |
|---|---|
| Site Mgmt. Req.: | NONE SPECIFIED |
| Acres: | 10.5 |
| National Priorities List: | NO |
| Cleanup Oversight Agencies: | SMBRP |
| Lead Agency: | SMBRP |
| Lead Agency Description: | DTSC - Site Cleanup Program |
| Project Manager: | Not reported |
| Supervisor: | Juan Koponen |
| Division Branch: | Northern California Schools & Santa Susana |
| Site Code: | 104330 |
| Assembly: | 07 |
| Senate: | 06 |
| Special Program Status: | Not reported |
| Status: | Inactive - Withdrawn |
| Status Date: | 01/22/2013 |
| Restricted Use: | NO |
| Funding: | School District |
| Latitude: | 38.65642 |
| Longitude: | -121.5491 |
| APN: | NONE SPECIFIED |
| Past Use: | AGRICULTURAL - ROW CROPS |
| Potential COC: | NONE SPECIFIED |
| Confirmed COC: | NONE SPECIFIED |
| Potential Description: | NONE SPECIFIED |
| Alias Name: | NATOMAS USD |
| Alias Type: | Alternate Name |
| Alias Name: | NATOMAS USD-WESTLAKE ELEMENTARY SCHOOL |
| Alias Type: | Alternate Name |
| Alias Name: | WESTLAKE ELEMENTARY SCHOOL |
| Alias Type: | Alternate Name |
| Alias Name: | 104330 |
| Alias Type: | Project Code (Site Code) |
| Alias Name: | 34010019 |
| Alias Type: | Envirostor ID Number |

Completed Info:

| | |
|---|---|
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Phase 1 |
| Completed Date: | 03/21/2003 |
| Comments: | Not reported |
| | |
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Technical Report |
| Completed Date: | 06/10/2003 |
| Comments: | Imput date in all fields to clear deliverable. |
| | |
| Completed Area Name: | PROJECT WIDE |
| Completed Sub Area Name: | Not reported |
| Completed Document Type: | Cost Recovery Closeout Memo |
| Completed Date: | 03/22/2005 |
| Comments: | Not reported |
| | |
| Future Area Name: | Not reported |
| Future Sub Area Name: | Not reported |
| Future Document Type: | Not reported |
| Future Due Date: | Not reported |

**WESTLAKE ELEMENTARY SCHOOL (Continued)** **S105954549**

Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

Count: 121 records

ORPHAN SUMMARY

| City | EDR ID | Site Name | Site Address | Zip | Database(s) |
|---|---|---|---|---|---|
| SACRAMENTO | S126371057 | CALTRANS 03-0H4704 | I-80 PM 1.2 TO 11.3 | 95834 | HWTS |
| SACRAMENTO | S126374539 | JACKSON SQUARE PROPERTIES | 2025 W EL CAMINO AVE #130, #227 | 95833 | HWTS |
| SACRAMENTO | S124596500 | CITY OF SAC/DEPT OF TRANSPORTATION/W EL CAMINO BRIDGE | W EL CAMINO AVE BETW AMERICAN | 95833 | HWTS |
| SACRAMENTO | S124552835 | BEL AIR#510 | 1540 EL CAMINO AVE | 95833 | HWTS |
| SACRAMENTO | S124798704 | LABRADO CHIROPRACTIC | 1620 WEST EL CAMINO AVE STE 145 | 95833 | HWTS |
| SACRAMENTO | S124616134 | ATLAS FIELD SERVICES, INC. | 2580 W EL CAMINO AVE | 95833 | HWTS |
| SACRAMENTO | S124912000 | CITY OF SACRAMENTO FIRE STATION 43 | 4201 EL CENTRO ROAD | 95834 | HWTS |
| SACRAMENTO | S106782284 | CITY OF SACRAMENTO | I-5 AT SAN JUAN AVE | | Sacramento Co. CS |
| SACRAMENTO | 8873464 | | I-80 WB /NR OLD SACRAMENTO EXIT | | ERNS |
| SACRAMENTO | 2000530088 | | I-80 AND BUSINESS 80 & | | ERNS |
| SACRAMENTO | 8872839 | | EL CENTRO RD 1 1/2 MI N OF DEL PASO RD | | ERNS |
| SACRAMENTO | 8875054 | | I-80 AND EL CENTRO RD | | ERNS |
| SACRAMENTO | 8875055 | | I-80 AND EL CENTRO RD | | ERNS |
| SACRAMENTO | S106230370 | SACRAMENTO-YOLO MOSQUITO & VECTOR CONTR( DISTRICT FACILITY | EL CAMINO AVE & BUISNESS HIGHWAY. 80, AND SILICA & | | CPS-SLIC |
| SACRAMENTO | 96040987 | | I-80 AND 1-5 | | HMIRS |
| SACRAMENTO | 2002080307 | | I-80 1 MI E OF EXIT | | HMIRS |
| SACRAMENTO | S111753836 | | WEST BOUND I-80 WEST OF EL CAMINO | 95833 | CHMIRS |
| SACRAMENTO | S105674141 | | EB I-80 AT NORTHGATE BLVD | | CHMIRS |
| SACRAMENTO | S105645803 | | WB I-80 AT MADISON AVE. | | CHMIRS |
| SACRAMENTO | S105645806 | | WB I-80 AT MADISON AVE | | CHMIRS |
| SACRAMENTO | S105674946 | | NB-I-5 JNO OF EB I-80 | | CHMIRS |
| SACRAMENTO | S105646187 | | EB 80 #3 LANE BRYTBEND BRIDGE TO WEST EL CAMINO | | CHMIRS |
| SACRAMENTO | S110981327 | | 49ERS TRUCK STOP, I-80, EXIT 85 | | CHMIRS |
| SACRAMENTO | S110981092 | | E/B I-80 AT NORWOOD | | CHMIRS |
| SACRAMENTO | S110423898 | | S/B 5 AT I-80 | | CHMIRS |
| SACRAMENTO | S110420135 | | 49ER TRUCK STOP, W. EL CAMINO AT I-80 | | CHMIRS |
| SACRAMENTO | S110983449 | | MADISON AVE ON RAMP TO WB I-80. | | CHMIRS |
| SACRAMENTO | S106401084 | | WB I-80 AT NORTHGATE, #4 LANE. | | CHMIRS |
| SACRAMENTO | S106397902 | | ERICSON AT EL CAMINO | | CHMIRS |
| SACRAMENTO | S106396490 | | WB I-80 EAST OF WINTERS ST. | | CHMIRS |
| SACRAMENTO | S111757519 | | N/B I-5 TO W/B I-80 | | CHMIRS |
| SACRAMENTO | S111757925 | | NB-51 (BUSINESS I-80), MP 3.2, AT EXPOSITION BLVD OFF-RAMP | | CHMIRS |
| SACRAMENTO | S111756860 | | N/B 5 AT W. EL CAMINO | | CHMIRS |
| SACRAMENTO | S121504635 | | EB INTERSTATE 80 AT EL CAMINO EXIT. | | CHMIRS |
| SACRAMENTO | S108401183 | | EL CAMINO AT MISSION | | CHMIRS |
| SACRAMENTO | S112831110 | | E/B 80 WEST OF WEST EL CAMINO | | CHMIRS |
| SACRAMENTO | S112831630 | | LONGVIEW DR. AND I-80 | | CHMIRS |
| SACRAMENTO | S112830177 | | WB BUS I-80 @ FULTON AVE | | CHMIRS |
| SACRAMENTO | S112828733 | | NB I-5 AT WEST EL CAMINO | | CHMIRS |
| SACRAMENTO | S109047729 | | I-80 AT EXIT 97, SACRAMENTO RD. | | CHMIRS |

Count: 121 records

ORPHAN SUMMARY

| City | EDR ID | Site Name | Site Address | Zip | Database(s) |
|---|---|---|---|---|---|
| SACRAMENTO | S109045924 | | WATT AVE ON-RAMP TO EASTBOUND I-80 | | CHMIRS |
| SACRAMENTO | S109046327 | | EL CAMINO AVE | | CHMIRS |
| SACRAMENTO | S124449449 | | I-80 EAST BOUND EAST OF EL CAMINO | | CHMIRS |
| SACRAMENTO | S117332190 | | SAN JUAN RD. AND GARDEN HWY., 5 MILES UPSTREAM OF CHEVYS RESTAURANT | 95834 | CHMIRS |
| SACRAMENTO | S109039538 | | 49 TRUCK STOP, 2828 EL CENTRO ROAD | 95833 | CHMIRS |
| SACRAMENTO | S105630171 | | EL CENTRO ROAD AT ELKHORN BLVD | | CHMIRS |
| SACRAMENTO | S105632131 | | EL CENTRO RD, NEAR ALVERTA AND LEVI RD | | CHMIRS |
| SACRAMENTO | S105652729 | | GREENBACK AND SAN JUAN | | CHMIRS |
| SACRAMENTO | S110977188 | | SAN JUAN ROAD AT I-5 | | CHMIRS |
| SACRAMENTO | S105890225 | | EL CENTRO RD. / 1 MILE NORTH OF DEL PASO RD. | | CHMIRS |
| SACRAMENTO | S118189094 | | SAN JUAN, EAST OF GARDEN HIGHWAY | | CHMIRS |
| SACRAMENTO | S106391317 | | SOUTH SIDE OF MADISON AVE BETWEEN SAN JUAN AND SUNRISE BLVDS | | CHMIRS |
| SACRAMENTO | S100279153 | | I-80 / EL CENTRO RD. | | CHMIRS |
| SACRAMENTO | S109044334 | | UPPER SUNRISE ACCESS TO AMERICAN RIVER (APPROX. 1 MILE UPRIVER FROM SUNRISE BRIDGE) | | CHMIRS |
| SACRAMENTO | S108403643 | | 4880 SAN JUAN AND SUNSET | | CHMIRS |
| SACRAMENTO | 1026047702 | CALTRANS 03-0H4704 | I-80 PM 1.2 TO 11.3 | 95834 | RCRA NonGen / NLR |
| SACRAMENTO | 1026052721 | JACKSON SQUARE PROPERTIES | 2025 W EL CAMINO AVE #130, #227 | 95833 | RCRA NonGen / NLR |
| SACRAMENTO | 1025828070 | TRANS CONTINENTAL EXPRESS | E/B I-80 1/4 MILE PAST W. EL CAMINO | 95833 | RCRA NonGen / NLR |
| SACRAMENTO | 1026413278 | CALTRANS 03-0H4704 | I-80 PM 1.2 TO 11.3 | 95834 | FINDS |
| SACRAMENTO | 1025963571 | TRANS CONTINENTAL EXPRESS | E/B I-80 1/4 MILE PAST W. EL CAMINO | 95833 | FINDS |
| SACRAMENTO | 1026447004 | JACKSON SQUARE PROPERTIES | 2025 W EL CAMINO AVE #130, #227 | 95833 | FINDS |
| SACRAMENTO | 1023274074 | SUMP 17 | SAN JUAN  RD & WITTER WAY | 95834 | FINDS |
| SACRAMENTO | 1026128830 | CALTRANS 03-0H4704 | I-80 PM 1.2 TO 11.3 | 95834 | ECHO |
| SACRAMENTO | 1026138569 | JACKSON SQUARE PROPERTIES | 2025 W EL CAMINO AVE #130, #227 | 95833 | ECHO |
| SACRAMENTO | 1025499186 | TRANS CONTINENTAL EXPRESS | E/B I-80 1/4 MILE PAST W. EL CAMINO | 95833 | ECHO |
| SACRAMENTO | S124725262 | TRANS CONTINENTAL EXPRESS | E/B I-80 1/4 MILE PAST W. EL CAMINO | 95833 | HAZNET, HWTS |
| SACRAMENTO | S118204072 | RVS EXPRESS LLC | I5 SB @ EL CAMINO AVE | 95833 | HAZNET, HWTS |
| SACRAMENTO | S112959784 | SACRAMENTO REGIONAL COUNTY SANITARY DIST | N OF INTERSECTION SAN JUAN RD | 95833 | HAZNET, HWTS |
| SACRAMENTO | S121452199 | NATOMAS CENTRAL STOCKPILE | DEL PASO & EL CENTRO | 95835 | NPDES |
| SACRAMENTO | S117709237 | RIVER VIEW UNIT NO 1 | SAN JUAN RD AND EL CENTRO RD | 95834 | NPDES, CIWQS |
| SACRAMENTO | S121687184 | UNITY PARKSIDE | W RIVER DR & W EL CAMINO | 95605 | CIWQS |
| SACRAMENTO | S121668491 | RIVER OAKS | W EL CAMINO AVE | 95833 | CIWQS |
| SACRAMENTO | S121658103 | NATOMAS FIELD | WEST EL CAMINO AVENUE | 95833 | CIWQS |
| SACRAMENTO | S121662706 | PARK EL CAMINO | NW CNR WEST EL CAMINO ORCHARD | 95833 | CIWQS |
| SACRAMENTO | S121672418 | SE CORNER W EL CAMINO ORCHA | SE CORNER OF W EL CAMINO ORCHA | 95833 | CIWQS |
| SACRAMENTO | S121658123 | NATOMAS PK DR S E EL CAMINO | NATOMAS PK DR S OF E EL CAMINO | | CIWQS |
| SACRAMENTO | S121690861 | WEST EL CAMINO WIDENING EXPANSION PROJ | WEST EL CAMINO & I 80 | | CIWQS |
| SACRAMENTO | S121690862 | WEST EL CAMINO | WEST EL CAMINO AVE CROSS GRASSLANDS DR | | CIWQS |
| SACRAMENTO | S121691180 | WESTLAKE VILLAGE 8 | EL CENTRO RD AND DEL PASO RD | 95835 | CIWQS |
| SACRAMENTO | S121691032 | WESTBOROUGH VILLAGE 6 | EL CENTRO RD AND DEL PASO RD | 95835 | CIWQS |
| SACRAMENTO | S121691188 | WESTLAKE VILLAGE GREENS VILLAGE 10 PHASE 1 | BAYOU WY EL CENTRO RD | 95835 | CIWQS |
| SACRAMENTO | S121668560 | RIVER VIEW UNIT NO 2 | SAN JUAN RD AND EL CENTRO RD | 95834 | CIWQS |
| SACRAMENTO | S121658110 | NATOMAS LANDING | NEC DEL PASO RD & EL CENTRO RD | 95834 | CIWQS |
| SACRAMENTO | S121668554 | RIVER VIEW NO 1 UNITS A B | SAN JUAN RD AND GUADALASARA WY | 95834 | CIWQS |

Count: 121 records

ORPHAN SUMMARY

| City | EDR ID | Site Name | Site Address | Zip | Database(s) |
|---|---|---|---|---|---|
| SACRAMENTO | S121662936 | PARKVIEW VILLAGES 3 THRU 6 | N OF SAN JUAN & W OF GUILLERNO | 95834 | CIWQS |
| SACRAMENTO | S121671058 | SAN JUAN RESERVOIR | DETENTION BASIN 7A SAN JUAN RD | 95834 | CIWQS |
| SACRAMENTO | S121678796 | TAPATIO & CAPISTRANO | DEL PASO & EL CENTRO | 95834 | CIWQS |
| SACRAMENTO | S121668602 | RIVERDALE NORTH | EL CAMINO & SAN JUAN | 95833 | CIWQS |
| SACRAMENTO | S121691033 | WESTBOROUGH VILLAGE 7 | EL CENTRO RD DEL PASO RD | 95833 | CIWQS |
| SACRAMENTO | S121658943 | NINOS PKWY BIKE TRAIL PHASE 1B & 1C | NINOS PKWY FROM W EL CAMINO TO SAN JUAN | 95833 | CIWQS |
| SACRAMENTO | S121658093 | NATOMAS CROSSING AREA 3 PARCEL 71 &72 | NEC INTERSEC OF SAN JUAN RD & INTER 5 | 95833 | CIWQS |
| SACRAMENTO | S121691030 | WESTBOROUGH VILLAGE 2 | EL CENTRO RD AND DEL PASO RD | | CIWQS |
| SACRAMENTO | S121640362 | GARDEN HWY W EL CENTRO RD | GARDEN HWY W OF EL CENTRO RD | | CIWQS |
| SACRAMENTO | S121632460 | CUMMINGS HABITAT CREATION PROJ | GARDEN HWY N OF RADIO RD | | CIWQS |
| SACRAMENTO | S121662938 | PARKVIEW | W OF I 5 EAST OF EL CENTRO | | CIWQS |
| SACRAMENTO | S121677674 | SUMP 17 POND 7B | SAN JUAN RD AND WEST DRAINAGE | | CIWQS |
| SACRAMENTO | S121691196 | WESTLAKE | DEL PASO RD EL CENTRO RD | | CIWQS |
| SACRAMENTO | S121671048 | SAN JUAN EL CENTRO | SAN JUAN EL CENTRO | | CIWQS |
| SACRAMENTO | S121662933 | PARKVIEW VILLAGE 7 8 & PARCEL | NORTH OF SAN JUAN RD EAST OF D | | CIWQS |
| SACRAMENTO | S121658104 | NATOMAS FORCE MAIN | EL CENTRO RD AND SAN JUAN RD | | CIWQS |
| SACRAMENTO | S121640360 | GARDEN HWY & EL CENTRO RD | GARDEN HWY & EL CENTRO RD | | CIWQS |
| SACRAMENTO COUNTY | S105641330 | | MERCY SAN JUAN HOSPITAL | | CHMIRS |
| UNINCORPORATED COUN | S116778359 | | WB I-80, COUNTY ROAD 32A EXIT, WEST END OF YOLO CAUSEWAY, NEAREST DAVIS | 95691 | CHMIRS |
| W SACRAMENTO | 1003877965 | CAMPBELL CONSTRUCTION CO | S RIVER RD & RISKE LN | 95691 | SEMS-ARCHIVE |
| WEST SACRAMENTO | S126393609 | CRUM & FORSTER | I-80 E AT I-5 NB CONNECTOR | 95691 | HWTS |
| WEST SACRAMENTO | S124604928 | CC MEYERS INC | HARBOR BLVD & I-80 E | 95691 | HWTS |
| WEST SACRAMENTO | S124531019 | 1X MCI TELECOMMUNICATIONS | I-80/REED AVE | 95691 | HWTS |
| WEST SACRAMENTO | S106230598 | VOPAK USA INC. (FORMER VAN WATERS & ROGERS INC.) | 850 RIVER RD S & 400 BALLPARK DR | | CPS-SLIC |
| WEST SACRAMENTO | S117743191 | | JEFFERSON BLVD OFF RAMP WB I-80 | 95691 | CHMIRS |
| WEST SACRAMENTO | S114002031 | | F ST, IN FRONT OF WEST SACRAMENTO PD, ONTO HWY 50, ONTO REED ST. AND CONTINUES ONTO I-80 | 95691 | CHMIRS |
| WEST SACRAMENTO | S105635172 | | WEST BOUND 50 JUST WEST OF I-80 OVER CROSSING | | CHMIRS |
| WEST SACRAMENTO | S105661000 | | BUS I-80 1/4 MILE WEST OF HARBOR BLVD ON/OFF-RAMP | | CHMIRS |
| WEST SACRAMENTO | S117332292 | | I-80 AT SACRAMENTO RIVER | | CHMIRS |
| WEST SACRAMENTO | S105677432 | | HWY 50 AT I-80 EAST BOUND | | CHMIRS |
| WEST SACRAMENTO | S112830360 | | OLD RIVER ROAD AT I-80 | | CHMIRS |
| WEST SACRAMENTO | S100219613 | | OFF RAMP W BOUND I-80/RISKE RD | | CHMIRS |
| WEST SACRAMENTO | S109047271 | | WESTBOUND I-80 AT JEFFERSON OFF-RAMP | | CHMIRS |
| WEST SACRAMENTO | S122214928 | | WESTBOUND I-80 ON THE YOLO CAUSEWAY | | CHMIRS |
| WEST SACRAMENTO | 1015913868 | RECLAMATION DISTRICT NO. 900 | LAKE ROAD AT TOE DRAIN AND I-80 | 95691 | FINDS |
| WEST SACRAMENTO | S112950521 | PARADISE POST PRINTING | WESTBOUND I-80 AT HARBOR BLVD EXIT | 95691 | HAZNET, HWTS |
| WEST SACTO | S106390676 | | STARTED AT W/B I-80 AT JEFFERSON BLVD OVERCROSSING TO 3025 EVERGREEN AVE SACTO KENWORTH CO | 95691 | CHMIRS |

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

**Number of Days to Update:** Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

**STANDARD ENVIRONMENTAL RECORDS**

***Federal NPL site list***

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 20

Source: EPA
Telephone: N/A
Last EDR Contact: 12/02/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 10
Telephone 206-553-8665

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 20

Source: EPA
Telephone: N/A
Last EDR Contact: 12/02/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

***Federal Delisted NPL site list***

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 20

Source: EPA
Telephone: N/A
Last EDR Contact: 12/02/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Quarterly

***Federal CERCLIS list***

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 04/03/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 10/02/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 20

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/02/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Quarterly

***Federal CERCLIS NFRAP site list***

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 20

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/02/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Quarterly

***Federal RCRA CORRACTS facilities list***

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 06/15/2020
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 09/17/2020
Number of Days to Update: 87

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/22/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Quarterly

***Federal RCRA non-CORRACTS TSD facilities list***

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/15/2020
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 09/18/2020
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/22/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Quarterly

***Federal RCRA generators list***

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/15/2020
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 09/18/2020
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/22/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 06/15/2020
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 09/18/2020
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/22/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/15/2020
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 09/18/2020
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/22/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Quarterly

***Federal institutional controls / engineering controls registries***

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 08/06/2020
Date Data Arrived at EDR: 08/21/2020
Date Made Active in Reports: 11/11/2020
Number of Days to Update: 82

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/18/2020
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/18/2020
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

***Federal ERNS list***

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 06/15/2020
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 09/17/2020
Number of Days to Update: 87

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

***State- and tribal - equivalent NPL***

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 07/27/2020
Date Data Arrived at EDR: 07/27/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 73

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/26/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Quarterly

***State- and tribal - equivalent CERCLIS***

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 07/27/2020
Date Data Arrived at EDR: 07/27/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 73

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/26/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Quarterly

***State and tribal landfill and/or solid waste disposal site lists***

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/11/2020
Date Data Arrived at EDR: 05/12/2020
Date Made Active in Reports: 07/27/2020
Number of Days to Update: 76

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 11/10/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: Quarterly

***State and tribal leaking storage tank lists***

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/29/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/26/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 78
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/15/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: No Update Planned

***State and tribal registered storage tank lists***

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 07/21/2020
Date Data Arrived at EDR: 09/03/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 83

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 10/01/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Varies

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases
UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 09/03/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 12/03/2020
Number of Days to Update: 86
Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Semi-Annually

MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69
Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 12/09/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/03/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/29/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 85

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/26/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 78

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

***State and tribal voluntary cleanup sites***

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 07/27/2020
Date Data Arrived at EDR: 07/27/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 73

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/26/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

***State and tribal Brownfields sites***

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 09/21/2020
Date Data Arrived at EDR: 09/22/2020
Date Made Active in Reports: 12/11/2020
Number of Days to Update: 80

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 09/22/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Quarterly

**ADDITIONAL ENVIRONMENTAL RECORDS**

***Local Brownfield lists***

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 09/14/2020
Date Data Arrived at EDR: 09/15/2020
Date Made Active in Reports: 12/10/2020
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 12/11/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Semi-Annually

***Local Lists of Landfill / Solid Waste Disposal Sites***

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 10/20/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 05/28/2020
Date Data Arrived at EDR: 05/29/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 75

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 10/20/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 10/30/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

***Local Lists of Hazardous waste / Contaminated Sites***

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 03/18/2020
Date Data Arrived at EDR: 03/19/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 07/27/2020
Date Data Arrived at EDR: 07/27/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 73

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/26/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2019
Date Data Arrived at EDR: 05/28/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CERS HAZ WASTE: CERS HAZ WASTE

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 07/20/2020
Date Data Arrived at EDR: 07/21/2020
Date Made Active in Reports: 10/07/2020
Number of Days to Update: 78

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Quarterly

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 03/18/2020
Date Data Arrived at EDR: 03/19/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Quarterly

PFAS: PFAS Contamination Site Location Listing

A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 12/01/2020
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

***Local Lists of Registered Storage Tanks***

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 05/20/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/06/2020
Number of Days to Update: 78

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing
Aboveground storage tank sites

Date of Government Version: 08/03/2020
Date Data Arrived at EDR: 08/05/2020
Date Made Active in Reports: 10/22/2020
Number of Days to Update: 78

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

CERS TANKS: California Environmental Reporting System (CERS) Tanks
List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 07/20/2020
Date Data Arrived at EDR: 07/21/2020
Date Made Active in Reports: 10/07/2020
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Quarterly

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

***Local Land Records***

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 08/26/2020
Date Data Arrived at EDR: 08/28/2020
Date Made Active in Reports: 11/17/2020
Number of Days to Update: 81

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/23/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 20

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 12/02/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 08/31/2020
Date Data Arrived at EDR: 08/31/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 81
Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Semi-Annually

***Records of Emergency Release Reports***

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/20/2020
Date Data Arrived at EDR: 09/22/2020
Date Made Active in Reports: 12/14/2020
Number of Days to Update: 83
Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 09/22/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 06/30/2020
Date Data Arrived at EDR: 07/21/2020
Date Made Active in Reports: 10/07/2020
Number of Days to Update: 78
Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

***Other Ascertainable Records***

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 06/15/2020
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 09/18/2020
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/22/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 08/05/2020
Date Data Arrived at EDR: 08/13/2020
Date Made Active in Reports: 10/21/2020
Number of Days to Update: 69

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 11/17/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/08/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 11/09/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 09/21/2020
Date Data Arrived at EDR: 09/22/2020
Date Made Active in Reports: 12/14/2020
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 09/22/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 11/02/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 11/06/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/17/2020
Date Made Active in Reports: 09/10/2020
Number of Days to Update: 85

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 09/18/2020
Next Scheduled EDR Contact: 12/28/2020
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 08/14/2020
Date Made Active in Reports: 11/04/2020
Number of Days to Update: 82

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 11/17/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 07/20/2020
Date Data Arrived at EDR: 07/21/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 79

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 20

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 12/02/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 07/24/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 10/21/2020
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 10/14/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 04/27/2020
Date Data Arrived at EDR: 05/06/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 34

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 12/02/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 10/09/2019
Date Data Arrived at EDR: 10/11/2019
Date Made Active in Reports: 12/20/2019
Number of Days to Update: 70

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/02/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 10/01/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/05/2020
Date Data Arrived at EDR: 08/10/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 59

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 10/12/2020
Next Scheduled EDR Contact: 01/31/2021
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 01/15/2020
Number of Days to Update: 42
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 11/30/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 11/06/2021
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 09/24/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 10/27/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2020
Date Data Arrived at EDR: 07/15/2020
Date Made Active in Reports: 07/21/2020
Number of Days to Update: 6

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 10/01/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 151

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 09/22/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/06/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 11/06/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 11/20/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 20

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 12/02/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 09/10/2020
Date Data Arrived at EDR: 09/15/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 66

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 11/24/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Quarterly

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/04/2020
Date Data Arrived at EDR: 08/25/2020
Date Made Active in Reports: 11/18/2020
Number of Days to Update: 85
Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 11/23/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/06/2020
Date Data Arrived at EDR: 05/27/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 78
Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/25/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97
Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/25/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/16/2020
Date Data Arrived at EDR: 09/17/2020
Date Made Active in Reports: 12/10/2020
Number of Days to Update: 84
Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 12/10/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 09/04/2020
Date Data Arrived at EDR: 09/15/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 66
Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 07/02/2020
Date Made Active in Reports: 09/17/2020
Number of Days to Update: 77
Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 10/08/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 06/27/2020
Date Data Arrived at EDR: 07/02/2020
Date Made Active in Reports: 09/28/2020
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 10/06/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 07/26/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 71

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 11/17/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/17/2020
Date Data Arrived at EDR: 08/17/2020
Date Made Active in Reports: 10/21/2020
Number of Days to Update: 65

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 11/13/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 06/22/2020
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 09/04/2020
Number of Days to Update: 74

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 09/23/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing

list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/14/2019
Date Made Active in Reports: 07/17/2019
Number of Days to Update: 64

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 11/13/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing

A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 08/19/2020
Date Data Arrived at EDR: 08/21/2020
Date Made Active in Reports: 09/04/2020
Number of Days to Update: 14

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 08/25/2020
Date Data Arrived at EDR: 08/26/2020
Date Made Active in Reports: 11/13/2020
Number of Days to Update: 79

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 11/23/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 08/06/2020
Date Data Arrived at EDR: 08/28/2020
Date Made Active in Reports: 11/17/2020
Number of Days to Update: 81

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 11/23/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Annually

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 06/16/2020
Date Made Active in Reports: 08/28/2020
Number of Days to Update: 73

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 09/18/2020
Next Scheduled EDR Contact: 12/28/2020
Data Release Frequency: Varies

ENF: Enforcement Action Listing
A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 07/20/2020
Date Data Arrived at EDR: 07/21/2020
Date Made Active in Reports: 10/07/2020
Number of Days to Update: 78

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 07/13/2020
Date Data Arrived at EDR: 07/16/2020
Date Made Active in Reports: 09/29/2020
Number of Days to Update: 75

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 08/05/2020
Date Data Arrived at EDR: 08/05/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 79

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 11/04/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 04/15/2020
Date Made Active in Reports: 07/02/2020
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 10/05/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 08/17/2020
Date Data Arrived at EDR: 08/17/2020
Date Made Active in Reports: 11/05/2020
Number of Days to Update: 80

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 11/13/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 08/17/2020
Date Data Arrived at EDR: 08/17/2020
Date Made Active in Reports: 11/05/2020
Number of Days to Update: 80

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/13/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 07/06/2020
Date Data Arrived at EDR: 07/07/2020
Date Made Active in Reports: 09/17/2020
Number of Days to Update: 72

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 10/06/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing
A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 08/31/2020
Date Data Arrived at EDR: 08/31/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 81
Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 08/10/2020
Date Made Active in Reports: 10/29/2020
Number of Days to Update: 80
Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/09/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing
A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 08/31/2020
Date Data Arrived at EDR: 08/31/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 81
Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 12/01/2020
Number of Days to Update: 84
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 12/07/2020
Date Data Arrived at EDR: 12/09/2020
Date Made Active in Reports: 12/10/2020
Number of Days to Update: 1
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 12/07/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: No Update Planned

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 12/01/2020
Number of Days to Update: 84
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 11/19/2019
Date Data Arrived at EDR: 01/07/2020
Date Made Active in Reports: 03/09/2020
Number of Days to Update: 62
Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 10/09/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9
Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 11/13/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: No Update Planned

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13
Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing

In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 12/01/2020
Number of Days to Update: 84
Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System

The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 08/31/2020
Date Data Arrived at EDR: 08/31/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 81
Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 07/20/2020
Date Data Arrived at EDR: 07/21/2020
Date Made Active in Reports: 10/07/2020
Number of Days to Update: 78
Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)
Produced water ponds sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)
Sampling point - public sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)
Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

PCS: Permit Compliance System
PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55
Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 10/02/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Semi-Annually

PCS INACTIVE: Listing of Inactive PCS Permits
An inactive permit is a facility that has shut down or is no longer discharging.

Date of Government Version: 11/05/2014
Date Data Arrived at EDR: 01/06/2015
Date Made Active in Reports: 05/06/2015
Number of Days to Update: 120
Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 10/02/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Semi-Annually

PCS ENF: Enforcement data
No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29
Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 10/02/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System
Mineral Resources Data System

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 10/21/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 3

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 11/25/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

HWTS: Hazardous Waste Tracking System

DTSC maintains the Hazardous Waste Tracking System that stores ID number information since the early 1980s and manifest data since 1993. The system collects both manifest copies from the generator and destination facility.

Date of Government Version: 10/13/2020
Date Data Arrived at EDR: 10/14/2020
Date Made Active in Reports: 11/03/2020
Number of Days to Update: 20

Source: Department of Toxic Substances Control
Telephone: 916-324-2444
Last EDR Contact: 10/01/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Varies

**EDR HIGH RISK HISTORICAL RECORDS**

***EDR Exclusive Records***

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

**EDR RECOVERED GOVERNMENT ARCHIVES**

***Exclusive Recovered Govt. Archives***

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

**COUNTY RECORDS**

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/01/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 06/30/2020
Date Data Arrived at EDR: 07/01/2020
Date Made Active in Reports: 07/17/2020
Number of Days to Update: 16

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/01/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List
Cupa Facility List

Date of Government Version: 05/18/2020
Date Data Arrived at EDR: 05/19/2020
Date Made Active in Reports: 06/01/2020
Number of Days to Update: 13

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 10/01/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 06/17/2020
Date Data Arrived at EDR: 06/18/2020
Date Made Active in Reports: 09/02/2020
Number of Days to Update: 76

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/06/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 78

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 07/16/2020
Date Data Arrived at EDR: 07/22/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 78

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 10/20/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 08/13/2020
Date Made Active in Reports: 10/22/2020
Number of Days to Update: 70

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 10/20/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/13/2020
Date Data Arrived at EDR: 08/13/2020
Date Made Active in Reports: 10/22/2020
Number of Days to Update: 70

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 10/20/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 06/30/2020
Date Data Arrived at EDR: 07/01/2020
Date Made Active in Reports: 09/17/2020
Number of Days to Update: 78

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 10/02/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: No Update Planned

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/13/2020
Date Data Arrived at EDR: 08/17/2020
Date Made Active in Reports: 11/05/2020
Number of Days to Update: 80

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 07/14/2020
Date Data Arrived at EDR: 07/16/2020
Date Made Active in Reports: 09/29/2020
Number of Days to Update: 75

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

KERN COUNTY:

CUPA KERN: CUPA Facility List
A listing of sites included in the Kern County Hazardous Material Business Plan.

Date of Government Version: 07/28/2020
Date Data Arrived at EDR: 07/30/2020
Date Made Active in Reports: 10/13/2020
Number of Days to Update: 75

Source: Kern County Public Health
Telephone: 661-321-3000
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 07/28/2020
Date Data Arrived at EDR: 07/30/2020
Date Made Active in Reports: 10/14/2020
Number of Days to Update: 76

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 05/11/2020
Date Data Arrived at EDR: 05/12/2020
Date Made Active in Reports: 07/27/2020
Number of Days to Update: 76

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List
Cupa facility list

Date of Government Version: 08/13/2020
Date Data Arrived at EDR: 08/13/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 71

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 10/07/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List
Cupa facility list

Date of Government Version: 07/31/2020
Date Data Arrived at EDR: 08/21/2020
Date Made Active in Reports: 11/09/2020
Number of Days to Update: 80

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 12/09/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 07/06/2020
Date Data Arrived at EDR: 07/10/2020
Date Made Active in Reports: 09/28/2020
Number of Days to Update: 80

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 10/01/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 07/13/2020
Date Data Arrived at EDR: 07/13/2020
Date Made Active in Reports: 09/29/2020
Number of Days to Update: 78

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 10/09/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 08/17/2020
Date Made Active in Reports: 11/05/2020
Number of Days to Update: 80

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 10/07/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Varies

LOS ANGELES AST: Active & Inactive AST Inventory

A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 09/25/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills

This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 04/30/2012
Date Data Arrived at EDR: 04/17/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 42

Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 10/12/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: No Update Planned

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory

A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 09/25/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory

A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 09/25/2020
Next Scheduled EDR Contact: 01/04/2021
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 03/25/2020
Date Data Arrived at EDR: 04/14/2020
Date Made Active in Reports: 07/01/2020
Number of Days to Update: 78

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 10/09/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 10/07/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: No Update Planned

UST LONG BEACH: City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 06/27/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 10/02/2019
Number of Days to Update: 64

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 10/05/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 08/12/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 72

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 09/23/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 07/28/2020
Date Data Arrived at EDR: 07/30/2020
Date Made Active in Reports: 07/31/2020
Number of Days to Update: 1

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 08/20/2020
Date Data Arrived at EDR: 08/24/2020
Date Made Active in Reports: 11/09/2020
Number of Days to Update: 77

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 11/15/2020
Next Scheduled EDR Contact: 03/08/3021
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 07/13/2020
Date Data Arrived at EDR: 07/15/2020
Date Made Active in Reports: 07/31/2020
Number of Days to Update: 16

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 09/23/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 07/30/2020
Date Made Active in Reports: 10/13/2020
Number of Days to Update: 75

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 10/20/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 06/10/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 10/19/2020
Number of Days to Update: 77

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/02/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 07/02/2020
Date Data Arrived at EDR: 08/05/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 79

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/02/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 07/01/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 10/19/2020
Number of Days to Update: 77

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/03/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 11/24/2020
Date Data Arrived at EDR: 11/24/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 1

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 11/23/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 10/06/2020
Date Data Arrived at EDR: 10/07/2020
Date Made Active in Reports: 11/03/2020
Number of Days to Update: 27

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/09/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 10/06/2020
Date Data Arrived at EDR: 10/07/2020
Date Made Active in Reports: 11/03/2020
Number of Days to Update: 27
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/09/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 02/18/2020
Date Data Arrived at EDR: 03/31/2020
Date Made Active in Reports: 06/15/2020
Number of Days to Update: 76
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/02/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 02/24/2020
Date Data Arrived at EDR: 03/31/2020
Date Made Active in Reports: 06/17/2020
Number of Days to Update: 78
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/02/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List
Cupa facility list

Date of Government Version: 08/04/2020
Date Data Arrived at EDR: 08/05/2020
Date Made Active in Reports: 10/22/2020
Number of Days to Update: 78
Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 08/04/2020
Date Data Arrived at EDR: 08/05/2020
Date Made Active in Reports: 10/26/2020
Number of Days to Update: 82
Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 08/31/2020
Date Data Arrived at EDR: 08/31/2020
Date Made Active in Reports: 11/23/2020
Number of Days to Update: 84

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 56

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing

A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 07/14/2020
Date Data Arrived at EDR: 07/16/2020
Date Made Active in Reports: 09/29/2020
Number of Days to Update: 75

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

SAN DIEGO CO SAM: Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 11/23/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

CUPA SAN FRANCISCO CO: CUPA Facility Listing

Cupa facilities

Date of Government Version: 08/03/2020
Date Data Arrived at EDR: 08/05/2020
Date Made Active in Reports: 10/22/2020
Number of Days to Update: 78

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

LUST SAN FRANCISCO: Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: No Update Planned

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 08/03/2020
Date Data Arrived at EDR: 08/05/2020
Date Made Active in Reports: 10/26/2020
Number of Days to Update: 82

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 12/09/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 07/27/2020
Date Data Arrived at EDR: 08/12/2020
Date Made Active in Reports: 10/26/2020
Number of Days to Update: 75

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 02/20/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 04/24/2020
Number of Days to Update: 64

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/11/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 08/20/2020
Date Data Arrived at EDR: 08/20/2020
Date Made Active in Reports: 11/09/2020
Number of Days to Update: 81

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: No Update Planned

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 07/30/2020
Date Data Arrived at EDR: 07/31/2020
Date Made Active in Reports: 10/16/2020
Number of Days to Update: 77

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/13/2019
Number of Days to Update: 68

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/03/2019
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 08/25/2020
Date Data Arrived at EDR: 08/26/2020
Date Made Active in Reports: 09/16/2020
Number of Days to Update: 21

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 12/03/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 07/07/2020
Date Data Arrived at EDR: 07/08/2020
Date Made Active in Reports: 09/25/2020
Number of Days to Update: 79

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 09/18/2020
Date Data Arrived at EDR: 09/22/2020
Date Made Active in Reports: 12/14/2020
Number of Days to Update: 83

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 02/04/2020
Date Data Arrived at EDR: 02/05/2020
Date Made Active in Reports: 04/15/2020
Number of Days to Update: 70

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 10/02/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 08/25/2020
Date Data Arrived at EDR: 08/26/2020
Date Made Active in Reports: 11/17/2020
Number of Days to Update: 83

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 11/23/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 08/11/2020
Date Data Arrived at EDR: 08/12/2020
Date Made Active in Reports: 10/26/2020
Number of Days to Update: 75

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 07/14/2020
Date Data Arrived at EDR: 07/16/2020
Date Made Active in Reports: 09/29/2020
Number of Days to Update: 75

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 08/06/2020
Date Data Arrived at EDR: 08/06/2020
Date Made Active in Reports: 10/26/2020
Number of Days to Update: 81

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 07/10/2020
Date Data Arrived at EDR: 07/22/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 78
Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/23/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: No Update Planned

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: No Update Planned

MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 07/10/2020
Date Data Arrived at EDR: 07/22/2020
Date Made Active in Reports: 10/07/2020
Number of Days to Update: 77
Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 08/26/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 12/01/2020
Number of Days to Update: 84
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 06/23/2020
Date Data Arrived at EDR: 06/29/2020
Date Made Active in Reports: 09/15/2020
Number of Days to Update: 78
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 10/07/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 08/06/2020
Date Data Arrived at EDR: 08/07/2020
Date Made Active in Reports: 10/26/2020
Number of Days to Update: 80

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 11/03/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Varies

**OTHER DATABASE(S)**

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 10/20/2020
Date Made Active in Reports: 11/02/2020
Number of Days to Update: 13

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/09/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 10/09/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 04/29/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 72

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 10/30/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 10/07/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 10/02/2019
Date Made Active in Reports: 12/10/2019
Number of Days to Update: 69

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 12/03/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data
Source: Endeavor Business Media
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

**STREET AND ADDRESS INFORMATION**

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# APPENDIX D

## ENVIRONMENTAL DATA RESOURCES, INC.

## Historical Topographic Map Report

Upper West Side

Upper West Side

Sacramento, CA 95833

Inquiry Number: 6304972.1

December 18, 2020

# EDR Historical Topo Map Report

## with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

# EDR Historical Topo Map Report

12/18/20

| Site Name: | Client Name: |
|---|---|
| Upper West Side | Engeo |
| Upper West Side | 6399 San Ignacio Avenue |
| Sacramento, CA 95833 | San Jose, CA 95119 |
| EDR Inquiry # 6304972.1 | Contact: Travis Chatters |

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Engeo were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

| *Search Results:* | | *Coordinates:* | |
|---|---|---|---|
| **P.O.#** | NA | **Latitude:** | 38.623614 38° 37' 25" North |
| **Project:** | 18171.000.001 | **Longitude:** | -121.548705 -121° 32' 55" West |
| | | **UTM Zone:** | Zone 10 North |
| | | **UTM X Meters:** | 626336.27 |
| | | **UTM Y Meters:** | 4276008.84 |
| | | **Elevation:** | 15.01' above sea level |

**Maps Provided:**

| | |
|---|---|
| 2012 | 1948 |
| 1992 | 1915, 1916 |
| 1980 | 1907 |
| 1975 | |
| 1967 | |
| 1954 | |
| 1951 | |
| 1949, 1950 | |

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## *Topo Sheet Key*

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

### 2012 Source Sheets



Sacramento West
2012
7.5-minute, 24000



Taylor Monument
2012
7.5-minute, 24000

### 1992 Source Sheets



Sacramento West
1992
7.5-minute, 24000
Aerial Photo Revised 1992

### 1980 Source Sheets



Taylor Monument
1980
7.5-minute, 24000
Aerial Photo Revised 1978



Sacramento West
1980
7.5-minute, 24000
Aerial Photo Revised 1978

### 1975 Source Sheets



Taylor Monument
1975
7.5-minute, 24000
Aerial Photo Revised 1975



Sacramento West
1975
7.5-minute, 24000
Aerial Photo Revised 1975

## *Topo Sheet Key*

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

### 1967 Source Sheets



Taylor Monument
1967
7.5-minute, 24000
Aerial Photo Revised 1966



Sacramento West
1967
7.5-minute, 24000
Aerial Photo Revised 1966

### 1954 Source Sheets



Davis
1954
15-minute, 62500

### 1951 Source Sheets



Taylor Monument
1951
7.5-minute, 24000
Aerial Photo Revised 1947

### 1949, 1950 Source Sheets



Sacramento West
1949
7.5-minute, 24000
Aerial Photo Revised 1947



Taylor Monument
1950
7.5-minute, 24000
Aerial Photo Revised 1947

## *Topo Sheet Key*

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

### 1948 Source Sheets



Sacramento West
1948
7.5-minute, 24000
Aerial Photo Revised 1947

### 1915, 1916 Source Sheets



Elkhorn Weir
1915
7.5-minute, 31680



Lovdal
1916
7.5-minute, 31680

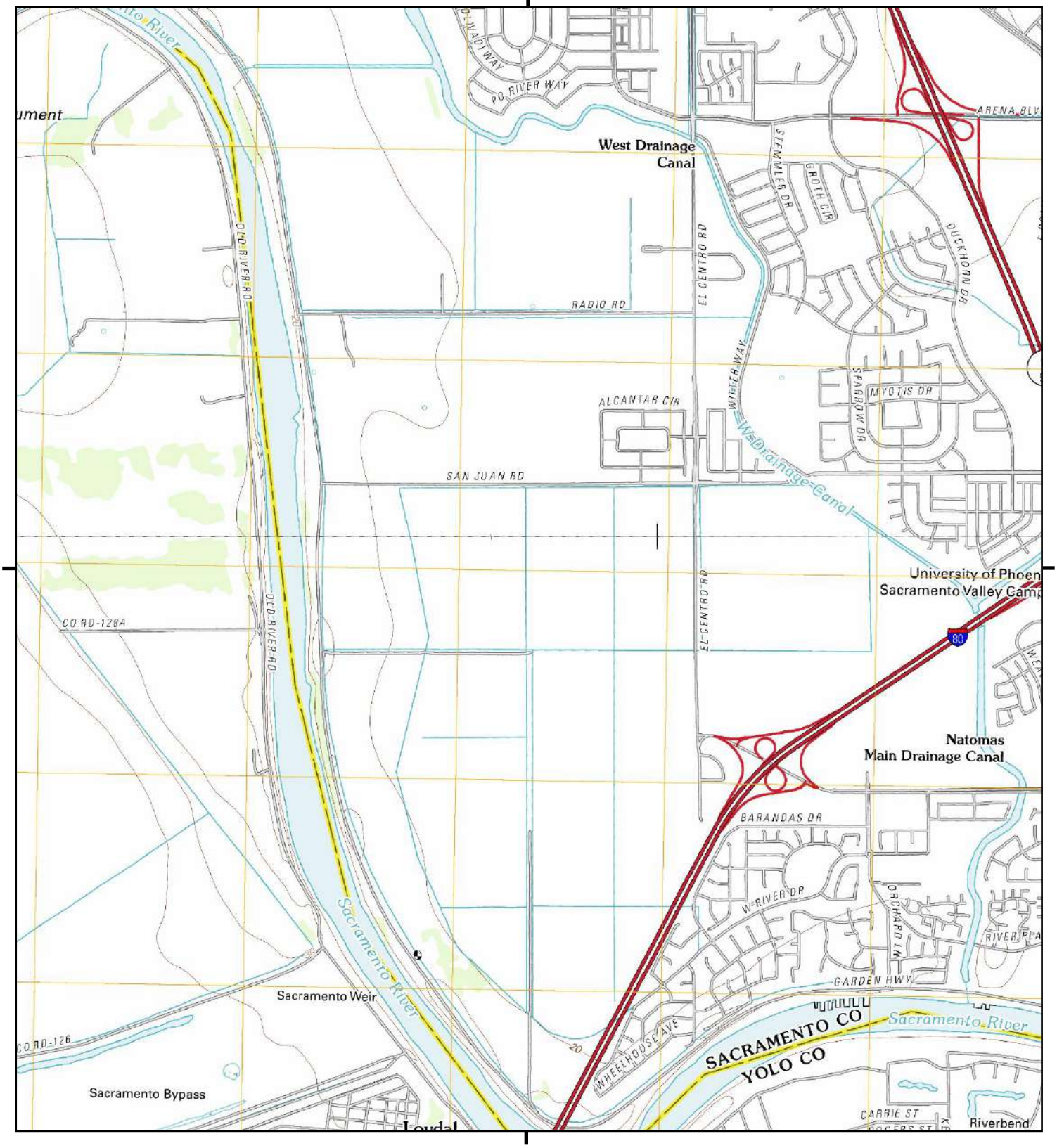
### 1907 Source Sheets



Davisville
1907
15-minute, 62500

# Historical Topo Map

2012




This report includes information from the following map sheet(s).

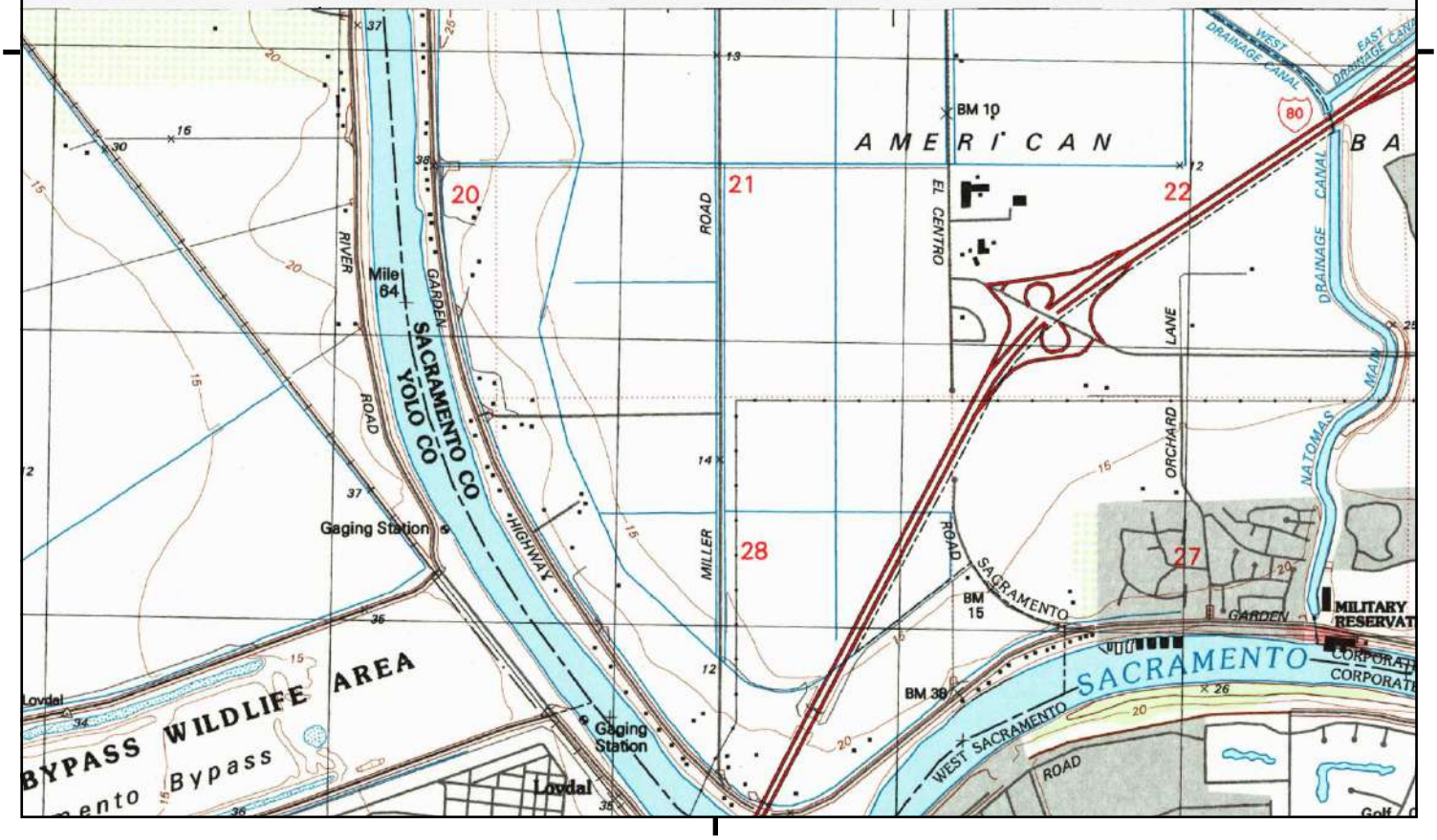
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Sacramento West, 2012, 7.5-minute
N, Taylor Monument, 2012, 7.5-minute

SITE NAME: Upper West Side
ADDRESS: Upper West Side
Sacramento, CA 95833
CLIENT: Engeo

N




This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

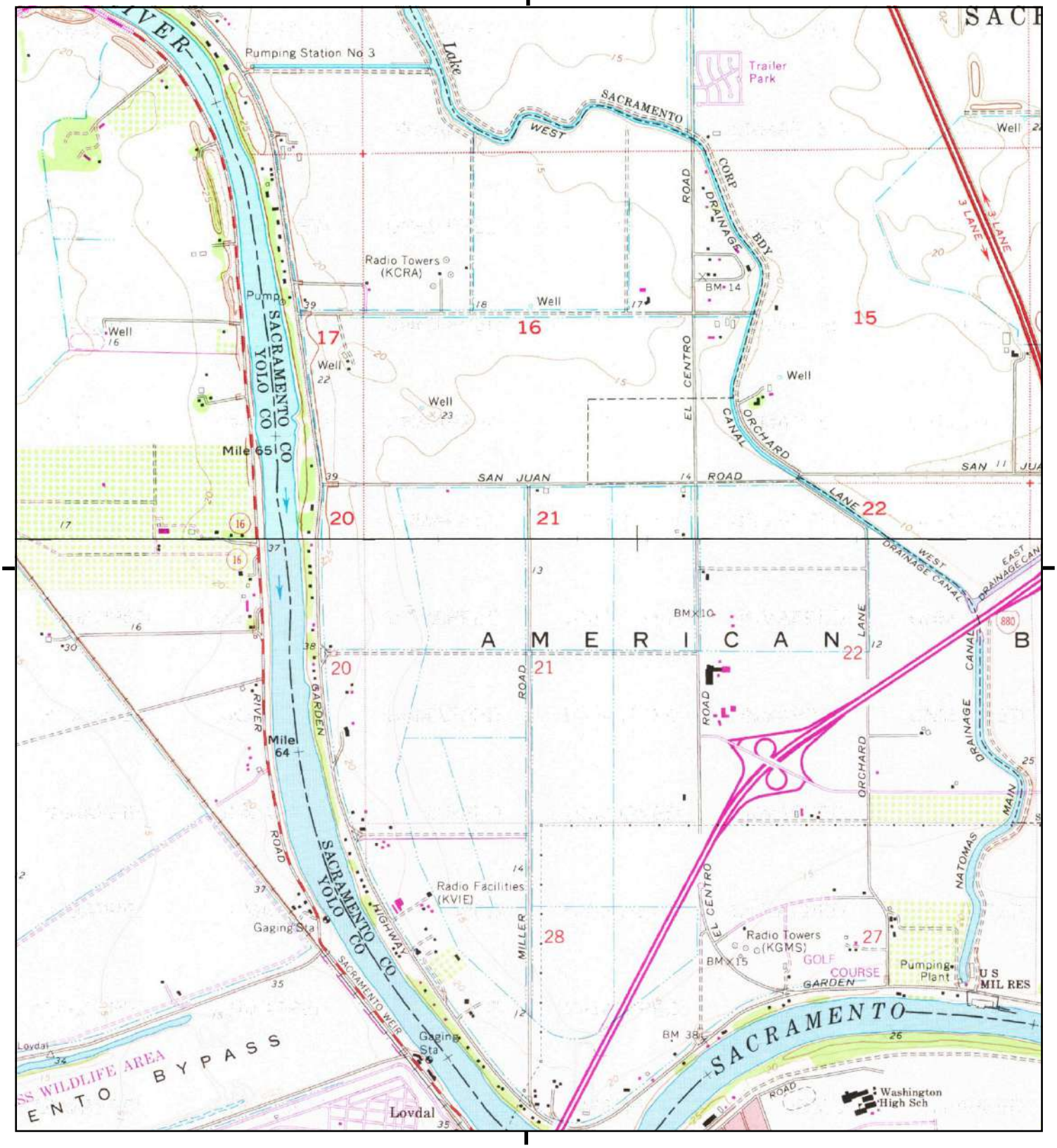
TP, Sacramento West, 1992, 7.5-minute

SITE NAME: Upper West Side
ADDRESS: Upper West Side
Sacramento, CA 95833
CLIENT: Engeo

N

# Historical Topo Map

1980




This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

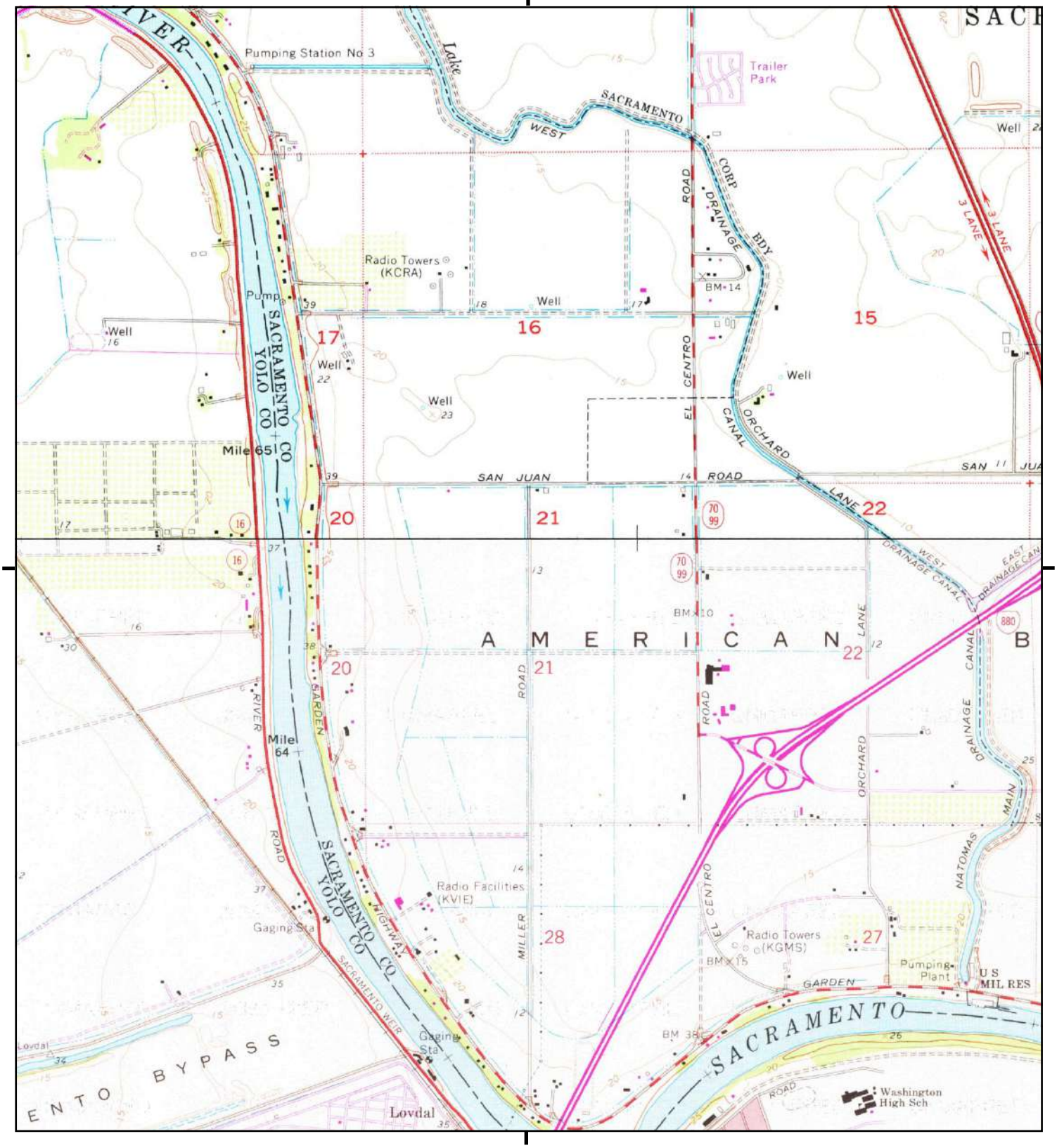
TP, Sacramento West, 1980, 7.5-minute
N, Taylor Monument, 1980, 7.5-minute

SITE NAME: Upper West Side
ADDRESS: Upper West Side
Sacramento, CA 95833
CLIENT: Engeo

N

# Historical Topo Map

1975




This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

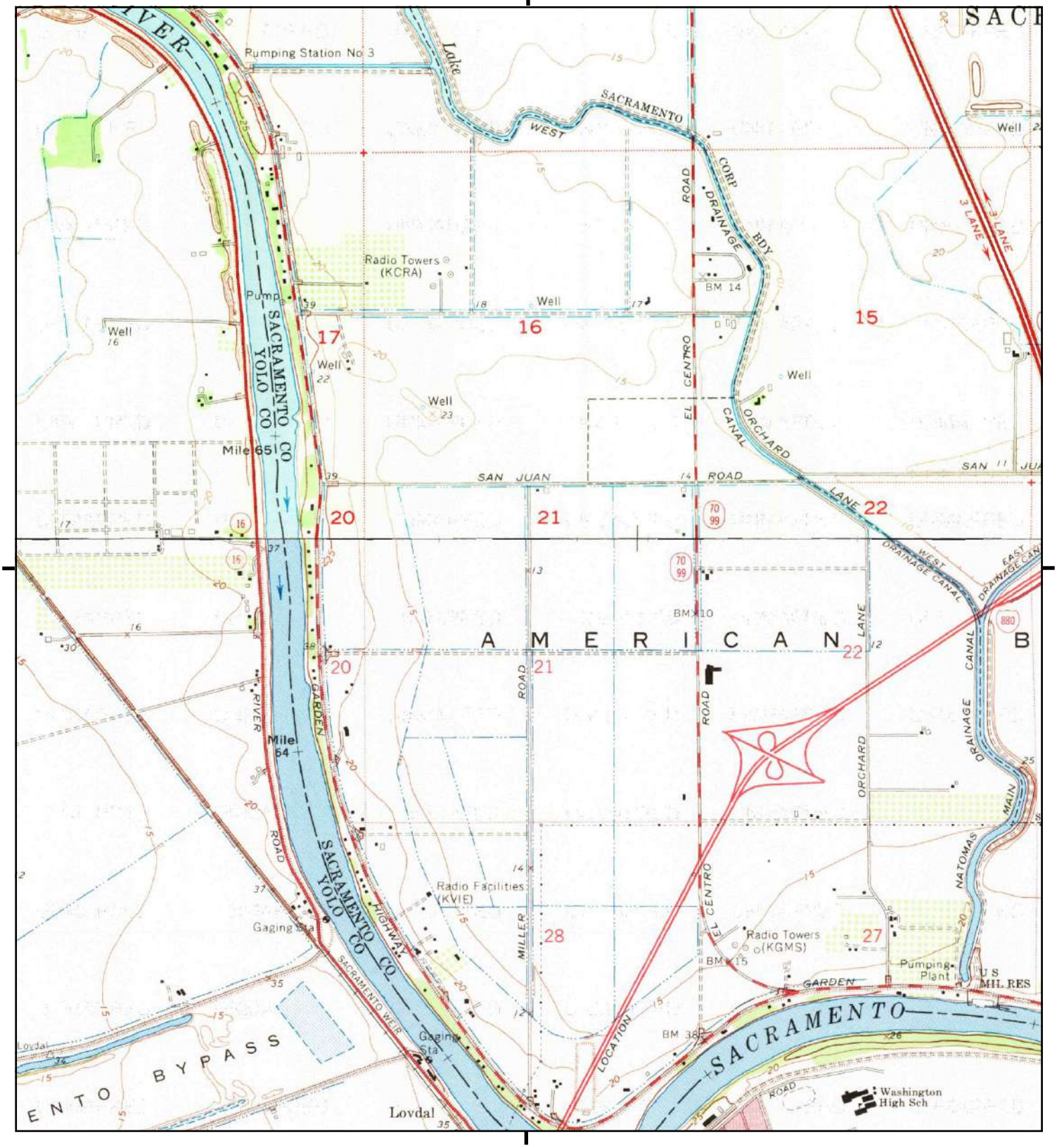
TP, Sacramento West, 1975, 7.5-minute
N, Taylor Monument, 1975, 7.5-minute

SITE NAME: Upper West Side
ADDRESS: Upper West Side
Sacramento, CA 95833
CLIENT: Engeo

N

# Historical Topo Map

1967




This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

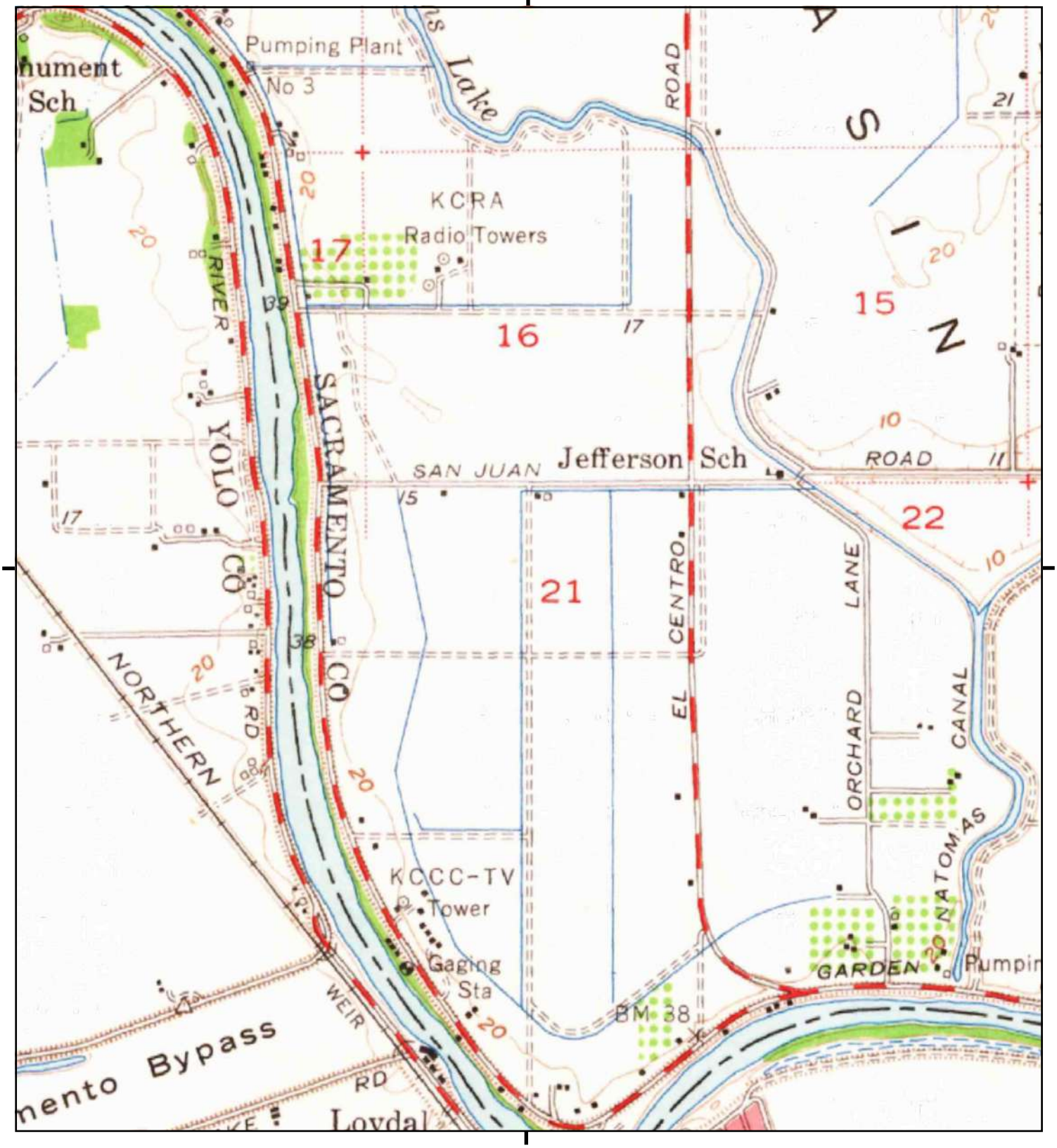
TP, Sacramento West, 1967, 7.5-minute
N, Taylor Monument, 1967, 7.5-minute

SITE NAME: Upper West Side
ADDRESS: Upper West Side
Sacramento, CA 95833
CLIENT: Engeo

N

# Historical Topo Map

1954




This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

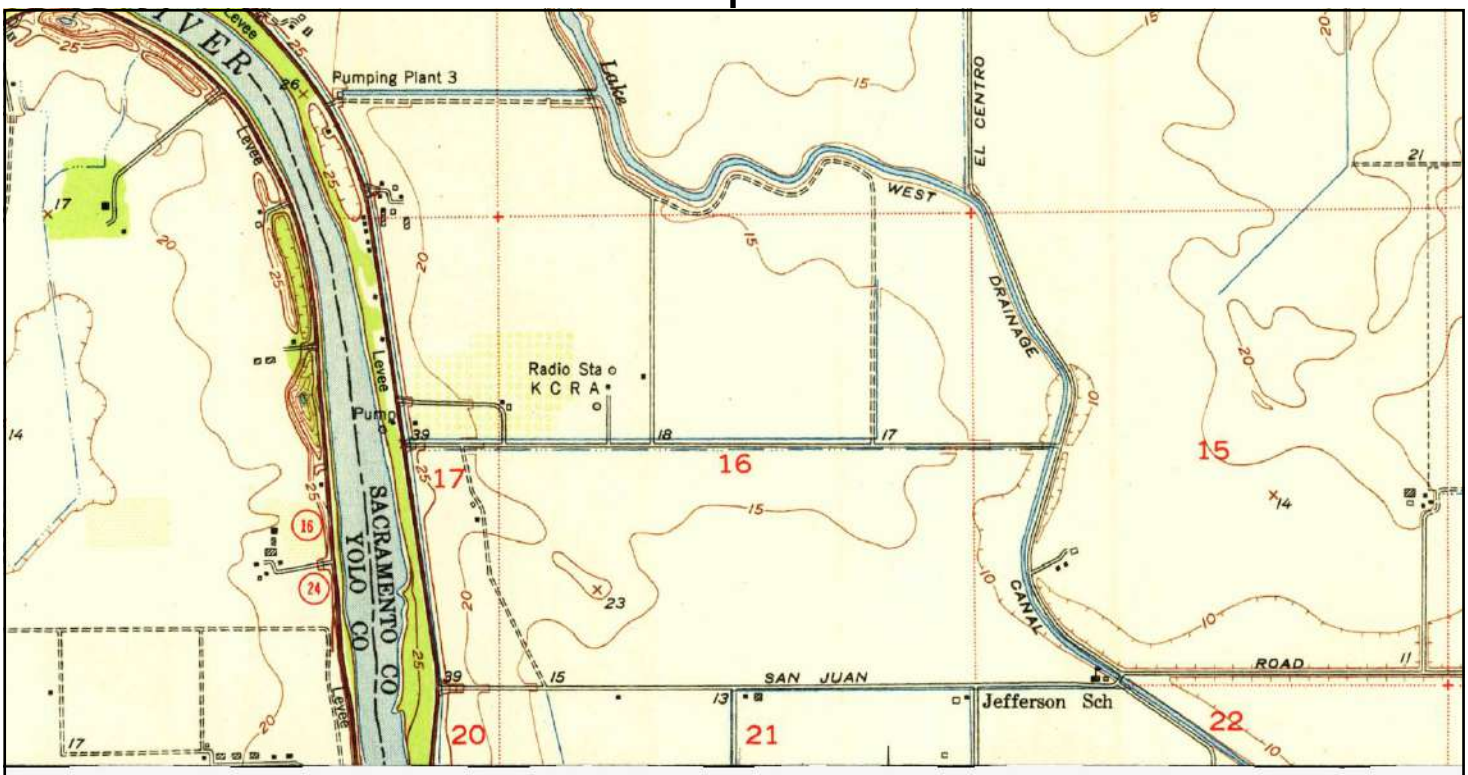
TP, Davis, 1954, 15-minute

SITE NAME: Upper West Side
ADDRESS: Upper West Side
Sacramento, CA 95833
CLIENT: Engeo

N

# Historical Topo Map

1951




UNMAPPED

This report includes information from the following map sheet(s).

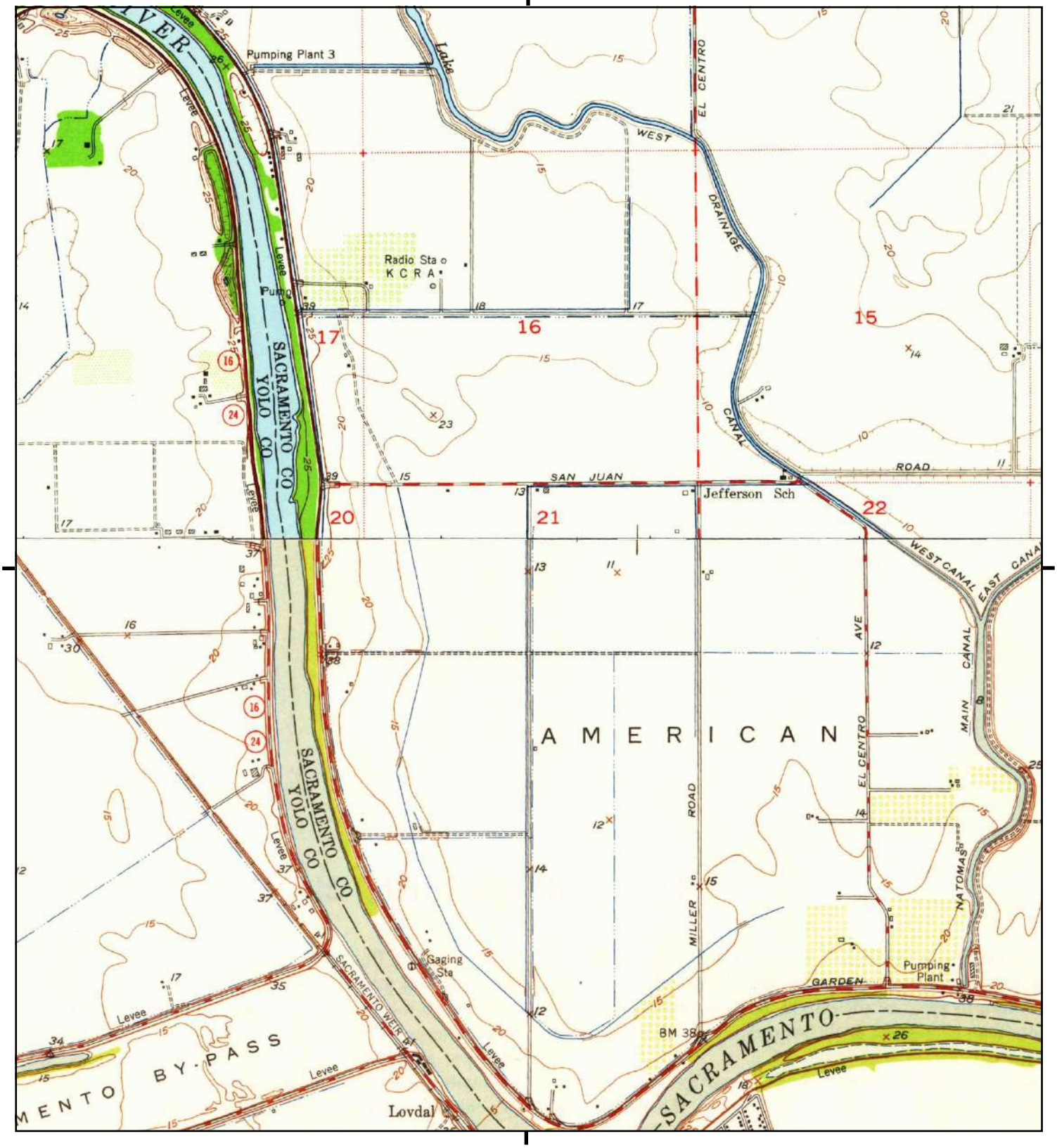
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

N, Taylor Monument, 1951, 7.5-minute

SITE NAME: Upper West Side
ADDRESS: Upper West Side
Sacramento, CA 95833
CLIENT: Engeo

N




This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

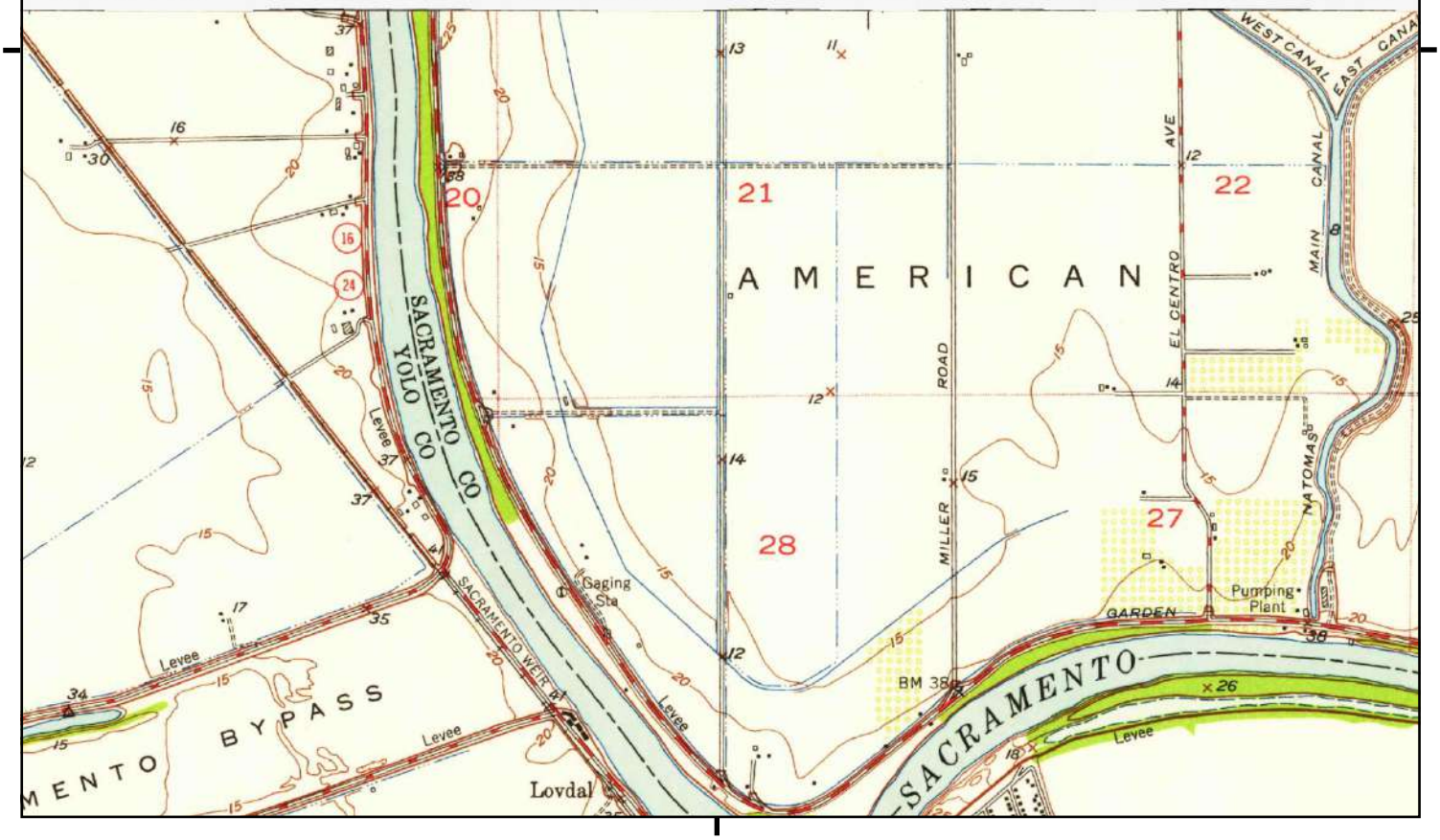
NW N NE
W E
SW S SE

TP, Sacramento West, 1949, 7.5-minute
N, Taylor Monument, 1950, 7.5-minute

SITE NAME: Upper West Side
ADDRESS: Upper West Side
Sacramento, CA 95833
CLIENT: Engeo

N

UNMAPPED




This report includes information from the following map sheet(s).

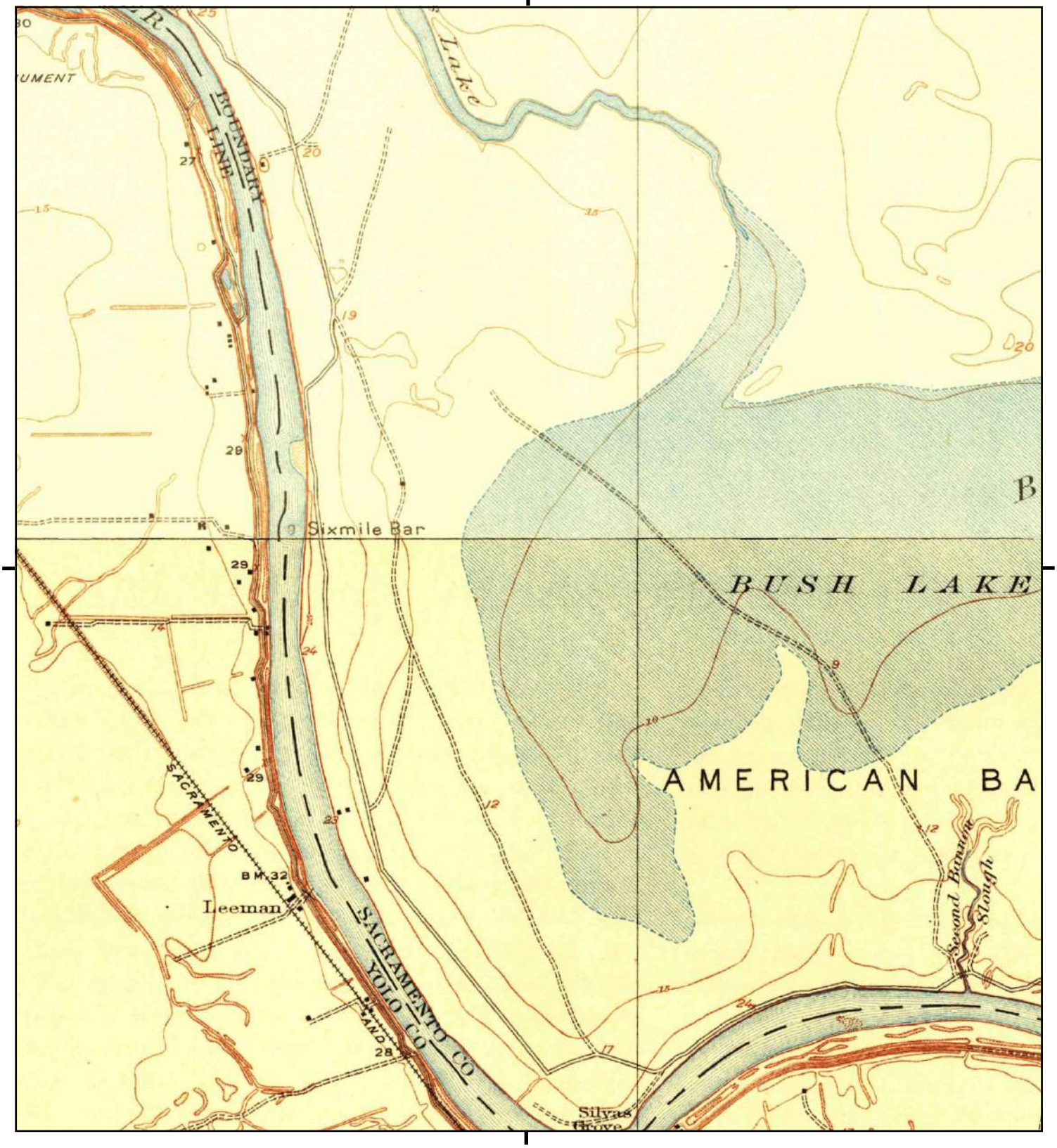
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Sacramento West, 1948, 7.5-minute

SITE NAME: Upper West Side
ADDRESS: Upper West Side
Sacramento, CA 95833
CLIENT: Engeo

N




This report includes information from the following map sheet(s).

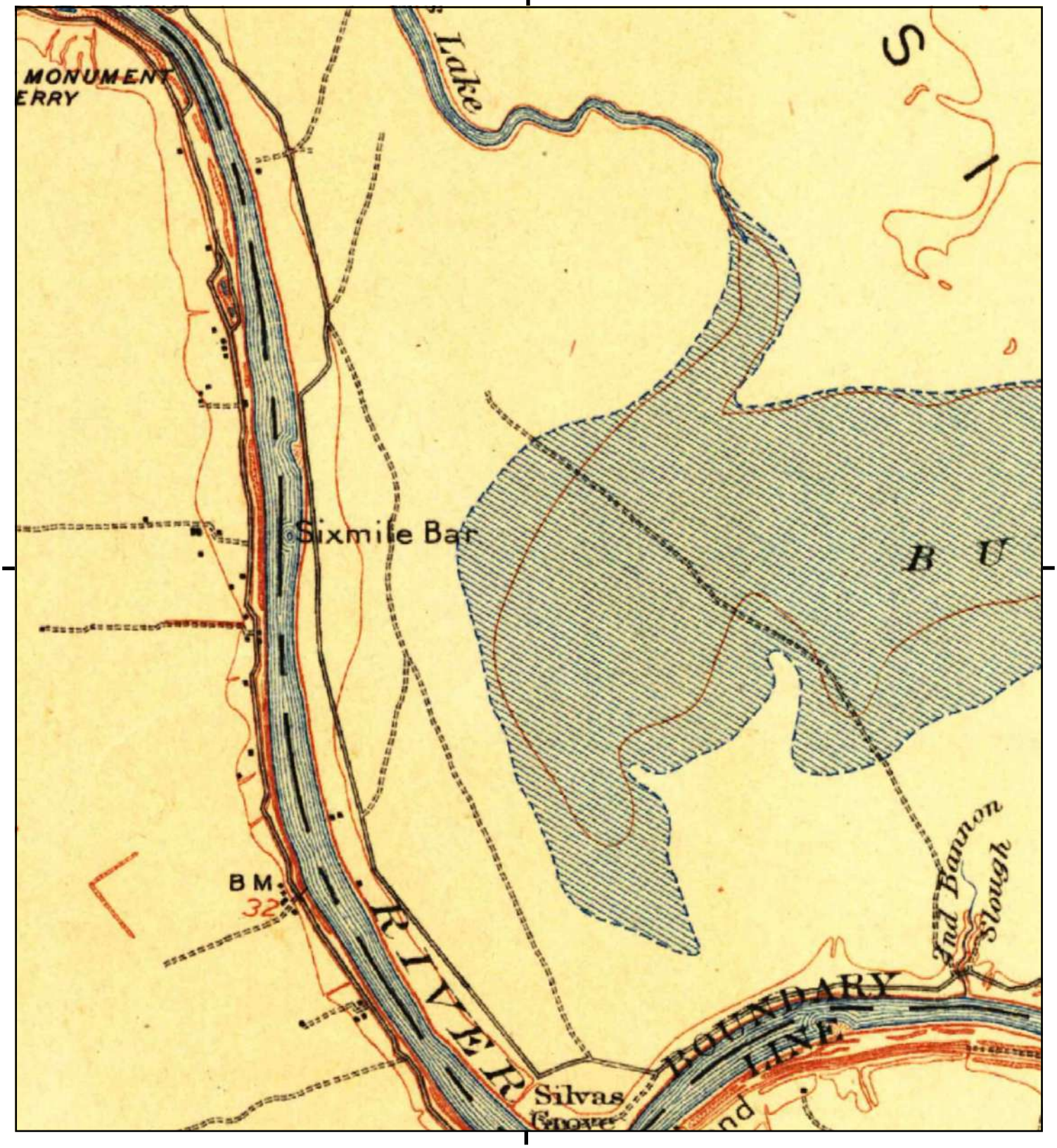
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Lovdal, 1916, 7.5-minute
N, Elkhorn Weir, 1915, 7.5-minute

SITE NAME: Upper West Side
ADDRESS: Upper West Side
Sacramento, CA 95833
CLIENT: Engeo

N




This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Davisville, 1907, 15-minute

SITE NAME: Upper West Side
ADDRESS: Upper West Side
Sacramento, CA 95833
CLIENT: Engeo

N



# APPENDIX E

## ENVIRONMENTAL DATA RESOURCES, INC.

## Aerial Photo Decade Package

**Upper West Side**

Upper West Side

Sacramento, CA 95833

Inquiry Number: 6304972.2

December 22, 2020

# The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

## Date EDR Searched Historical Sources:

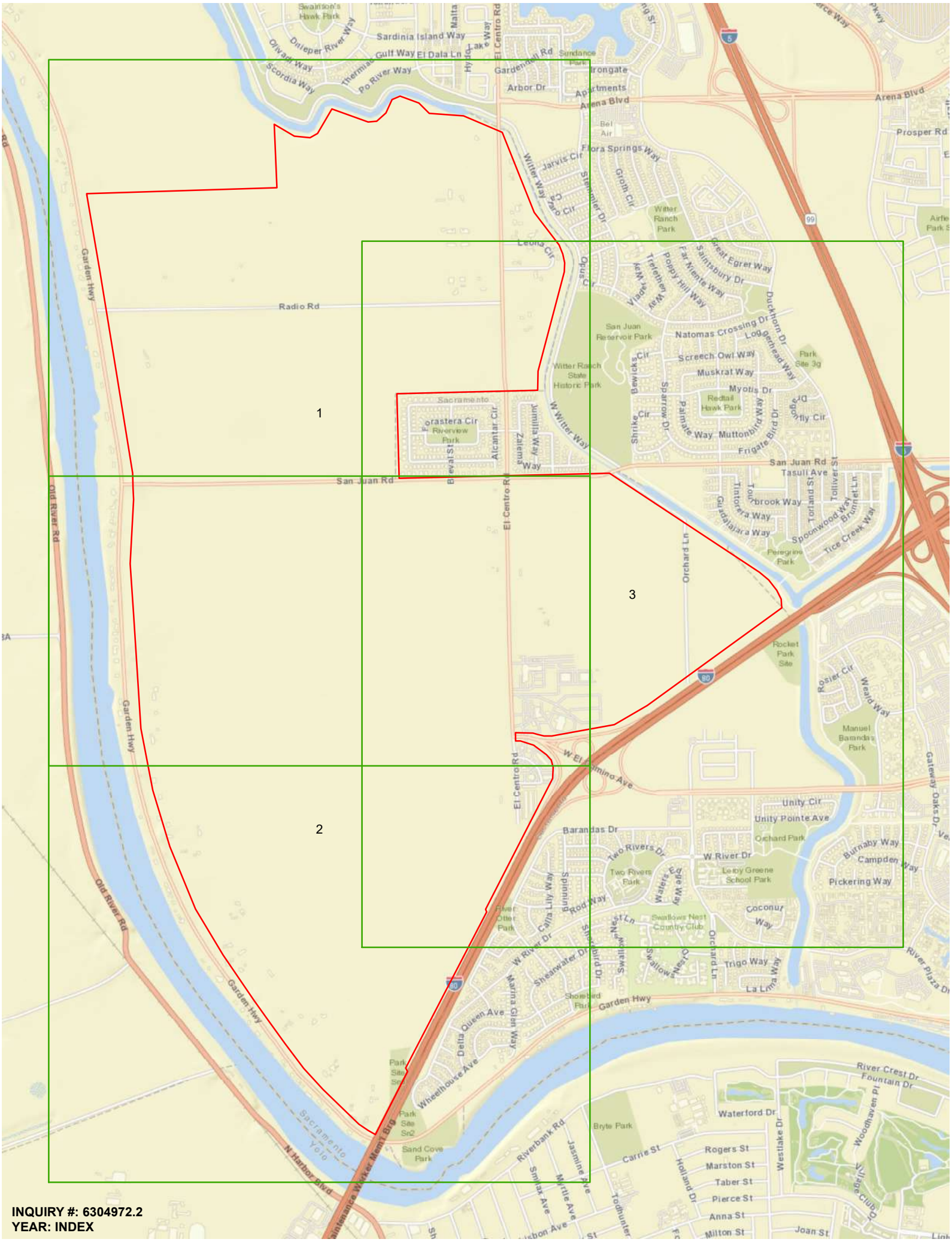
Aerial Photography December 22, 2020

## Target Property:

Upper West Side

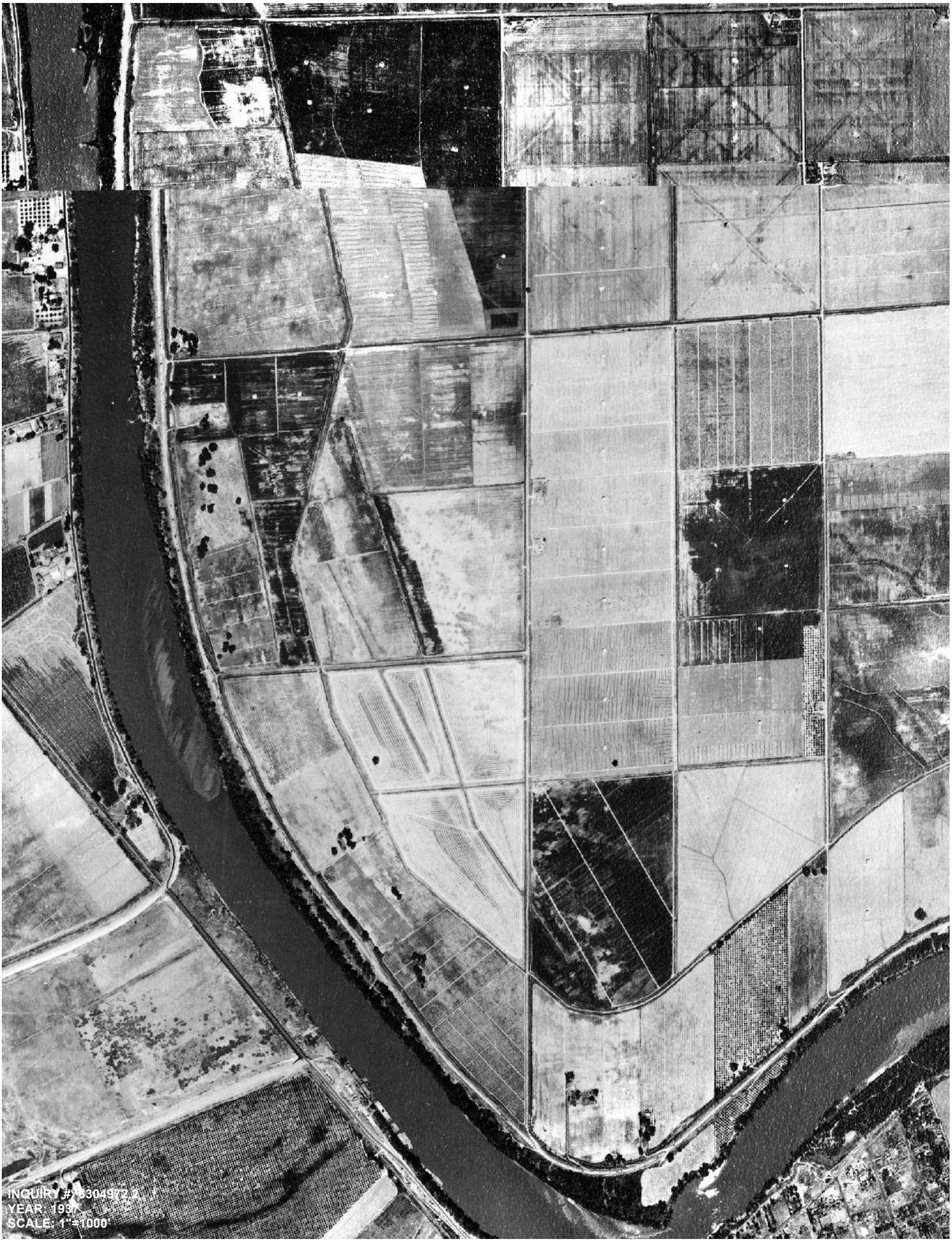
Sacramento, CA 95833

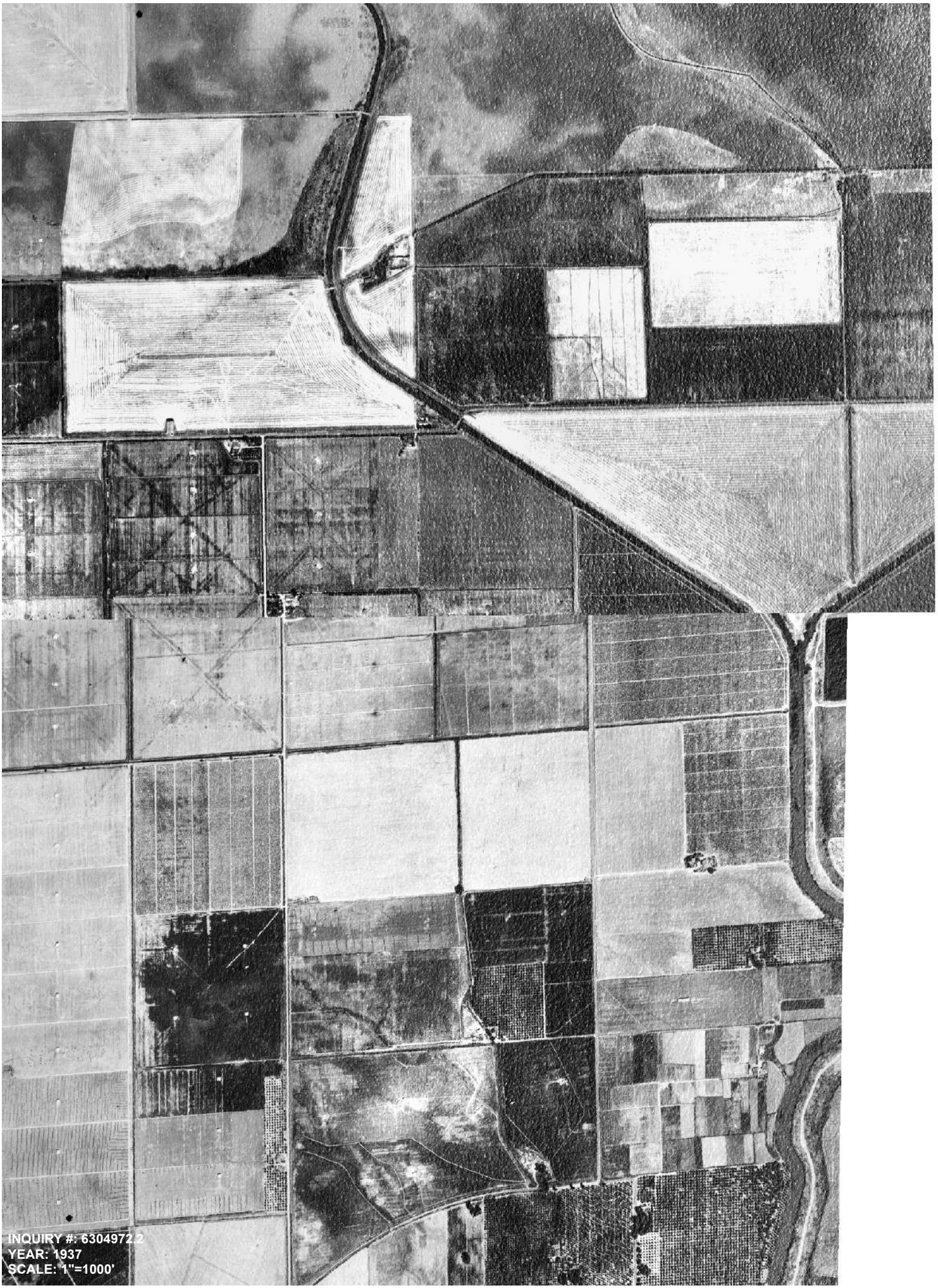
| ***Year*** | ***Scale*** | ***Details*** | ***Source*** |
|---|---|---|---|
| 1937 | Aerial Photograph. Scale: 1"=1000' | Flight Year: 1937 | USDA |
| 1947 | Aerial Photograph. Scale: 1"=1000' | Flight Year: 1947 | USGS |
| 1957 | Aerial Photograph. Scale: 1"=1000' | Flight Year: 1957 | USDA |
| 1964 | Aerial Photograph. Scale: 1"=1000' | Flight Year: 1964 | USDA |
| 1972 | Aerial Photograph. Scale: 1"=1000' | Flight Year: 1972 | USDA |
| 1984 | Aerial Photograph. Scale: 1"=1000' | Flight Year: 1984 | USDA |
| 1993 | Aerial Photograph. Scale: 1"=1000' | Flight Year: 1993 | USDA |
| 2005 | Aerial Photograph. Scale: 1"=1000' | Flight Year: 2005 | USDA/NAIP |
| 2009 | Aerial Photograph. Scale: 1"=1000' | Flight Year: 2009 | USDA/NAIP |
| 2012 | Aerial Photograph. Scale: 1"=1000' | Flight Year: 2012 | USDA/NAIP |
| 2016 | Aerial Photograph. Scale: 1"=1000' | Flight Year: 2016 | USDA/NAIP |




**INQUIRY #: 6304972.2**
**YEAR: INDEX**


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YEAR: 1937
SCALE: 1"=1000'

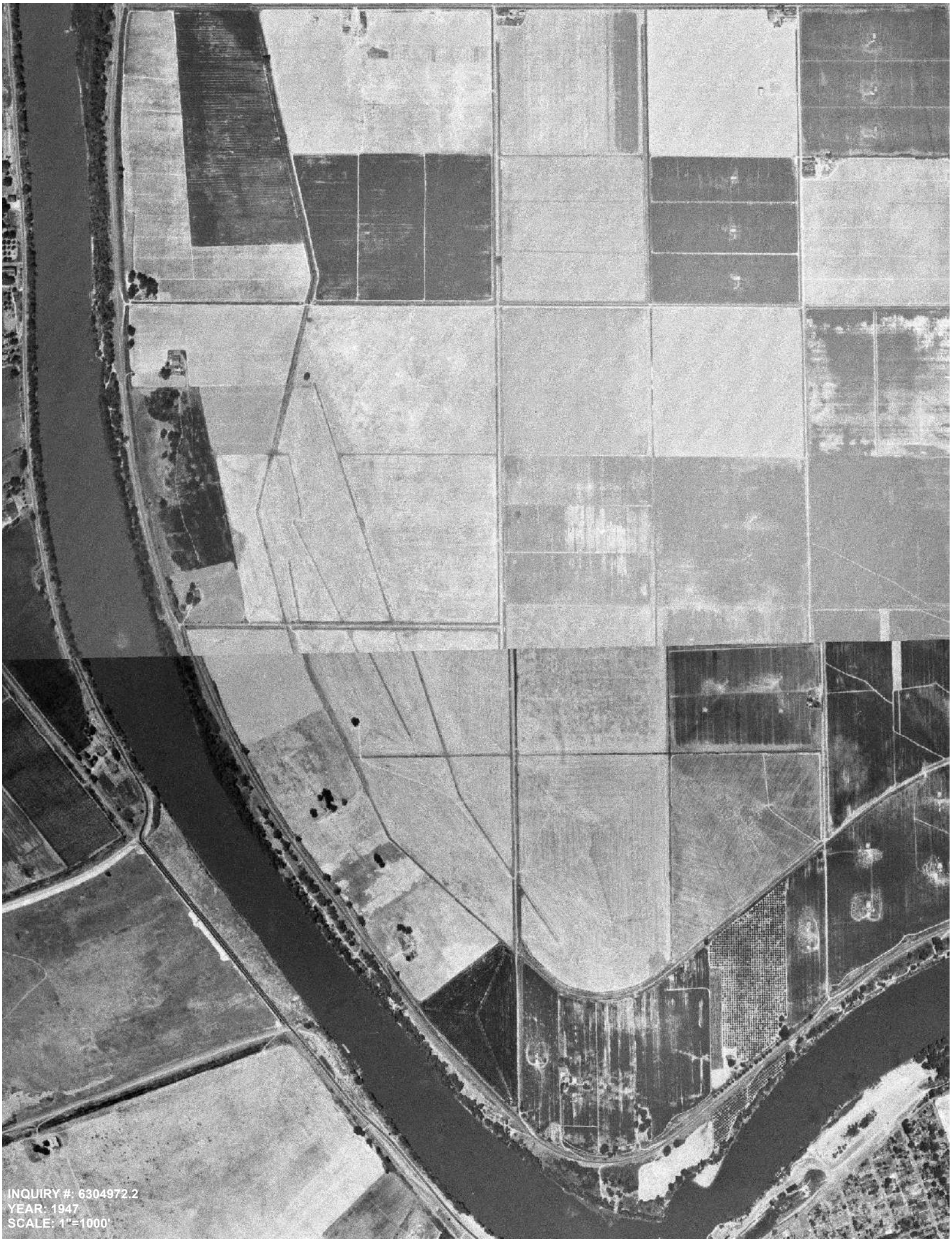

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SCALE: 1"=1000'



INQUIRY #: 6304972.2
YEAR: 1937
SCALE: 1"=1000'



INQUIRY #: 6304972.2
YEAR: 1947
SCALE: 1"=1000'



INQUIRY #: 6304972.2
YEAR: 1947
SCALE: 1"=1000'



INQUIRY #: 6304972.2
YEAR: 1947
SCALE: 1"=1000'



INQUIRY #: 6304972.2
YEAR: 1957
SCALE: 1"=1000'


INQUIRY #: 6304972.2
YEAR: 1957
SCALE: 1"=1000'



INQUIRY #: 6304972.2
YEAR: 1957
SCALE: 1"=1000'


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SCALE: 1"=1000'

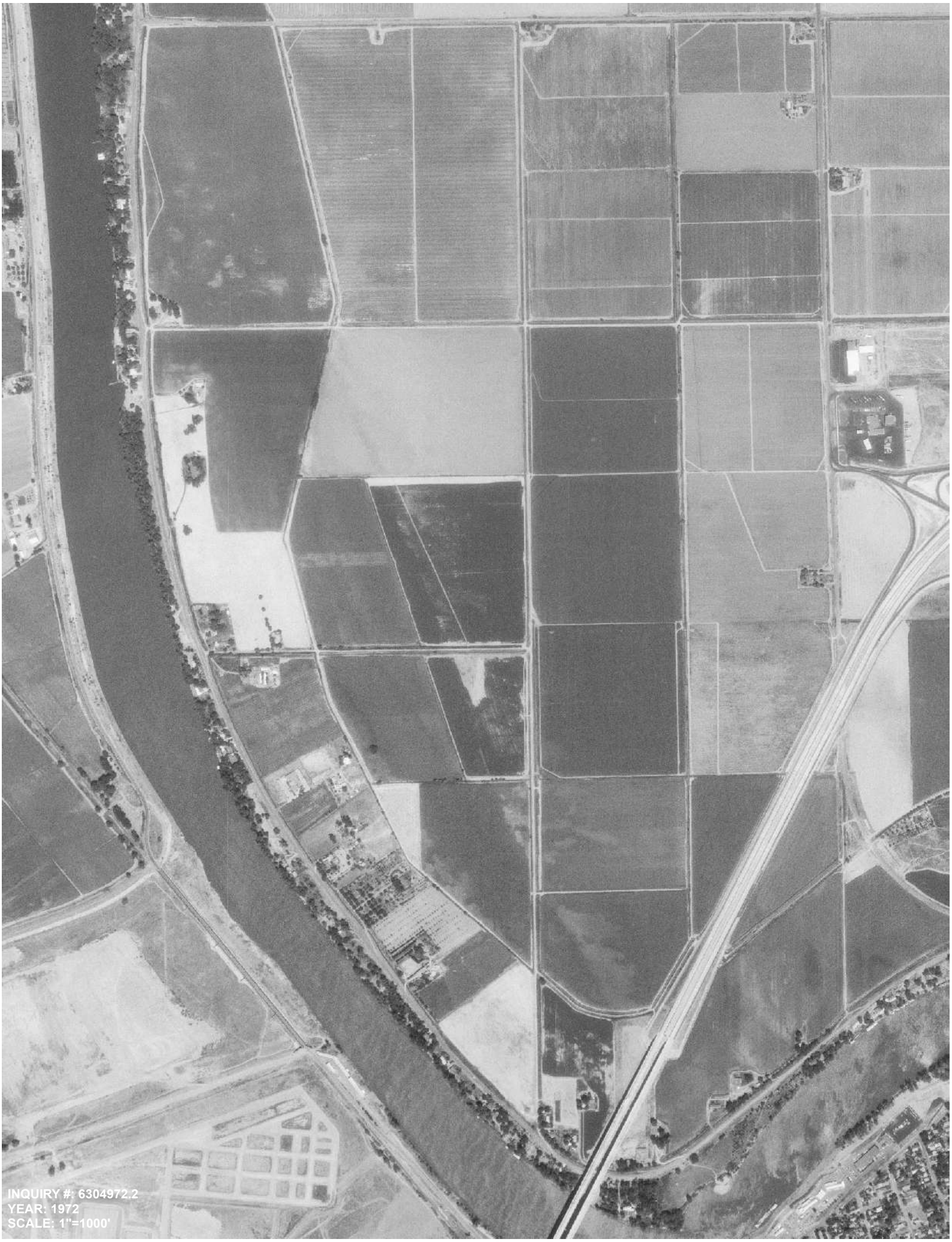

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INQUIRY #: 6304972.2
YEAR: 1964
SCALE: 1"=1000'



INQUIRY #: 6304972.2
YEAR: 1972
SCALE: 1"=1000'


INQUIRY #: 6304972.2
YEAR: 1972
SCALE: 1"=1000'



INQUIRY #: 6304972.2
YEAR: 1972
SCALE: 1"=1000'


INQUIRY #: 6304972.2
YEAR: 1984
SCALE: 1"=1000'


INQUIRY #: 6304972.2
YEAR: 1984
SCALE: 1"=1000'


INQUIRY #: 6304972.2
YEAR: 1984
SCALE: 1"=1000'


INQUIRY #: 6304972.2
YEAR: 1993
SCALE: 1"=1000'


INQUIRY #: 6304972.2
YEAR: 1993
SCALE: 1"=1000'



INQUIRY #: 6304972.2
YEAR: 1993
SCALE: 1"=1000'

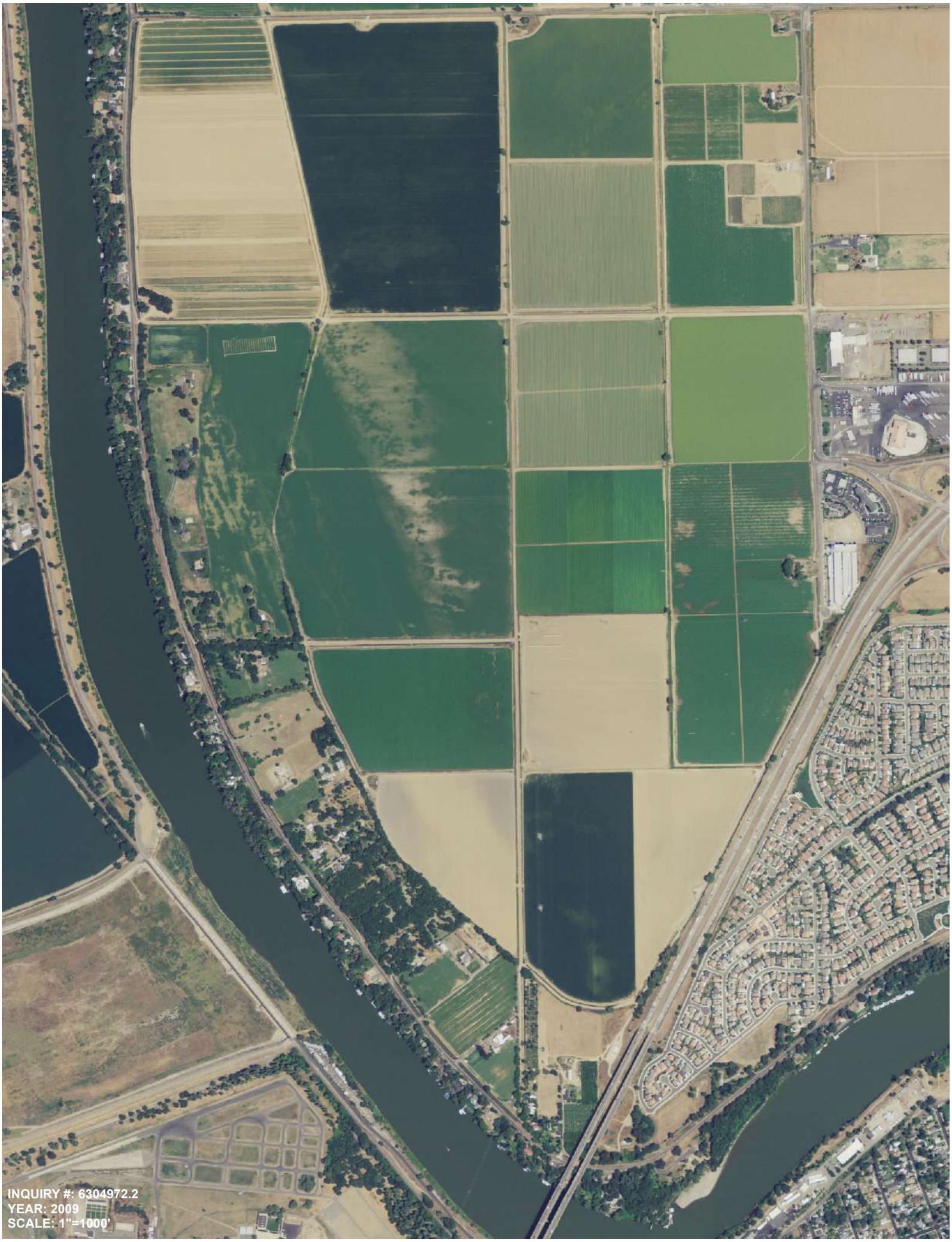

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INQUIRY #: 6304972.2
YEAR: 2005
SCALE: 1" =1000'


INQUIRY #: 6304972.2
YEAR: 2005
SCALE: 1"=1000'



INQUIRY #: 6304972.2
YEAR: 2009
SCALE: 1"=1000'


INQUIRY #: 6304972.2
YEAR: 2009
SCALE: 1"=1000'

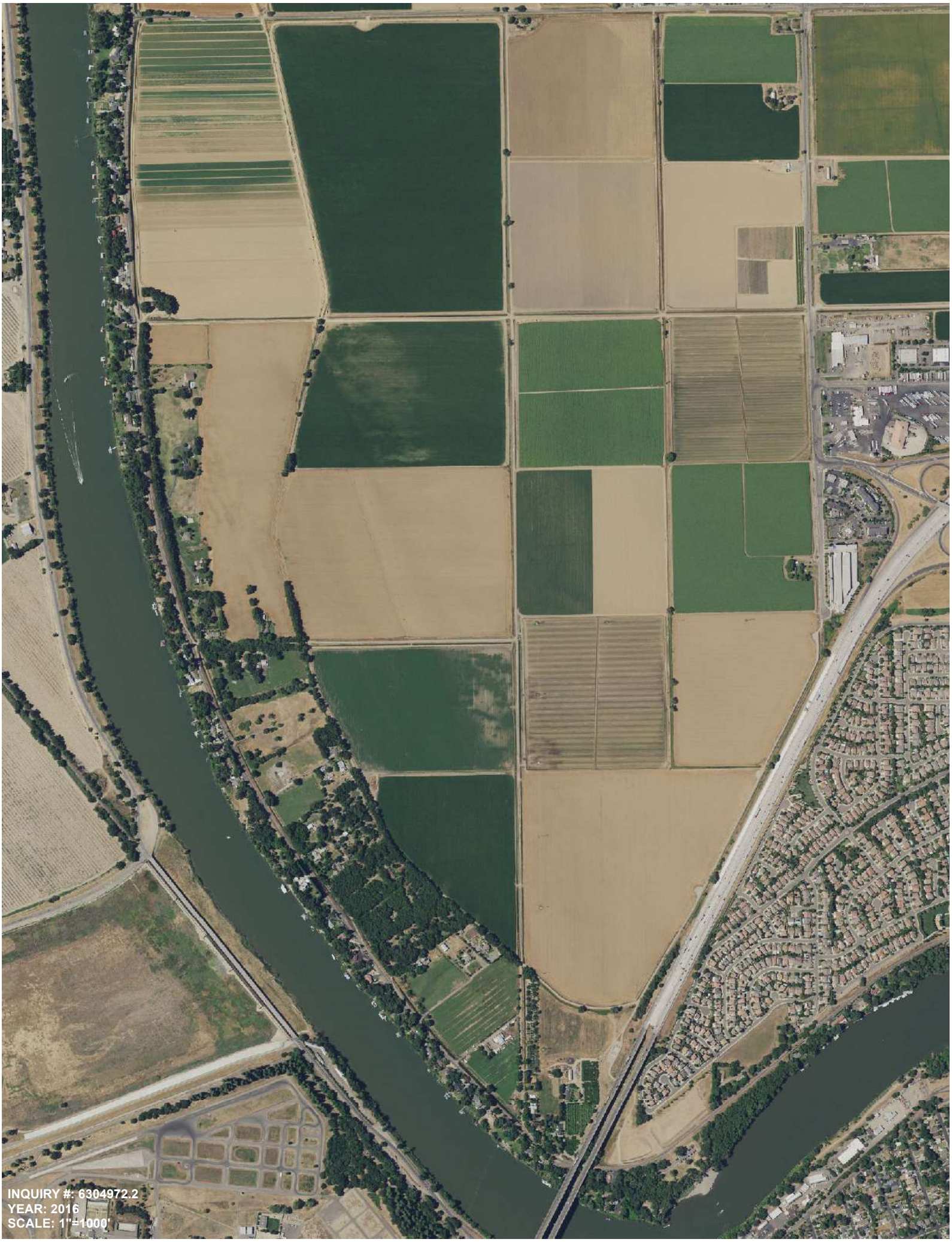

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YEAR: 2012
SCALE: 1"=1000'


INQUIRY #: 6304972.2
YEAR: 2012
SCALE: 1"=1000'


INQUIRY #: 6304972.2
YEAR: 2012
SCALE: 1"=1000'


INQUIRY #: 6304972.2
YEAR: 2016
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INQUIRY #: 6304972.2
YEAR: 2016
SCALE: 1"=1000'


INQUIRY #: 6304972.2
YEAR: 2016
SCALE: 1"=1000'



# APPENDIX F

## ENVIRONMENTAL DATA RESOURCES, INC.

## Sanborn Map Report

Upper West Side

Upper West Side

Sacramento, CA 95833

Inquiry Number: 6328866.2

January 13, 2021

# Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

# Certified Sanborn® Map Report

01/13/21

| Site Name: | Client Name: |
|---|---|
| Upper West Side | Engeo |
| Upper West Side | 6399 San Ignacio Avenue |
| Sacramento, CA 95833 | San Jose, CA 95119 |
| EDR Inquiry # 6328866.2 | Contact: Travis Chatters |

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Engeo were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

## *Certified Sanborn Results:*

**Certification #** 12D2-4BAD-B36A

**PO #** NA

**Project** 18171.000.001

### UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: 12D2-4BAD-B36A

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

*The Sanborn Library LLC Since 1866™*

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# APPENDIX G

## ENVIRONMENTAL DATA RESOURCES, INC.

## City Directory

**Upper West Side**
Upper West Side
Sacramento, CA 95833

Inquiry Number: 6304972.3
December 16, 2020

# The EDR-City Directory Abstract

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

# TABLE OF CONTENTS

## SECTION

**Executive Summary**

**Findings**

**City Directory Images**

***Thank you for your business.***
Please contact EDR at 1-800-352-0050
with any questions or comments.

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# EXECUTIVE SUMMARY

## DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1920 through 2017. This report compiles information gathered in this review by geocoding the latitude and longitude of properties identified and gathering information about properties within 660 feet of the target property.

A summary of the information obtained is provided in the text of this report.

## RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

EDR is licensed to reproduce certain City Directory works by the copyright holders of those works. The purchaser of this EDR City Directory Report may include it in report(s) delivered to a customer. Reproduction of City Directories without permission of the publisher or licensed vendor may be a violation of copyright.




## RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

| Year | Source | TP | Adjoining | Text Abstract | Source Image |
|---|---|---|---|---|---|
| 2017 | Cole Information Services | - | - | - | - |
| 2014 | Cole Information Services | - | - | - | - |
| 2009 | Cole Information Services | - | - | - | - |
| 2005 | Haines Company, Inc. | - | - | - | - |
| 2004 | Cole Information Services | - | - | - | - |
| 2002 | SBC PACIFIC BELL | - | - | - | - |
| 1999 | Cole Information Services | - | - | - | - |
| | Haines Company | - | - | - | - |
| 1995 | Pacific Bell | - | - | - | - |
| 1994 | Cole Information Services | - | - | - | - |
| 1991 | Pacific Bell | - | - | - | - |
| 1982 | R. L. Polk & Co. | - | - | - | - |

# EXECUTIVE SUMMARY

| Year | Source | TP | Adjoining | Text Abstract | Source Image |
|---|---|---|---|---|---|
| 1980 | R. L. Polk & Co. | - | - | - | - |
| 1975 | R. L. Polk  Co. | - | - | - | - |
| 1970 | Sacramento Directory Co. | - | - | - | - |
| 1966 | Sacramento Directory Co. | - | - | - | - |
| 1965 | Sacramento Directory Co. Publishers | - | - | - | - |
| 1961 | Sacramento Directory Co. | - | - | - | - |
| 1957 | Sacramento Directory Co. | - | - | - | - |
| 1956 | Sacramento Directory Co. | - | - | - | - |
| 1952 | Sacramento Directory Co. | - | - | - | - |
| 1947 | Sacramento Directory Co. | - | - | - | - |
| 1942 | Sacramento Directory Co. | - | - | - | - |
| 1937 | Sacramento Directory Co. | - | - | - | - |
| 1933 | Sacramento Directory Co. | - | - | - | - |
| 1928 | Sacramento Directory Co. | - | - | - | - |
| 1923 | Sacramento Directory Co. | - | - | - | - |
| 1920 | Sacramento Directory Co. | - | - | - | - |

# FINDINGS

## TARGET PROPERTY INFORMATION

### ADDRESS

Upper West Side
Sacramento, CA 95833

### FINDINGS DETAIL

Target Property research detail.

# FINDINGS

## ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

No Addresses Found

# FINDINGS

## TARGET PROPERTY: ADDRESS NOT IDENTIFIED IN RESEARCH SOURCE

The following Target Property addresses were researched for this report, and the addresses were not identified in the research source.

| Address Researched | Address Not Identified in Research Source |
|---|---|
| Upper West Side | 2017, 2014, 2009, 2005, 2004, 2002, 1999, 1995, 1994, 1991, 1982, 1980, 1975, 1970, 1966, 1965, 1961, 1957, 1956, 1952, 1947, 1942, 1937, 1933, 1928, 1923, 1920 |



# APPENDIX H

## SACRAMENTO COUNTY RECORDS REQUEST DOCUMENT SUMMARY

# APPENDIX H

## Sacramento County Provided Documents

2184 Garden Highway (APN 274-0260-042)
- Domestic well installation permit

2196 Garden Highway (APN 274-0260-032)
- Several hazardous materials management plans, permits, regulatory notifications, inspection reports

2206 Garden Highway (APN 274-0260-007)
- Liquid waste plans, permit, percolation test results for septic system installation

2178 Garden Highway (APN 274-0220-054)
- Liquid waste permit and soil log for septic system installation

2250 Garden Highway (APN 274-0260-037)
- Hazardous materials plans, regulatory notifications, complaints
- Liquid waste permit for septic system installation

2306 Garden Highway (APN 274-0260-043)
- Domestic well installation permit
- Liquid waste plans, permit, percolation test results for septic system installation

2300 Garden Highway (APN 274-0260-044)
- Several domestic well installation permits
- Liquid waste permit and percolation test results for septic system installation

2350 Garden Highway (APN 274-0260-001)
- Underground storage tank (UST) permit
- Liquid waste permit for septic system installation

Garden Highway (APN 274-0250-015)
- Several abandoned well notifications

2425 Garden Highway (APN 274-0250-013)
- Domestic well installation permit
- Liquid waste plans and permit for septic system repair

Garden Highway (APN 274-0250-012)
- Several abandoned well notifications
- Domestic well inactivation permit

2460 Garden Highway (APN 274-0250-011)
- Liquid waste plans, correspondence, permit, soils log for septic system installation

2480 Garden Highway (APN 274-0250-006)
- Domestic well destruction permit
- Temporary sewage storage plans

2482 Garden Highway (APN 274-0250-004)
- Liquid waste plans for septic system

2486 Garden Highway (APN 274-0250-003)
- Domestic well installation permit application
- Liquid waste plans and permit for septic system installation

Garden Highway (APN 274-0250-040)
- Several abandoned well notifications

2590 Garden Highway (APN 274-0250-039)
- Domestic well installation application
- Several domestic well installation permits
- Well drillers report
- Abandoned well notification

2604 Garden Highway (APN 225-0210-023)
- Domestic well installation application

2600 Garden Highway (APN 225-0210-038)
- Liquid waste permit for septic system repair

2700 Garden Highway (APN 225-0210-024)
- Several domestic well installation permits

3000 Garden Highway (APN 225-0210-026)
- Domestic well installation permit application
- Well abandonment permit

3540 Garden Highway (APN 225-0190-008)
- Irrigation well inactivation permit application
- Several abandoned well notifications and permit renewal notifications
- Liquid waste permit, plans, soil log for septic system installation

3800 Garden Highway (APN 225-0110-058)
- Domestic well installation application, permit, well drillers report
- Abandoned well notification
- Several exploratory boring permits
- Soil removal action and groundwater investigating work plan

3802 Garden Highway (APN 225-0110-024)
- Well drillers report for domestic well installation
- Percolation test results for septic system installation

Garden Highway (APN 225-0110-019)
- Several abandoned well notifications

Garden Highway (APN 225-0110-020)
- Several abandoned well notifications

3955 El Centro Road (APN 225-0110-037)
- Liquid waste permit for septic system installation
- Well drillers report for domestic well installation

3845 El Centro Road (APN 225-0110-038)
- Several hazardous materials management plans, permits, regulatory notifications, inspection reports
- Above ground storage tank checklist and statement

- Liquid waste permit for septic system installation
- Domestic well installation permit

3809 El Centro Road (APN 225-0110-052)
- Domestic well installation application and permit

3705 El Centro Road (APN 225-0110-032)
- Liquid waste permit for septic system installation
- Several hazardous materials management plans, monitoring plans, permits, regulatory notifications, complaint reports, inspection reports
- Several above ground storage tank statement, tank testing results, tank removal, site closure permit
- Municipal well permit and drillers report

3709 El Centro Road (APN 225-0110-054)
- Liquid waste permit, correspondence, percolation test results for septic system installation and repair

3934 El Centro Road (APN 225-0121-001)
- Liquid waste permit, correspondence, percolation test results for septic system installation and repair
- Domestic well installation application and permit
- Well drillers report for domestic well installation

El Centro Road (APN 225-0121-003)
- Abandoned well notification

3850 El Centro Road (APN 225-0121-00)
- Failing septic system notification

3830 El Centro Road (APN 225-0121-005)
- Liquid waste permit, plans drillers soil log for septic system installation and repair

3670 El Centro Road (APN 225-0122-001)
- Industrial well installation permit

3650 El Centro Road (APN 225-0190-019)
- Site assessment report
- UST removal notification
- Several well inactivation permits and abandoned well notifications
- Percolation testing results for septic system
- Several hazardous materials management plans, monitoring plans, waste classification forms, regulatory notifications, complaint reports, public reviews

3291 El Centro Road (APN 225-0210-001)
- Several well installation and inactivation permits
- Abandoned well notification

El Centro Road (APN 225-0210-005)
- Irrigation well installation permit

2651 El Centro Road (APN 225-0210-007)
- Septic system destruction permit

El Centro Road (APN 225-0220-060)
- Several abandoned well notifications

3060 El Centro Road (APN 225-0220-062)
- Small water supply permit application
- Several domestic well installation permit, drillers well log, monitoring schedule, laboratory results, inspection reports, source assessments
- Hazardous materials classification form

El Centro Road (APN 225-0220-113)
- Abandoned well notification

2850 El Centro Road (APN 225-0220-051)
- Domestic water supply application and permit, monitoring schedule, sampling plans, laboratory results, inspection reports, consumer confidence reports, source assessments
- Several industrial well drilling permits, well driller report, well logs
- Several hazardous materials management plans, monitoring schedules, permits, inspection reports, regulatory notifications
- Above ground storage tank statement, checklist, waste tank assessment

2828 El Centro Road (APN 225-0220-055)
- UST statement, checklist, monitoring plan, waste tank assessment
- Small water supply permit application and permit, monitoring schedule, sampling plans, laboratory results, inspection reports, consumer confidence reports, source assessments
- Several hazardous materials management plans, monitoring schedules, permits, inspection reports, regulatory notifications
- Fuel release complaint report, environmental crime cases
- Several monitoring well drilling permits, well driller report, well logs
- Site assessment and mitigation report, work plan, site conceptual model

2840 El Centro Road (APN 225-0220-103)
- Small water supply permit application and permit, monitoring schedule, sampling plans, laboratory results, inspection reports, consumer confidence reports, source assessments
- Several industrial well drilling permits, siting plans, well driller report, well logs
- Fuel release notification

2836 El Centro Road (APN 225-0220-075)
- Small water supply permit application
- Several domestic well installation permit, drillers well log, monitoring schedule, laboratory results, source assessments

2738 El Centro Road (APN 225-1020-005)
- Several UST permits and tank testing results
- Pipeline leak detection and repair notification
- Several hazardous materials management plans, monitoring plans, permits, regulatory notifications, complaint reports, inspection reports

El Centro Road (APN 225-1020-009)
- Exploratory boring permit

3340 Leona Circle (APN 225-0131-002)
- Several domestic well installation permit applications
- Well drillers report for abandoned wells
- Several abandoned well notifications
- Liquid waste plot plans, permit, soil log, regulatory notifications for septic system installation

3320 Leona Circle (APN 225-0131-003)
- Liquid waste permit for septic system installation

3360 Leona Circle (APN 225-0131-001)
- Domestic well installation permit
- Liquid waste permit for septic system installation

3280 Leona Circle (APN 225-0131-005)
- Liquid waste permit for septic system installation

3260 Leona Circle (APN 225-0131-006)
- Several domestic well installation permit applications
- Several abandoned well notifications

3220 Leona Circle (APN 225-0131-008)
- Several domestic well installation permit applications and well driller reports
- Liquid waste permit for septic system installation

3337 Leona Circle (APN 225-0132-002)
- Domestic well installation permit

3201 Leona Circle (APN 225-0132-005
- Several domestic well installation permit applications
- Soil log for septic tank installation

3357 Leona Circle (APN 225-0132-008)
- Domestic well installation and abandonment permits
- Well drillers report
- Liquid waste plot plans, permit, soil log for septic system installation

Orchard Lane (APN 225-0220-039)
- Several domestic and cathodic protection well installation permit applications, well drillers reports
- Several abandoned well notifications



# APPENDIX I

## QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONAL

## SHAWN MUNGER, CHG
## Principal Geologist

### EDUCATION

BS, Geology, U.C. Davis, 1985

### EXPERIENCE

Years with ENGEO: 31
Years with Other Firms: 0

### REGISTRATIONS & CERTIFICATIONS

Certified Hydrogeologist, CA, 413

8 Hour HAZWOPER Training, CA, 160115576014

Professional Geologist, CA, 5810

Certified Environmental Manager, NV, 1332

40 Hour HAZWOPER Training, CA, 100830513934

### SPECIALIZATIONS

- Environmental Assessments and Remediation
- Environmental Restoration
- Water Quality Studies
- Water Wells/Hydrogeology

Since joining ENGEO in 1985, Shawn has been managing groundwater supply evaluations, hydrogeologic studies, chemical assessments, Phase I and II Site Assessment projects, UST site investigations, risk based corrective action (RBCA), VOC remediation, and agricultural impact evaluations. He serves as Principal-in-Charge or Project Manager for environmental and hazardous materials projects involving groundwater hydrology, contaminant fate and transport, and remediation. He is Principal-in-Charge of the environmental components of our on-call contracts with the City of Sacramento and the County of Sacramento.

### Select Project Experience

**14234 Saratoga Sunnyvale Road—Saratoga, CA**
*Project Geologist*. Shawn performed Principal review of ENGEO's environmental documents. This 2.2-acre townhome site is planned for a new multi-family development comprising up to 20 units in 8 buildings. The site immediately borders Saratoga Creek and contains numerous mature trees, many of which are to be saved. Site challenges include shallow groundwater, creek bank stability, and the potential for liquefaction and lateral spreading.

**Lenihan Dam Outlet Modification—Los Gatos, CA**
*Principal Geologist*. Shawn provided technical advice, coordination, consultation, and review of ENGEO's documents to provide quality mitigation measures. The findings were presented to SCVWD and it was concluded that the stockpile was sufficient for transportation. This analysis led to significant project budget savings by avoiding removal and disposal at a solid waste disposal facility. The project consisted of a stockpile approximately 6,000 cubic yards that required profiling as requested by Santa Clara Valley Water District before use of as site backfill.

**199 River Oaks Parkway—San Jose, CA**
*Principal in Charge*. Shawn provided principal oversight, data analysis, and consultation regarding site characterization, risk evaluation, and demolition observation plans. The project consists of a proposed six-story podium structure with one level to be constructed below grade. The property is a former semiconductor facility that has received conditional closure from the Regional Water Quality Control Board and is approved for construction.

**Riverside Avenue Property—Roseville, CA**
*Principal in Charge*. Shawn provided principal oversight of a Phase II Environmental Site Assessments and site

characterization. The project site consists of an active auto sales and service facility. The historic use of the facility for industrial purposes resulted in soil and groundwater impacts beneath the site. The City of Roseville revised its plans for acquiring and redeveloping the site due to the identified soil and groundwater impacts.

**1301 Standard Oil Ave—Pittsburg, CA**
*Principal in Charge*. Shawn provided principal oversight of a Phase II Environmental Site Characterization. The property is an abandoned wastewater treatment plant with processing buildings, clarifier tanks, and sludge beds.

**Pleasant Hill BART Station—Walnut Creek, CA**
*Principal in Charge*. Shawn provided oversight, data analysis and consultation during the preparation of a Phase II Environmental Site Assessment. The property is an existing BART station that encompasses 20 acres, including the platform/station area, electrical facilities, a parking garage and additional paved parking areas.

**County Crossings Property—Antioch, CA**
*Principal in Charge*. Shawn provided environmental consultation and data review with regard to soil and groundwater contamination. Constituents of concern include petroleum hydrocarbons, nitrates and manganese. The approximately 264-acre site includes several former industrial facilities and petroleum pipelines. Soil and groundwater at the site has been impacted with petroleum hydrocarbons, nitrates and manganese. Planned uses include commercial, residential, retail, and a BART-oriented transit village. The center, which is currently in the entitlement phase, is estimated to break ground in 2011.

**620 North Ninth Street—San Jose, CA**
*Principal in Charge*. Shawn provided oversight of soil, groundwater and soil gad characterizations, risk evaluations and Remedial Action Plan preparation. Shawn also closely interacted with RWQCB staff to achieve approval for residential development. The property is a former fruit packing plant and food preparation facility. The proposed development consists of a single-family residential subdivision.

**Westshore—Richmond, CA**
*Project Manager*. Shawn conducted Phase I and II Site Assessments, risk evaluations and prepared a soil management plan. The property was a former automotive manufacturing plant proposed for a multi-unit condominium development, including a 6-story podium structure to include five residential floors with 269 units and one parking floor.

**Mills Ranch—King City, CA**
*Principal in Charge*. Shawn provided principal oversight of Phase I/II Environmental Site Assessments and risk evaluations. The approximate 80-acre property is used for agricultural cultivation and commercial uses. The proposed mixed-use development includes over 400 single-family residential lots.

**Select Foods Site/Cross Creek—Hayward, CA**
*Principal in Charge*. Shawn provided principal oversight, consultation, and data analysis. The property was a former processed food facility, a drum recycling business, battery manufacturing operation and a bus assembly plant. Following completion of soil remediation under RWQCB oversight, the property was developed into a single-family residential subdivision.

**Arroyo Crossing—Livermore, CA**
*Principal in Charge*. Shawn provided oversight, data analysis and regulatory consultation while ENGEO provided geotechnical and environmental engineering services for this 34-acre site. This former corporation yard and quarry site was developed into a single-family residential subdivision.

**Renaissance Square—Concord, CA**
*Project Manager*. Shawn provided consultation, data analysis, and field observation. This former automotive dealership was redeveloped as a five-story multi-family residential structure supported on slab-on-grade foundations, with two levels of below-grade parking. Petroleum hydrocarbon-impacted soil was encountered during excavation of the parking structure, which required characterization and remediation. Soil impacts were attributed to former sumps, USTs and hydraulic lifts.

**Union Pacific Railroad Corridor—San Jose, CA**
*Project Manager*. Shawn prepared a Phase I and II Environmental Site Assessment. Work included a site reconnaissance, historical records research and recovery of soil samples with laboratory analysis. Lead impacted soil was identified which required risk evaluation. This former1800 lineal foot section of the former Union Pacific Railroad Corridor was proposed for mixed-use development.

**Former SFPP Alignment—Concord, CA**
*Project Manager*. Shawn prepared a Phase I and II Environmental Site Assessment. The site was a former ±6,500-foot corridor formerly occupied by the Southern Pacific Railroad. Kinder Morgan petroleum pipelines existed within an easement along the property. The southern portion of the site was crossed by East Bay Municipal Utilities District water distribution lines and a multi-lane highway overpass. The corridor was developed as a self-storage facility. Work included the recovery of soil and groundwater samples along the SP right of way.

**Hercules Property—Hercules, CA**
*Project Manager*. Shawn provided oversight of a Phase I Environmental Site Assessment, site asbestos survey, site characterization, and demolition observation/contaminant assessment. The project area consists of ±167 acres located near and along the southeastern shore of San Pablo Bay in Hercules. The property was once a portion of a 1300-acre manufacturing facility that was operated by DuPont from 1879 to 1913 and Hercules Incorporated from 1913 to 1979. The planned development includes single/multi-family residential development with some commercial components.

**Highlands Ranch—Antioch, CA**
*Principal in Charge*. Shawn provided oversight, data analysis, and collaboration with RWQCB personnel. The project site consists of a 140-acre portion of the former Chevron Los Medanos Tank Farm located in Pittsburg, California. The site was historically occupied by 24 crude oil tanks and four wax ponds. Remediation of the crude oil tank and wax pond locations was conducted according to a remedial action plan (RAP) and oversight was provided by the CRWQCB. Remediation was performed over a period of four months and consisted of excavating approximately 110,000 cubic yards of impacted soil and placing the material in windrows for ex-situ bioremediation.



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# APPENDIX HYD-1

## MASTER DRAINAGE STUDY

**Department of Water Resources**
Matt Satow
Director

**Divisions**
Water Supply
Drainage
Administrative Services/Finance

# County of Sacramento

**Date: 05/30/2024**

**To: Michael Motroni, P.E.**
**Michael Nowlan, P.E.**
Wood Rodgers, Inc.

**Subject:** Upper Westside Specific Plan (PLNP2018-00284) Master Drainage Study – Resubmittal 3 Approval Letter

The Sacramento County Department of Water Resources (Water Resources) reviewed the drainage master plan dated 05/24/2024 and deemed it technically sufficient to support the proposed preliminary backbone drainage infrastructure and initial entitlements. Level 2 and 3 drainage studies will be required prior to approval of subsequent entitlements, and level 4 drainage studies will be required to support eventual improvement plans.

Please feel free to call if you have any questions.

Sincerely,

J. Luis Rodriguez, P.E., M.S., C.F.M.
Associate Civil Engineer
Sacramento County Department of Water Resources
Drainage Development and Floodplain Management
Phone: (916) 874-7172

Cc
**Emma Patten**
County PER
**Michael Durkee, P.E.**
County DWR
**Nick Avdis**
Applicant

May 29, 2024

Kevin King
General Manager
Reclamation District 1000
1633 Garden Highway
Sacramento, CA 95833

Subject: **Review of Upper Westside Planning Area Level 1 Master Drainage Study Report**

**Introduction/Background**

The proposed Upper Westside (UWS) is planned for 2,066 acres of residential and commercial development. The UWS Specific Plan Area is bound by Interstate 80 (I-80) to the southeast, the West Drainage Canal to the northeast, Garden Highway to the west, and the Sacramento city limits and Fisherman's Lake to the north. The site is undeveloped land that drains west to east through existing canals, generally draining through culverts into the Reclamation District 1000 (RD1000) West Drainage Canal between Fisherman's Lake and I-80. Outlets to the West Drainage Canal are supplemented by pumping to achieve required stormwater evacuation during significant rainfall events. As proposed, the UWS would be improved with a network of stormwater infrastructure, improved drainage canals, detention storage, and new and upgraded pump stations to deliver stormwater from the development via two outfalls to the RD1000 West Drainage Canal.

Mead & Hunt, with the assistance of West Yost, has completed reviews of multiple iterations of the drainage studies and modeling prepared for the UWS. The current version of the Master Drainage Study (MDS) reporting was completed by Wood Rodgers on May 24, 2024, and is the subject of this review.

The following updated documents were provided to RD1000 for review:

- Upper Westside Specific Plan, Master Drainage Study, Wood Rodgers, May 24, 2024
- UWS XP SWMM Modeling, Dated April 9, 2024[a]
- Responses to Mead & Hunt's April 29, 2024 comments

**Mead & Hunt Comment Response Backcheck:**

Drainage Study

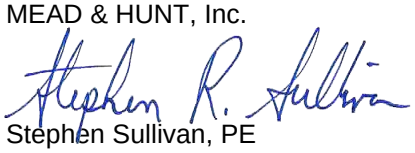
Mead & Hunt's previous master drainage study report comments have been addressed and there are no further comments.

[a] According to email correspondence between Mike Motroni and Luis Rodriguez, the model was updated previously to address Sacramento County comments on the revised Nolte model to the satisfaction of Sacramento County. The model update was not separately reviewed by RD1000.

**Conclusions**

Based upon the analysis as documented in the Level 1 Drainage Study, the proposed plan is compatible with the RD1000 standards and mission, to avoid impacting operations and maintenance, as well as the drainage services provided to properties outside of the project area. We understand that as the project design progresses, additional design details will be provided for RD1000's review and we look forward to providing feedback.

Sincerely,
MEAD & HUNT, Inc.



Stephen Sullivan, PE
Senior Associate
916-993-4621
Steve.Sullivan@meadhunt.com

cc: Gabriel Holleman, RD1000 Operations Manager
Mike Motroni, Wood Rodgers
Mike Nowlan, Wood Rodgers
J. Luis Rodriguez, Sacramento County
Mark Kubik, West Yost
Jeff Kashiwada, Mead & Hunt

Enclosures:
Wood Rodgers Response to Comments from Mead & Hunt's April 29, 2024 Review

**Upper Westside Specific Plan - Master Drainage Study**

***Response to Comments***

**Dept:** Mead & Hunt (RD-1000)
**By:** Steve Sullivan
**Date:** 4/29/2024

| # | Submittal Comment | Wood Rodgers Response |
|---|---|---|
| 1. | **Page 39, 3.3, El Centro West Drainage Canal**: Report indicates that the El Centro Road Crossing of the West Drainage Canal culverts will be replaced or extended to accommodate road widening. Include language to indicate that "The County will consult with RD1000 on the details of modifying the culvert encroachments on the West Drainage Canal, the condition of existing features, and the potential impacts to adjacent features." | Comment addressed as noted. |
| 2. | **Page 41, Ag-Buffer Drainage, 1st paragraph**: Clarify the statement that "additional channel and storm drain improvements would be constructed primarily within existing easements dedicated to RD1000 and to the Natomas Mutual Water Company." The improvements to accommodate drainage collection and rerouting should not encroach upon the existing RD1000 and NMWC easements. The Ag Buffer runoff collection features were not part of the RD1000 system and will be operated and maintained by the project proponent's designee. | Sentence revised to read:<br><br>*Where required to facilitate ag-buffer runoff, any additional channel and storm drain improvements would be constructed primarily within existing easements dedicated to RD 1000 and to the Natomas Central Mutual Water Company but not in conflict with their facilities. Drainage improvements will be subject to County jurisdiction will require quitclaim by RD1000.* |
| 3. | **Page 42, Figure 3.1 Ag-Buffer Urban Interface**: The figure indicates ditch placed directly against the fenced Ag-Buffer with no access to permit maintenance along the left bank. Notes indicate this is "To be considered with tentative maps." It is assumed that this facility will not be operated and maintained by RD1000, please confirm intent (see above). | Added, "Drainage facilities along the ag-buffer constructed to convey runoff per County Standards will be operated and maintained by the County." |
| 4. | **Page 65, Onsite 200-year analysis**: Prior iteration indicated that the project would include levee strengthening, raising, and retrofit of culverts. The latest report no longer includes this commitment and appears to indicate that no levee work will be required to meet 200-year level of protection and includes a justification. | Correct. The project grading has been designed such that pads will be at or above the 200-year water surface elevation. While not required, the future design will set back proposed detention basins from the West Drainage Canal to prevent failure during the 200-year, while maintaining no increases to existing ground separation or to peak water surface elevations currently contained in the West Drainage Canal channel banks. |

| # | Submittal Comment | Wood Rodgers Response |
|---|---|---|
| | a. The reference Figure 4.6 contains no topographic labeling and is therefore difficult to confirm assumptions. Include labeling of elevation contours. | Comment addressed in updated Figure 4.6. |
| | b. The statement that "While the project does not rely on the containment of the West Drainage Canal to protect pads, the project will be designed to keep the West Drainage Canal within its banks" could be misconstrued. The statement can be made that the project will not increase the 200-year, 10-day levels in the West Drainage Canal and therefore the project in an of itself does not increase the extent of mapped inundation shown. | First two paragraphs revised to read:<br><br>*While the project does not rely on the containment of the West Drainage Canal to protect pads, the project will be designed to maintain the West Drainage Canal within its banks. The project will not increase the 200-year, 10-day water surface elevations in the West Drainage Canal and therefore does not increase the extent of mapped inundation.* |
| | c. The statement of that "This will prevent intentional flow leaving the West Drainage Canal and entering the Plan Area through overtopping or piping" could be misconstrued and can be left out, as no project work related to the 200-year assessment is planned on the levee. | Comment addressed in revised text. |
| | d. The statement that "Wood Rodgers does not anticipate any modifications will be required to the existing containment features to achieve this goal," does not define the "goal". | Comment addressed as noted. Removed "…to achieve this goal." |

# Upper Westside Specific Plan
# Level 1 Master Drainage Study

## May 24, 2024




*Prepared for*

## Upper Westside, LLC

*Prepared by*

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME
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## GLOSSARY

| | |
|---|---|
| 2-Year | Having a 50% chance of occurrence in any given flood season |
| 10-Year | Having a 10% chance of occurrence in any given flood season |
| 100-Year | Having a 1% chance of occurrence in any given flood season |
| 200-Year | Having a 0.5% chance of occurrence in any given flood season |
| 500-Year | Having a 0.2% chance of occurrence in any given flood season |
| 44 CFR 65.10 | Code of Federal Regulations pertaining to levees |
| BASH | Bird/Wildlife Aircraft Strike Hazard program |
| CDFW | California Department of Fish and Wildlife |
| CFS | Cubic Feet per Second |
| CLOMR | Conditional Letter of Map Revision (FEMA assessment of future conditions) |
| CVFED | Central Valley Floodplain Evaluation and Delineation program (California) |
| CVFPB | The Central Valley Flood Protection Board |
| CVRWQCB | Central Valley Regional Water Quality Control Board – under the SWRCB |
| ESA | Endangered Species Act |
| FAA | Federal Aviation Administration |
| FEMA | Federal Emergency Management Agency |
| FIRM | Flood Insurance Rate Map, published by FEMA |
| Freeboard | Height of a flood facility above the design water surface elevation |
| GIS | Geographic Information System |
| HEC-1 | A US Army Corps of Engineers hydrology program |
| HEC-RAS | A US Army Corps of Engineers hydraulics program |
| HGL | Hydraulic Grade Line – water surface elevations in channels and pipes |
| HMP | Hydromodification |
| Hydromodification | The human-induced alteration of the natural flow of water through a landscape |
| LID | Low Impact Development |
| LiDAR | Light Detection and Ranging (topographic data collection method) |
| NAVD 88 | North American Vertical Datum of 1988 |
| NFIP | National Flood Insurance Program – administered by FEMA |
| NGVD 29 | National Geodetic Vertical Datum of 1929 |
| NPDES | National Pollution Discharge Elimination System |
| NRCS | Natural Resources Conservation Service |
| Orographic | Pertaining to the effects of elevation and changing terrain on precipitation |
| Plan Area | Upper Westside Specific Plan |
| RD 1000 | Reclamation District 1000 |
| SacCalc | Hydrologic pre-processor program developed by SCDWR |
| SAFCA | Sacramento Area Flood Control Agency |
| SAHM | Sacramento Area Hydrology Model |
| SCDWR | Sacramento County, Department of Water Resources |
| SMUD | Sacramento Municipal Utilities District |
| SQDM | Stormwater Quality Design Manual |
| SWRCB | California State Water Resources Control Board |
| ULDC | Urban Levee Design Criteria in the state of California |
| ULOP | Urban Level of Protection associated with flooding in California |
| USEPA | United States Environmental Protection Agency |
| USGS | United States Geological Survey (federal agency) |
| UWS | Upper Westsid |
| UWSP | Upper Westside Specific Plan |
| WQV | Water Quality Volume (expressed in acre-feet) |
| WSE | Water Surface Elevation |
| XPSWMM | A commonly utilized private stormwater management modeling software |

# 1.0 Introduction

Upper Westside (UWS) is a 2,066-acre Specific Plan Area (Plan Area) in Sacramento County (County) located within the Natomas Basin. The Plan Area is bound by Interstate 80 (I-80) to the southeast, the West Drainage Canal (also known as the Witter Canal) to the northeast, Garden Highway to the west, and the Sacramento city limits and Fisherman's Lake to the north.

## 1.1 Existing Conditions

The Plan Area currently encompasses land with primarily Agricultural and Agricultural-Residential designations, with some Commercial designations. Developed lands within the Plan Area include approximately 55 acres of commercial areas adjacent to the West El Camino Road interchange with I-80, approximately 40 acres of the partially-developed Natomas Estates residential development, and various individual residential areas along the east side of El Centro Road. Natomas Estates is located along El Centro Road from just north of the intersection of El Centro Road and Radio Road to the intersection of El Centro Road and the West Drainage Canal. The fully developed River View #2 subdivision area consisting of approximately 80 acres north of San Juan Road and west of the West Drainage Canal is not included in the Plan Area.

North and east of the Plan Area lies existing residential development in North Natomas that is nearing build-out. The community of South Natomas, which is also nearing build-out, is situated southeast of I-80. Across the Sacramento River to the west is Yolo County, where parcels along the river are zoned Agriculture Intensive (A-N) and are within the Federal Emergency Management Agency (FEMA) 100-year floodplain. Large development projects within 10 miles of the Plan Area that have begun planning or construction processes include Northlake (Greenbrier), The Panhandle, Grandpark (North Precinct), and Metro Air Park. **Figure 1.2: Vicinity Map** presents an existing conditions vicinity map for the Plan Area.

## 1.2 Project Description

The proposed project will consist of development within the Plan Area, including approximately 9,356 residential dwelling units and 3.11 million square feet of commercial and mixed land use. Roadway improvements, parks and open space, greenbelts and urban farm programs, and schools will also be included.

The Plan Area currently encompasses Agricultural and Agricultural-Residential designations; however, the project location makes the Plan Area suitable for a compact urban form based on the surrounding conditions. Because the project's center is within 3.5 miles of downtown Sacramento, the Plan Area provides an opportunity to create a sustainable urban Greenfield project that meets the needs of the growing Sacramento region.

The Plan Area includes a large, centrally-located open channel water feature that will be used as a conveyance as part of the storm drainage system. Drainage improvements include open channels and a backbone storm drain system to convey runoff from the Plan Area to detention basins and pump stations that will discharge into the West Drainage Canal.

## 1.3 Applicable Standards

This report is intended to comply with the requirements for a Level 1 Master Drainage Plan according to the Sacramento County Department of Water Resources (SCDWR) *Drainage Study Requirements* dated March 2020. Drainage improvements will be designed in accordance with the following design standards:

1. "Sacramento City/County Drainage Manual", Volume 2, Hydrology Standards, 1996.
2. "Sacramento Region Stormwater Quality Design Manual" (SQDM), July 2018.
3. Sacramento County Improvement Standards, Storm Drainage Design (Section 9), 2006.
4. Sacramento County Improvement Standards, Streets (Section 4), 2009.
5. "City of Sacramento Design and Procedure Manual", Section 11, Stormwater Collection Systems.
6. "City of Sacramento Design and Procedure Manual", Section 12, Storm Drainage Design Standards, Pump Stations.

### SCDWR Pump Station and Detention Basin Design Criteria

The SCDWR pump station and storage volume criteria are presented below in **Table 1.1: Pump Station Design Criteria**.

**Table 1.1: Pump Station Design Criteria**
*Source: Sacramento County, Department of Water Resources*

| Frequency | Duration | Pump Operation | Peak Water Surface Criteria |
|---|---|---|---|
| 10-year | All durations | Pumps 1 and 2 Operating | For pipe design and setting on elevation for 3rd pump |
| 100-year | 24 and 36 hours | All pumps operating | Minimum 1 foot freeboard in basin (designated flooding storage areas) |
| 100-year | 5 and 10 day | All pumps operating | Minimum 1 foot freeboard in basin (designated flooding storage areas) |
| 100-year | 24 and 36 hours | 50% of pumps not operating | Not to exceed 1 foot over the street gutter flowline |
| 100-year | 5 and 10 day | 50% of pumps not operating | Not to exceed 1 foot over the street gutter flowline |

Notes:
1. All scenarios do not include the low flow pump operation
2. 50% of pumps not operating; assumes that 2 of the 4 pumps (3 primary and 1 back up) are not operating.

## Nolte Hydraulic Grade Line Requirements for Storm Drain Pipe

Per Section 9 of the Sacramento County Improvement Standards, the Nolte hydraulic grade line (HGL) shall maintain a minimum of one-foot freeboard below the top-of-manhole for storm drain systems. The worst-case duration (varies) of the 10-year storm event was used to set the tailwater condition for the Nolte analysis. **Figure 1.1: Maximum WSE Exhibit, Street Section** below presents a visual display of freeboard criteria for street sections within the Plan Area. The Nolte method was used in determining pipe design using the maximum 10-year conditions with climate change tailwater conditions from either the 24-hour, 5-day or 10-day durations.

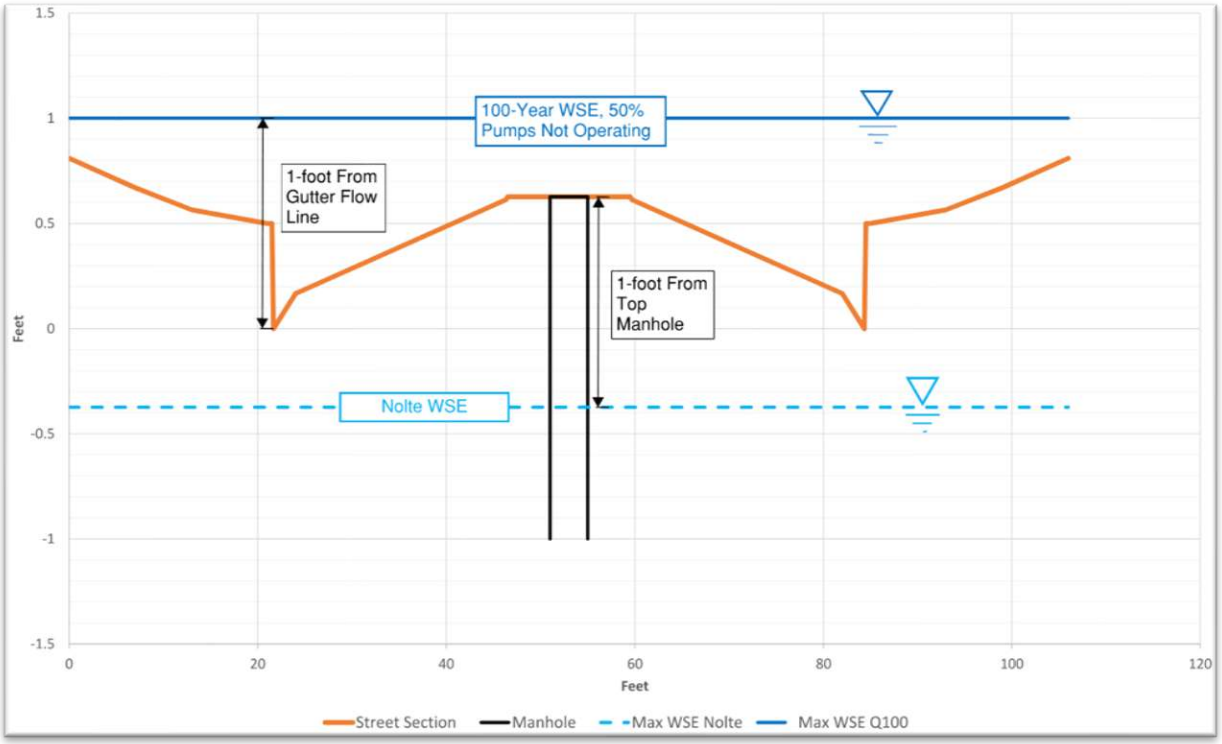



**Figure 1.1: Maximum WSE Exhibit, Street Section**

## RD 1000 Design Criteria

Reclamation District (RD) 1000 maintains and operates seven pump stations, over 42 miles of levees and over 30 miles of open channels within the Natomas Basin. To aid in evaluating the effects of development projects within the Natomas Basin, RD 1000 and its consultants, Mead and Hunt and West Yost Associates (WYA), developed and maintain a basin-wide XPSWMM hydrologic and hydraulic model of the Natomas Basin drainage system. Wood Rodgers has coordinated with RD 1000, Mead and Hunt, and WYA to determine the allowable measure of discharges into the West Drainage Canal so that development within the Plan Area would have no adverse impacts on the performance of storm drainage facilities within the Natomas Basin drainage system operated by RD 1000. Based on conversations with RD 1000 and Mead and Hunt, development within the Plan Area will not be allowed to increase peak flow rates from existing conditions into the West Drainage Canal. In addition, increased flow volumes from the Plan Area are not allowed to create adverse impacts to the RD 1000 drainage facilities.

The RD1000 XPSWMM system model evaluates worst-case conditions using the 100-year 10-day storm event, requiring the project to also evaluate 100-year 10-day conditions accordingly. The current RD1000

operational model (using XPSWMM) is expected to be replaced by the Natomas Basin 2D HEC-RAS model. Once adopted, new modeling representing the Upper Westside will need to incorporate the latest RD1000 system representations.

## Referenced Studies

Studies and materials reviewed in the preparation of this report include:

1. North Natomas Comprehensive Drainage Plan, Borcalli and Associates, June 1992.
2. Flood Insurance Study (FIS), FEMA, Effective date July, 19, 2018.
3. Flood Insurance Study (Historical), FEMA, February 4, 1998.
4. Natomas Comprehensive Drainage Plan, North Natomas Levee Project, As-built drawings, Ensign and Buckley, 1997.
5. River Oaks Master Drainage Plan, Balance Hydrologics, September 2018.
6. Basins 7 and 8C Drainage Study with Gateway West, Morton & Pitalo, Inc., June 27, 1997.
7. Upper Westside Development Geology and Soils Technical Report, ENGEO, February 2021.
8. Upper Westside Specific Plan Administrative Draft, Wood Rodgers, Inc., July 2023.
9. Technical Memorandum No. 3, Natomas North Precinct Flood Control & Storm Drainage Master Plan, Comparison of RD-1000 Hydrology to Sacramento Method, Civil Engineering Solutions/McKay and Somps, April 4, 2018.
10. Riverside Canal Phase 2 Relocation Project, Improvement Plans, Mead & Hunt, Inc., May 29, 2019.
11. American River Common Features Natomas Basin Reach B Volume 4 Riverside Canal Phase 2 Relocation Project, Mead and Hunt, US Army Corps of Engineers, Sacramento District, Final Design plans issued June 7, 2019.
12. “Creating Land Cover, Manning’s N Values, and % Impervious Layers” (HEC-RAS 2D User’s Manual), United States Army Corps of Engineers, Version 6.0, June 2021.

13. River View Drainage Study, Wood Rodgers, Inc., April 1999.

14. Sacramento Stormwater Quality Partnership Hydromodification Management Plan, cbec eco engineering, et al, January 28, 2011 (finalized December 31, 2017).

## 1.4 Objectives of Analysis

The purposes of this Study are to:

- Determine existing and proposed conditions drainage patterns and flow rates to demonstrate that the development within the Plan Area will not cause adverse impacts to adjacent properties;
- Determine detention basin sizes, including the capacity necessary to meet freeboard, and required water quality volume (WQV) storages;
- Determine preliminary backbone storm drainage trunkline and channel sizes considering freeboard requirements;
- Show no adverse impacts to RD 1000 facilities from existing to proposed conditions;
- Develop approaches to meet post-construction National Pollutant Discharge Elimination System (NPDES) requirements following the guidelines in the SQDM; and
- Comply with requirements from the SCDWR guidance for a Level 1 Master Plan.

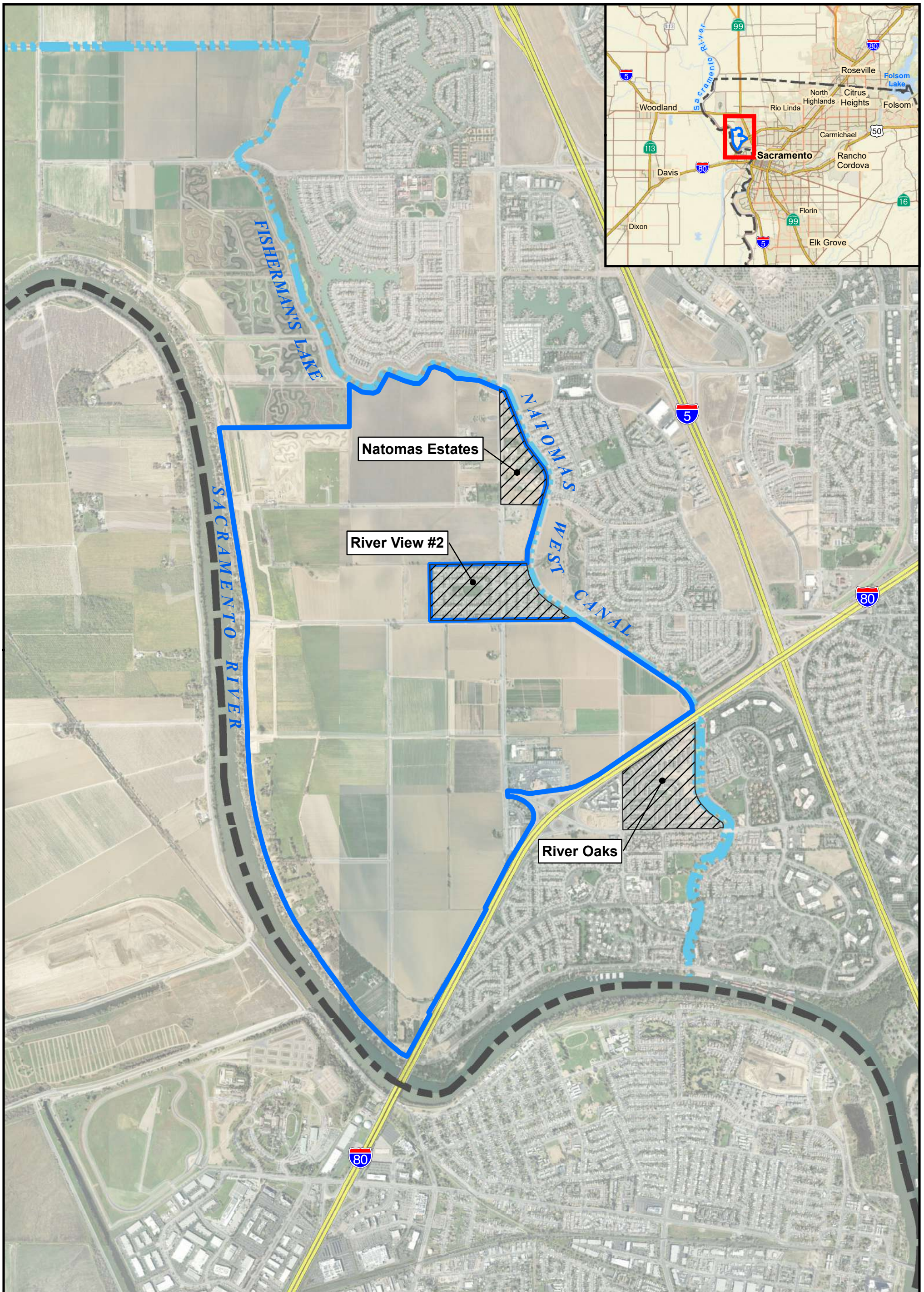
It is important to note that all determinations made as part of this study are preliminary, with all basin sizes, pumping, channels, culverts, pipe sizes, and alignments being subject to change during future tentative map and final design efforts.

### Procedural Memorandums

Based on discussions with the SCDWR and the Sacramento County Planning Department, the Project applicant has been tasked with providing a series of four procedural memorandums related to cumulative impacts, residual flood risks, the FEMA Conditional Letter of Map Revision (CLOMR) approval process,

and the financing of capital and operation and maintenance costs[1]. These topics will be covered in the procedural memorandums which will be delivered separately and apart from this Master Drainage Study.

[1] Including the costs associated with operating and maintaining the central canal. Financing of capital drainage improvements is included as part of the project's Public Facilities Financing Plan.




**VICINITY MAP**

UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY

SACRAMENTO COUNTY, CA
MAY 2024

Specific Plan Area Boundary
Sacramento City Limits
Sacramento County Boundary
West Drainage Canal
Existing Developments
Interstate

0 1,000 2,000
Feet

NORTH

WOOD RODGERS

J:\3000-s\3616_Natomas_Boot\Natomas_Boot-OA\GIS\Tasks\Studies\Drain\MasterDrainage Study\Resubmittal_20230908\FIG1.2_UpperWestVicinityMap.mxd 9/7/2023 3:39:26 PM jcarey

**FIGURE 1.2**

# 2.0 Baseline Existing Conditions

## 2.1 Historical Land Use

The Plan Area is within the Natomas Basin, which is a reclaimed floodplain protected by levees on all sides. This area has been utilized for agricultural use for many decades. Review of historical topographic maps from 1915 and 1916 (see **Figure 2.2**) show the planning area partially inundated by Bush Lake, which is connected to Fisherman's Lake. By 1950, (see **Figure 2.3**) the West Drainage Canal had been constructed and Bush Lake had been drained. Also by 1950, the Natomas East Main Drainage Canal was constructed, which diverted Dry Creek runoff away from the Plan Area and into the American River.

RD 1000 was created as a Special District in 1911 by Act 930 as passed by the California State Legislature. RD 1000 replaced any other districts in the area and continues to be responsible for the operation and maintenance of the drainage facilities that receive and will continue to receive runoff from the Plan Area.

## 2.2 Topographic Data Sources

The existing conditions topographic mapping is based on a survey performed by Wood Rodgers in April 2019. Additional surveys identifying invert elevations and sizes of key culverts within the Plan Area were performed in August 2020 and December 2020. The Plan Area was surveyed using the National Geodetic Vertical Datum of 1929 (NGVD 29); NGVD 29 also serves as the City's vertical datum. The RD 1000 XPSWMM model developed by RD 1000 and its contractors was created using North American Vertical Datum of 1988 (NAVD 88) data. The Existing Conditions HEC-RAS model was developed in NAVD 88. The local transformation from NAVD 88 to NGVD 29 is -2.08 feet (NGVD 29 = NAVD 88 – 2.08'), per City of Sacramento benchmarks 276-H5B and 276-H6E within the Plan Area. Unless otherwise specified this study utilizes the NAVD 88 datum.

## 2.3 Offsite Drainage

Offsite Flows from Southeast

**Figure 2.4: Offsite Flows** present Offsite Drainage to the Plan Area from I-80 and areas South of I-80. The River Oaks development site (Reference 5) has historically overflowed to the north through dual 36-inch culverts under I-80 with most drainage being directed to Sump 160 to the south. The modeling provided

by the City of Sacramento was used to identify when the overflow occurs. The River Oaks development conveys 10-year flows south towards the City of Sacramento Sump 160 pump station, leaving flows greater than the 10-year storm event to flow via overland release through the existing culverts under I-80.

An existing 36-inch culvert located under I-80 and approximately 2,700 feet southwest of the El Centro interchange conveys discharge from I-80 into the Plan Area. This culvert conveys only runoff from I-80.

### River View #2 Subdivision

The River View #2 development as shown in **Figure 2.5: Offsite Drainage River View #2** is an existing development adjacent to the Plan Area located north of San Juan Road. Runoff from River View #2 drains southward towards San Juan Road where the flow is collected in a 60-inch storm drain, which conveys the 100-year runoff eastward under the West Drainage Canal and into the City of Sacramento Sump 17 Pond 7B detention basin southeast of the intersection of San Juan Road and the West Drainage Canal. In an extreme flooding event overland releases from the River View development will overflow into the existing open channels adjacent to San Juan Road and conveyed via the San Juan Pump Station into the West Drainage Canal. Figure 3B presents the on-site drainage system within the River View #2 development. Excerpts from the River View #2 drainage study are located in **Appendix A**.

The Natomas Estates development to the east of El Centro Road and north of Radio Road is mostly built out (fully developed) and currently drains by gravity directly into the West Drainage Canal.

### Riverside Canal

It is assumed for the existing condition that the Riverside Canal Phase 2 Relocation project is complete and operational. Per Reference 10, Riverside Canal has been revised to an underground pipe. The Natomas Mutual Water Company's (NMWC) Riverside Main Canal runs along the western edge of the Plan Area. The system delivers water from the Sacramento River to a series of lateral highline irrigation canals at Radio Road, Farm Road, and Parker Road that flow eastward through the plan area. The Riverside Main is open canal north of Radio Road and buried low pressure pipeline south of Radio Road. At Bryte Road the pipeline returns to open canal and serves highline canals flowing north along Bryte Road and northeast along Tree Road. The pipeline includes irrigation water services along its alignment for properties to the

east and west. The Riverside Canal alignment has been shifted westward from the Radio Road lift station to Farm Road. South of Farm Road, the Riverside Canal continues south along existing RD 1000 and Natomas Central Mutual Water Company (NCMWC) easements. The water supply ditch along Radio Road is served by a 30-inch high-density polyethylene pipe (HDPE) turnout, which conveys flows along this ditch and eventually to the Riverside Pump Station.

## 2.4 Onsite Drainage

Onsite flows originating from undeveloped agricultural lands are conveyed via drainage and irrigation canals to various RD 1000 ditches that collect field runoff and then convey the water to the West Drainage Canal. Runoff is conveyed from the existing Plan Area to the West Drainage Canal by two pump stations operated by RD 1000 and by various gravity systems including field drains, canal drains, and storm drains. **Figure 2.6: West Drainage Canal Existing Storm Drain Connections** presents the location and size of drains and pump stations that convey flows into the West Drainage Canal. The Riverside Pump Station is located just north of the existing development that is situated north of San Juan Road. The San Juan Pump Station is located along San Juan Road adjacent to the West Drainage Canal. **Figure 2.7: RD 1000 XPSWMM Conduits** shows how these connections to the West Drainage Canal are represented in the RD 1000 XPSWMM model.

Existing agricultural areas provide some floodplain storage. Agricultural areas are graded relatively flat with typical slopes less than 0.5% and are situated adjacent to berms and leveed irrigation canals. Flows in and out of the agricultural fields are typically limited by adjacent berms that usually measure two feet to three feet in height. Flows are typically controlled by 18-inch or 24-inch corrugated metal pipe (CMP) or by HDPE culverts installed under the berms, which creates some floodplain storage within the fields.

## 2.5 Hydrologic & Hydraulic Modeling Assumptions

An existing conditions HEC-RAS model using rain on grid precipitation was developed to determine baseline conditions for localized flows entering the West Drainage Canal. Examination of the RD 1000 XPSWMM model revealed that the existing culverts, storm drains, and field drains are not all individually represented, and most of the existing UWS Plan Area was represented by several large 1D storage areas. Based on discussions with Mead and Hunt and WYA on September 14, 2022, Wood Rodgers proposed to

utilize an existing conditions hydrologic and hydraulic model to determine more accurate runoff values from the existing Plan Area entering the West Drainage Canal. Rainfall was distributed across the model domain, with infiltration losses standardized to 0.014 inch/hour across the project as recommended by SCDWR and referenced from Technical Memorandum No. 3, Natomas North Precinct Flood Control & Storm Drainage Master Plan, (Reference 9). In addition, Wood Rodgers has prepared a Technical Memorandum that concludes that using a HEC-RAS rain on a grid precipitation model with a loss rate of 0.014 within the UWS Plan Area generates a total runoff value consistent with runoff values from the RD 1000 XPSWMM model. The technical memorandum is presented in **Appendix B**.

The existing conditions HEC-RAS model was run with the same (non-climate change) 100-year 10-day storm as the RD 1000 XPSWMM model in order to provide input hydrographs from the UWS Plan Area and to integrate the models. Wood Rodgers updated the evaluations with the RD 1000 provided model and RD 1000 staff will review and approve all models accordingly to establish the baseline condition for confirming that the proposed project would have no adverse impacts to the RD 1000 drainage facilities in the 100-year 10-day storm.

The existing conditions HEC-RAS model will also serve as a basis for comparison with the proposed condition to show compliance with the Sacramento County Floodplain Management Ordinance (January 13, 2017) which states that the proposed project shall result in no adverse impacts. The ordinance defines this as the following:

> *…causing increased flood stages, increased flood velocity, or increased flows in or near a special or local flood hazard area, to an extent including to but not limited to an increase in base flood elevation equal or greater than 0.1 foot on upstream, downstream, or adjacent properties.*"

The design storms are assumed to occur during winter months, when the weirs are removed and canals are free-flowing. The West Drainage Canal was not included in the HEC-RAS model domain because RD 1000 will utilize the RD 1000 XPSWMM model to evaluate the impacts of the proposed project on the existing RD 1000 drainage system. The hydraulic connection of the HEC-RAS model outflows into the XPSWMM model as inflow can be adequately defined and achieved without combining the geometry of the

RD1000 system model into the HEC-RAS model domain by using stage hydrographs as boundary conditions for HEC-RAS.

Some small culverts along roadside ditches are not included in the model. In these areas, the Digital Elevation Model (DEM) was revised to create a uniform channel representing roadside ditches. It is assumed that these DEM revisions will not have a significant impact on model results, because these ditches typically do not have large drainage areas or flows. The water supply transmission line (Riverside Canal) has been revised to the current configuration of an underground pipe.

## Description of HEC-RAS Model

The existing condition HEC-RAS model is full 2D with rain-on-grid precipitation. The model was developed using site-specific surveys including field determinations of culvert sizes and inverts, and irrigation channel cross sections. The model includes a 2D grid with internal 2D-to-2D connections representing existing culverts within the model domain. The Riverside and San Juan Pump Stations are represented with the same on/off elevations (NAVD 88) and pumping capacities as represented in the RD 1000 XPSWMM model.

The existing conditions HEC-RAS model was developed to simulate how the complexities of the terrain impact the flows going into the existing drainage system. The existing conditions models were created using the site topographic data described in Section 2.2 of this report. The models include a 2D grid with internal 2D to 2D connections representing culverts. The model domain encompasses the existing 2,066-acre Plan Area and adjacent lands south and west of the West Drainage Canal, the adjacent River View #2 Development, and the adjacent I-80 freeway. The existing River Oaks development south of the I-80 freeway influences are represented by running the XPSWMM model provided by the City of Sacramento for Sump 160. The River Oaks development overland release and the existing dual 36-inch culverts under I-80 are included in the model domain to ensure there are no adverse impacts from the proposed project on the existing development.

The Existing Condition 100-year HEC-RAS Model includes existing culverts within the existing Plan Area, the River View #2 development on-site storm drain, and the 60-inch storm drain in San Juan Road that

conveys runoff from the on-site storm drain east under the West Drainage Canal and to the City of Sacramento Sump 17 Pond 7B detention basin. One purpose of the existing condition 100-year HEC-RAS Model is to develop a baseline condition WSE for the 100-year design storms. The 100-year 24-hour, 100-year 5-day, and 100-year 10-day design storms with climate change are evaluated to show that the proposed project will not have adverse effects to peak WSE within the River View #2 development and adjacent off-site areas, as required by the County Floodplain Management Ordinance.

The RD 1000 system model is run for the 100-year 10-day storm only with a total rainfall value of 10.69 inches (without climate change), therefore the HEC-RAS model was also run with precipitation input that matches the total rainfall value used in the RD 1000 XPSWMM model to assess impacts to the RD 1000 system. Rainfall was distributed uniformly across the model domain for each storm scenario, with infiltration losses as noted above.

## Model Layout

**Figure 2.8: Existing Topography** presents the project topography and existing culverts used to develop the existing conditions model. **Figure 2.9: Existing Conditions HEC-RAS Model** presents a schematic layout of the existing conditions HEC-RAS model.

## Software Application and Version

HEC-RAS version 6.3 was used for the existing conditions hydrologic and hydraulic analysis.

## Limits of Study

The limits of study are the Plan Area and adjacent areas west and south of the West Drainage Canal, the adjacent tributary roadway areas along I-80, the influences of the River Oaks development (located south of I-80), and the River View #2 development.

The River Oaks development conveys runoff for events larger than the 10-year event north through an existing dual 36-inch reinforced concrete pipe (RCP) culvert under I-80. Existing runoff from these culverts is conveyed to the existing San Juan Pump Station via existing earthen canals. The proposed Project will convey flows from these culverts to the proposed East Detention Basin via an earthen channel and dual 60-inch RCP pipe. The River Oaks development and the existing dual 36-inch culverts under I-80 were

modeled in a combined 1D XPSTORM model with The CORE development provided by the City of Sacramento, and the precipitations were modified to include climate change. The 24-hour storm scenarios for the 100-year, 200-year, and 500-year reached the existing dual 36-inch RCP culverts and flowed into the plan area.

The River View #2 development conveys runoff via a 60-inch storm drain in San Juan Road east under the West Drainage Canal to the City of Sacramento Sump 17 Pond 7B detention basin. The River View development is included in the 2D model domain to compare the impacts of the proposed project on the existing development and verify that these projects are hydraulically separated and do not influence each other.

See **Appendix A** for referenced information from the River Oaks Drainage Study, River View #2 drainage study, and for Improvement plans for the City of Sacramento Sump 17 Pond 7B detention basin.

## Soils

**Figure 2.10: Hydrologic Soils Groups Map** presents soils with hydrologic soils group (HSG) values as determined by the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Survey Geographic (SSURGO) Database. Soils in the project area are composed primarily of HSG C and D soils, with some HSG A soils in the undeveloped area along the Sacramento River Levee. The HSG values are provided as background but were not a factor in the analysis due to the alternative basis for the infiltration rate that was used.

## Land Use

**Figure 2.11: Existing Condition Land Use** presents existing condition land uses for the UWS. These land uses include Agricultural-Residential, Agricultural, Wetlands, Park, Very Low Density Residential, Low Density Residential, High Density Residential, Very High Density Residential, and Commercial.

## Infiltration

In lieu of watershed and runoff hydrograph calculations, rainfall was distributed evenly across the two-dimensional flow areas within the Plan Area. Infiltration losses were standardized to 0.014 inch/hour (for

pervious areas only) across the project, consistent with the analysis performed by Civil Solutions in Reference 9 and verified in the Technical Memorandum provided by Wood Rodgers in **Appendix B**.

## Routing

Routing was accomplished using culverts, canals and 2D areas in the HEC-RAS model. No hydrologic flood routing was needed because rainfall was applied to the ground surface and all routing was performed using hydraulic routing.

## Storage

Two existing detention basins are present in the existing Plan Area. They are located next to the freeway and represented in the existing conditions DEM. To account for the effective migration of floodplain storage within agricultural fields, the project DEM was first modified to cut small channels near the locations where pipe culverts convey flows from agricultural fields into and out of adjacent irrigation canals to represent field drains. Due to the field culverts contributing to attenuation within the fields, culverts and small berms were added back to the enhanced topography to represent the limited conveyance capacities of the field culverts. Culvert locations through adjacent berms were determined from inspection of the topographic data, aerial imagery, and from site visits performed by Wood Rodgers.

## Boundary Conditions

Boundary conditions in the West Drainage Canal for pump stations were determined from information provided by WYA from the RD 1000 XPSWMM model. Stage hydrographs were set in the West Drainage Canal at the existing Riverside and San Juan Pump Stations. **Figure 2.1: 100-year, 10-day Stage Hydrograph** represents the updated RD 1000 XPSWMM model that utilizes the existing conditions HEC-RAS model outputs to the West Drainage Canal. The figure represents the 100-year 10-day stage hydrograph in the West Drainage Canal at the existing Riverside and San Juan Pump Stations.

The Existing Condition 100-year HEC-RAS Model includes the on-site storm drain system within the River View #2 development as well as the connecting 60-inch storm drain within San Juan Road that conveys runoff east under the West Drainage Canal and to the City of Sacramento Sump 17 Pond 7B detention basin. It is assumed that the starting WSE in the Sump 17 Pond 7B Detention Basin is 7.1 feet NAVD 88,

which corresponds to the peak 100-year WSE in Pond B from the RD1000 XPSWMM model less one foot to account for peak flow timing preceding peak detention levels.

Pump On/Off data for the Riverside and San Juan pump stations was also obtained from the RD 1000 XPSWMM model and is shown below in **Table 2.1: Existing Pump On / Off and Flow Capacity**. Please note that pump curve data was not available in the RD 1000 XPSWMM model. It is understood that pump flow rates may vary with the total dynamic head, and subsequent studies will require specific pump curve data for design of the proposed pump stations. The existing Riverside and San Juan pump stations currently pump one-way from onsite to the West Drainage Canal.

**Table 2.1: Existing Pump On / Off and Flow Capacity**
*Source: RD-1000, XPSWMM System Wide Model*

| Location | Riverside | | San Juan | |
|---|---|---|---|---|
| Pump # | 1 | 2 | 1 | 2 |
| Capacity (cfs) | 5 | 20 | 5 | 55 |
| On elevation (feet NAVD) | 10.17 | 11.67 | 7.42 | 8.92 |
| Off elevation (feet NAVD) | 9.17 | 10.42 | 6.42 | 7.67 |

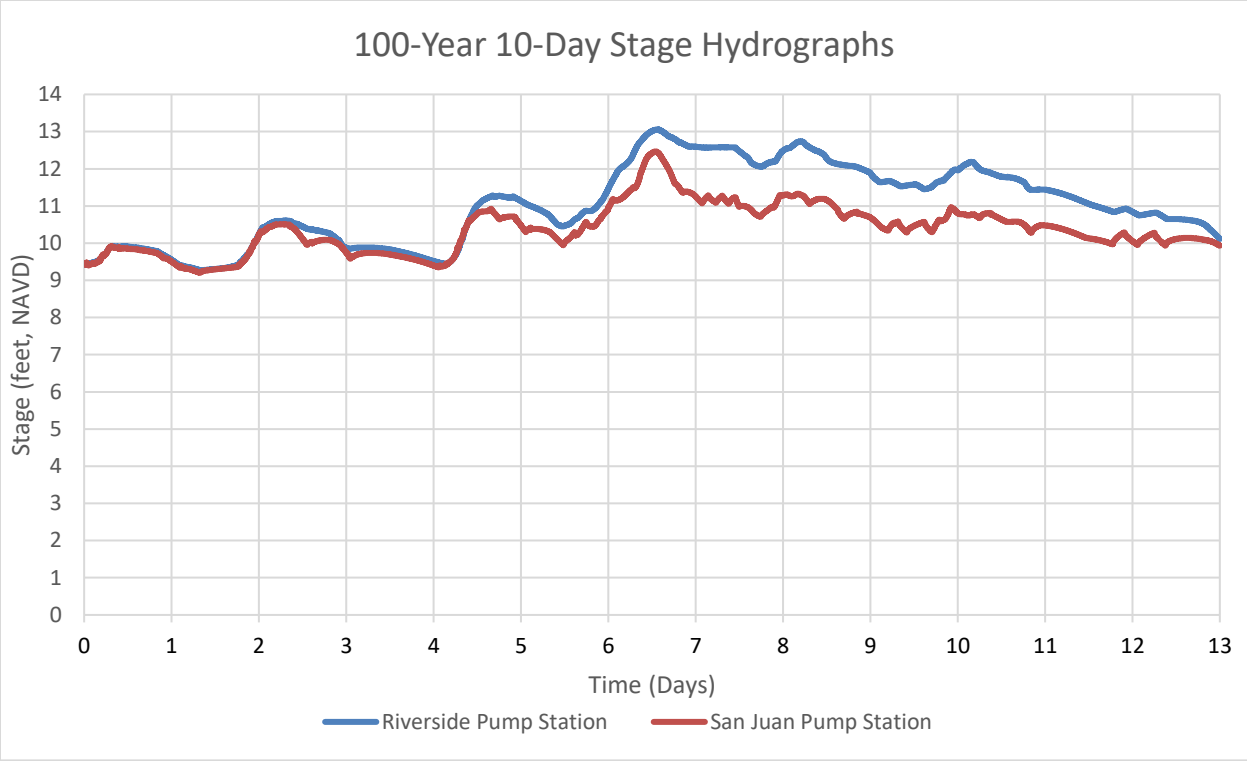



**Figure 2.1: 100-year, 10-day Stage Hydrograph**
*Source: Updated RD-1000 XPSWMM System Wide Model by Wood Rodgers*

## Manning's "n" Values and Local Losses

Manning's "n" values for CMP culverts were assumed to be 0.024. Manning's 'n' values for concrete culverts were assumed to be 0.013. Entrance and exit losses were calculated within HEC-RAS for existing culverts. Entrance loss coefficients for existing culverts are typically 0.5 and exit loss coefficients are typically 1.0. Manning's "n" values for drainage canals were assumed to be 0.035. Manning's "n" values for 2D flow areas are based on land use as shown in **Figure 2.11: Existing Condition Land Use**, and developed based on a combination of suggested values from various literature sources such as the HEC-RAS 2D user's manual (Reference 12) and on engineering judgement. **Table 2.2: Manning's Roughness Coefficient for 2D Flow Areas** presents Manning's 'n' values corresponding to existing land use values used in the Existing Condition HEC-RAS model.

**Table 2.2: Manning's Roughness Coefficient for 2D Flow Areas**

| Land Use Description | Roughness Coefficient |
|---|---|
| Agricultural | 0.04 |
| Agricultural-Residential | 0.04 |
| Roadway | 0.025 |
| Wetlands | 0.04 |
| Park | 0.04 |
| Very Low Density Residential | 0.06 |
| Low Density Residential | 0.08 |
| High Density Residential | 0.12 |
| Very High Density Residential | 0.12 |
| Commercial | 0.16 |

## 2.6 Summary of Discharges and Stages

Model results for all storm events in the existing conditions HEC-RAS model are presented in **Appendix C**. Please note that all existing condition flows discharge into the West Drainage Canal. The existing conditions HEC-RAS model was run with the same 100-year 10-day storm as was the RD 1000 XPSWMM model in order to provide updated input hydrographs from the UWS Plan Area. Inflow hydrographs from the existing conditions HEC-RAS modeling will be input into the RD 1000 XPSWMM model to demonstrate that the project will have no adverse impacts on the RD 1000 drainage facilities. It is assumed that RD 1000 and its consultants will review the HEC-RAS model and input hydrographs and Wood Rodgers updated RD1000 XPSWMM model to confirm that the proposed project would have no adverse impacts on the RD 1000 drainage facilities in the 100-year 10-day storm. County DWR is not expected to review and approve models meant to satisfy RD-1000.

### Profiles

No profiles for existing facilities were prepared for the existing conditions analysis. The existing drainage system of irrigation canals and culverts will be replaced in the proposed condition with storm drain systems designed to meet SCDWR criteria.

### Floodplain Extents

**Figure 2.12** thru **Figure 2.15** presents the existing conditions floodplain extents as determined by the existing conditions HEC-RAS model for the 100-year 24-hour, , 100-year 5-day and 100-year 10-day storm

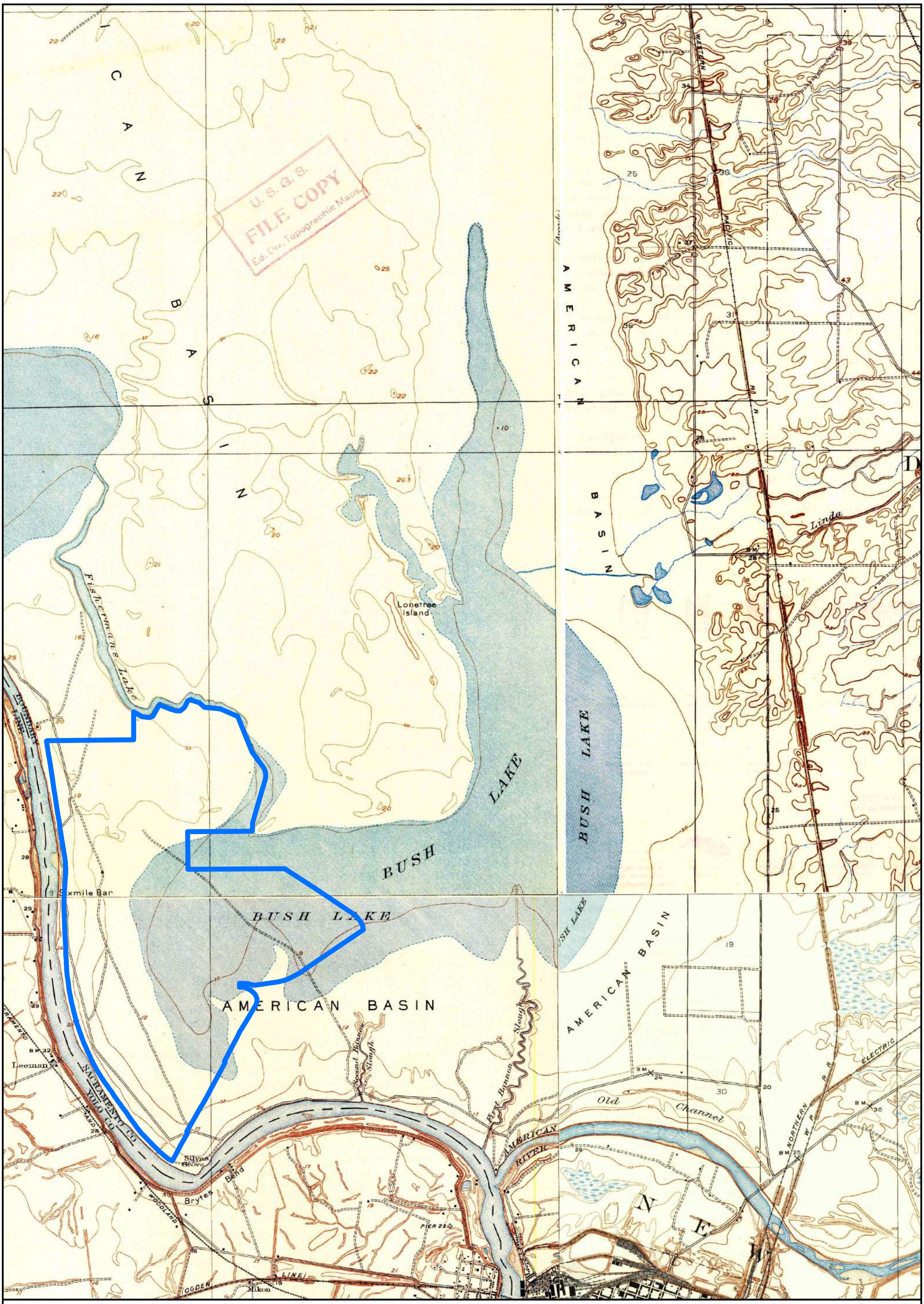
events with climate change factors applied. **Figure 2.16: Existing Conditions Maximum Floodplain Depth, 100-year, 10-day No Climate Change** is also provided to represent the 100-year 10-day storm event without climate change for consistency with RD1000 modeling. Floodplain depths measuring over two feet were common within existing fields, as floodwater backs up from existing drainage canals due to existing pump station capacity limitations and existing berms delaying ponded water from reaching the canals.

## 2.7 RD1000 XPSWMM System Model Modifications

The onsite baseline conditions modeling using HEC-RAS (described above) produces runoff estimates that enter and influence the RD1000 canal and pumping system. The RD1000 system is modeled separately using XPSWMM. The interface between the HEC-RAS model domain and the RD1000 system model is the West Drainage Canal. There are two types of hydraulic connections; gravity and pumping. Culverts which drain by gravity into the West Drainage Canal must be evaluated consistently in both models, with the tailwater system conditions being defined in the XPSWMM model based on the gravity inflow estimates from the HEC-RAS model. Both models require a hand-off approach, where output from each model is used as the input for the other at these culvert locations, iteratively. This approach was performed until the XPSWMM output stages using HEC-RAS inflow (based on XPSWMM tailwater) converged to within 0.1 feet. Pumped connections do not require this hand-off approach as pumping rates are not influenced by tailwater conditions in the West Drainage Canal.

The RD1000 system model previously defined the watershed areas that define the Upper Westside plan area (north of I-80 and west of the West Drainage Canal) using XPSWMM hydrology. Wood Rodgers replaced the XPSWMM results for the Plan Area with the results from the existing conditions HEC-RAS model (100-year 10-day without climate change influences). The final baseline modeling for onsite uses HEC-RAS estimated inflows at each of the locations shown on **Figure 2.6: West Drainage Canal Existing Storm Drain Connections**. There is not a unique node in the XPSWMM model for each of the small culvert inflow locations, therefore smaller locations have been clustered together as inflow into the XPSWMM model at the nearest adjacent location. The RD1000 system model with updated inflows from the

undeveloped Upper Westside plan area establishes the baseline condition in the RD1000 system for assessing proposed conditions impacts.




**1915/1916 HISTORICAL TOPOGRAPHIC MAP**

UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY

SACRAMENTO COUNTY, CA
MAY 2024

UWS Plan Area

NOTES: USGS 1:24000-scale Quadrangle maps shown for Elkhorn Wer, CA (1915) and Lovdal, CA (1916)

0 1,500 3,000
Feet

NORTH

WOOD RODGERS

J:\3000-s\3616_Natomas_Boot\Natomas_Boot-OA\GIS\Tasks\Studies\Drain\MasterDrainage Study\Resubmittal_20230908\FIG2.2_HistoricalMaps_1.mxd 9/7/2023 3:54:48 PM jcarey

**FIGURE 2.2**

# 1948/1950 HISTORICAL TOPOGRAPHIC MAP

UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY

SACRAMENTO COUNTY, CA
MAY 2024

UWS Plan Area

NOTES: USGS 1:24000-scale Quadrangle maps shown for West Sacramento, CA (1948) and Taylor Monument, CA (1950)

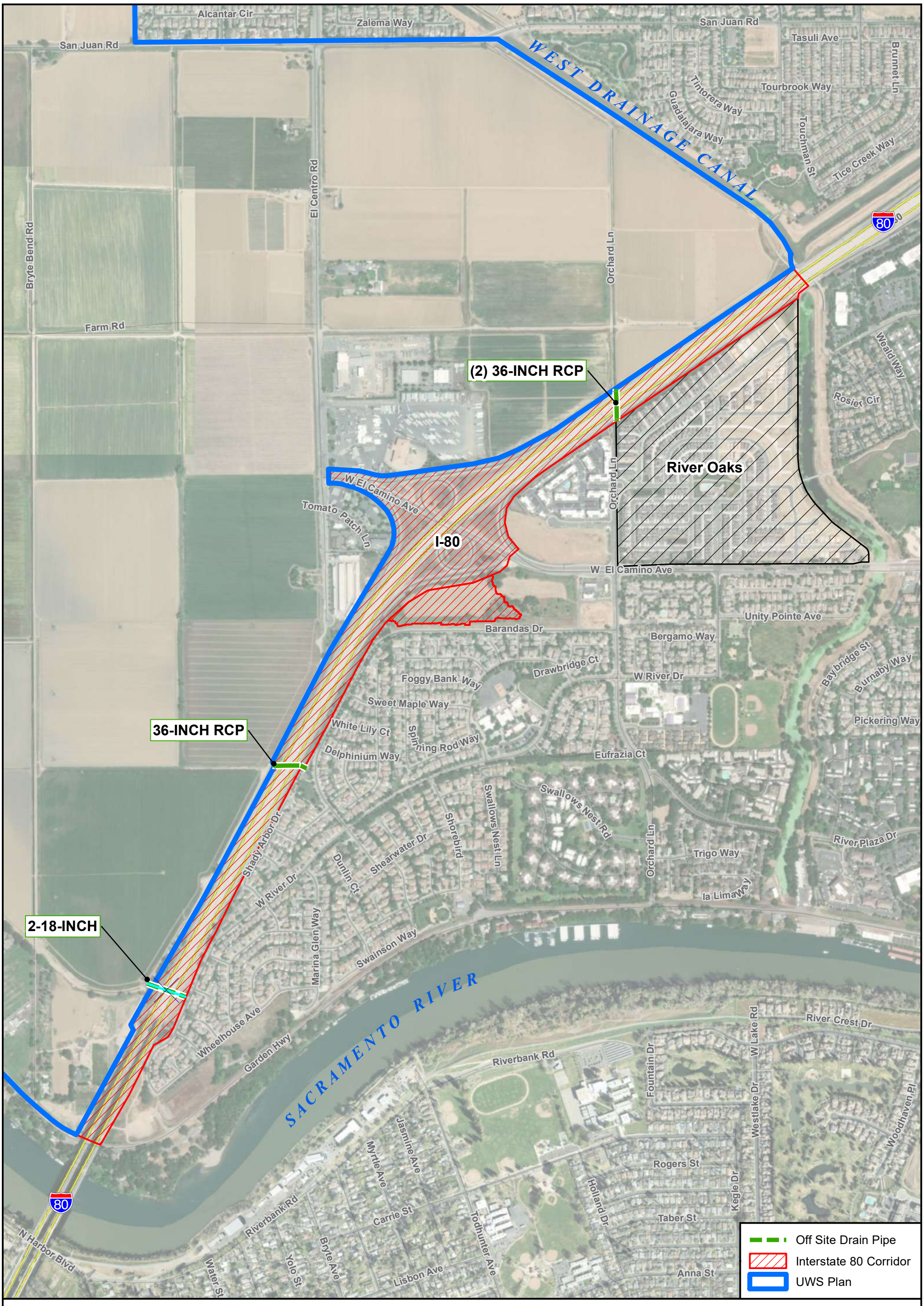
0 1,500 3,000
Feet

NORTH

WOOD RODGERS

J:\3000-s\3616_Natomas_Boot\Natomas_Boot-OA\GIS\Tasks\Studies\Drain\MasterDrainage Study\Resubmittal_20230908\FIG2.3_HistoricalMaps_2.mxd 9/22/2023 4:13:32 PM jcarey

**FIGURE 2.3**




**OFF-SITE FLOWS**

UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY

SACRAMENTO COUNTY, CA
MAY 2024

0 400 800
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WOOD RODGERS

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**FIGURE 2.4**

# FIGURE 2.5

## OFF-SITE FLOWS
## RIVER VIEW #2

UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY

SACRAMENTO COUNTY, CA
MAY 2024

WEST DRAINAGE CANAL

POND 7B
DETENTION BASIN

**Legend**

- River View #2
- UWS Plan Area

**River View SD Pipe**
**DIA_IN**

- 12
- 15
- 18
- 21
- 24
- 30
- 36
- 54
- 60

- River View Manhole
- River View Inlet
- River View Outfall
- PS — Pump Station

0 150 300 600
Feet

NORTH

WOOD RODGERS

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

J:\3000-s\3616_Natomas_Boot\Natomas_Boot-OA\GIS\Tasks\Studies\Drain\MasterDrainage Study\Resubmittal_20230908\FIG2.5_Offsite Flows River View 2.mxd 9/8/2023 1:26:58 PM jcarey




# WEST DRAINAGE CANAL
# EXISTING STORM DRAIN CONNECTIONS

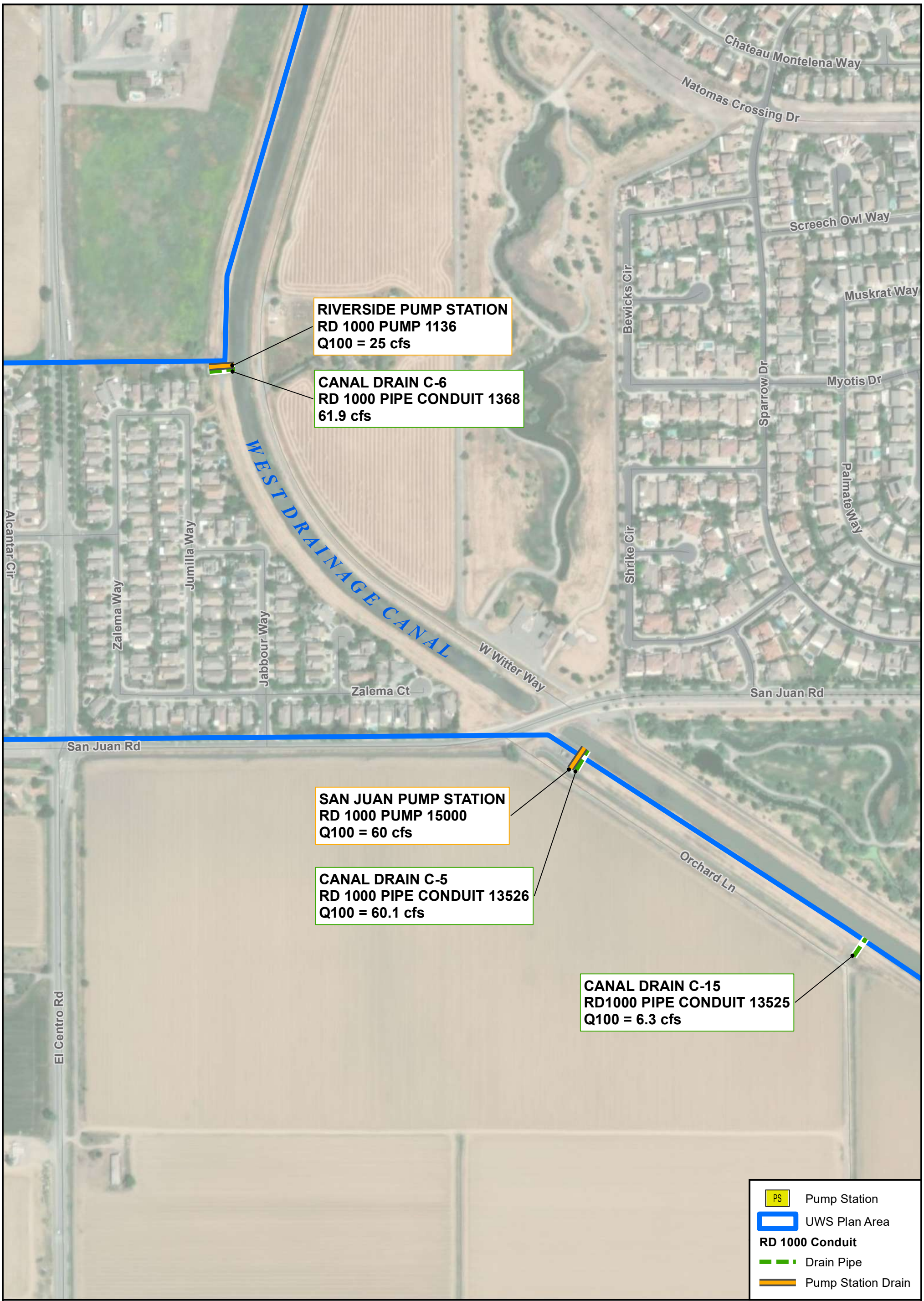
UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY
SACRAMENTO COUNTY, CA
MAY 2024

NOTES: Storm drain labels based on facility call-outs from as-built drawings for North Natomas Levee Project, Phase 1 (Ensign & Buckley, 1997)

WOOD RODGERS

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**FIGURE 2.6**




**RD1000 XPSWMM CONDUITS**

UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY

SACRAMENTO COUNTY, CA
MAY 2024

NOTES:
CONDUIT 1368 ASSUMED TO INCLUDE ALL FIELD DRAINS, STORM DRAINS, AND CANAL DRAINS FROM RIVERSIDE PUMP STATION UPSTREAM TO FISHERMAN'S LAKE.
SEE FIGURE 3A.
FLOW RATES ARE FROM A MODEL RUN FOR THE 100-YEAR, 10-DAY STORM EVENT

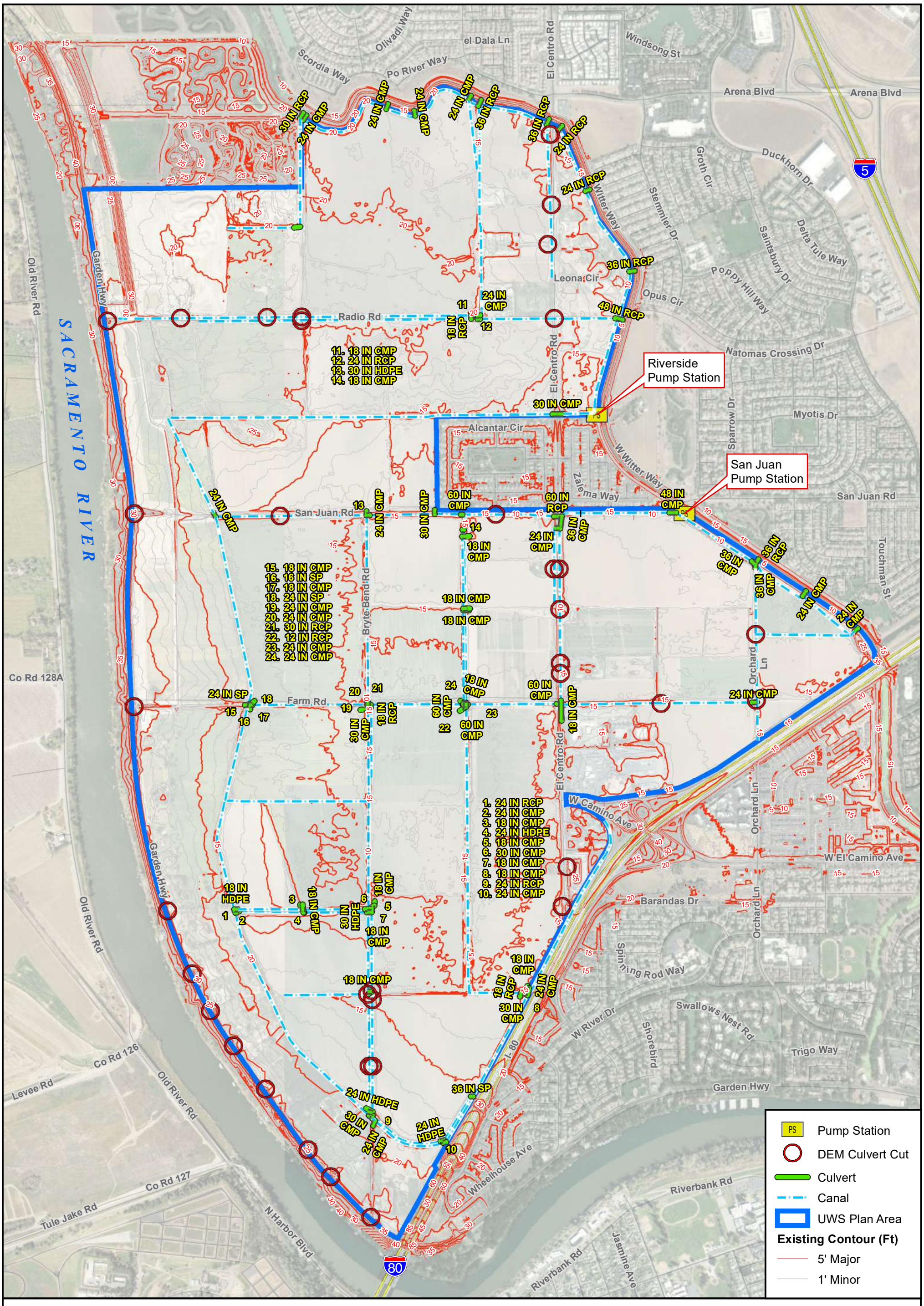
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WOOD RODGERS

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**FIGURE 2.7**




# EXISTING TOPOGRAPHY

UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY
SACRAMENTO COUNTY, CA
MAY 2024

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID,

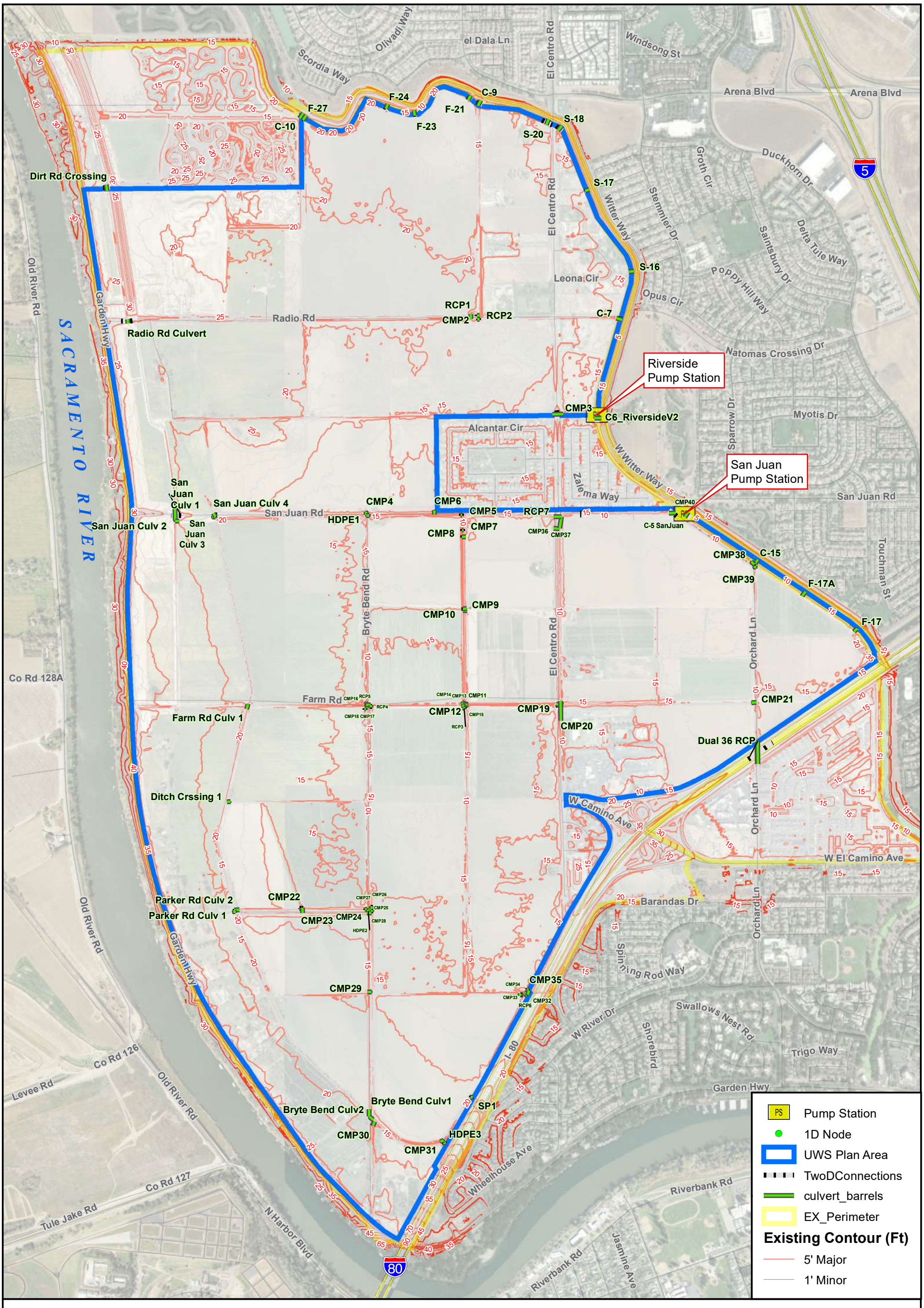
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WOOD RODGERS

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**FIGURE 2.8**




# EXISTING CONDITIONS HEC-RAS MODEL

UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY
SACRAMENTO COUNTY, CA
MAY 2024

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID,

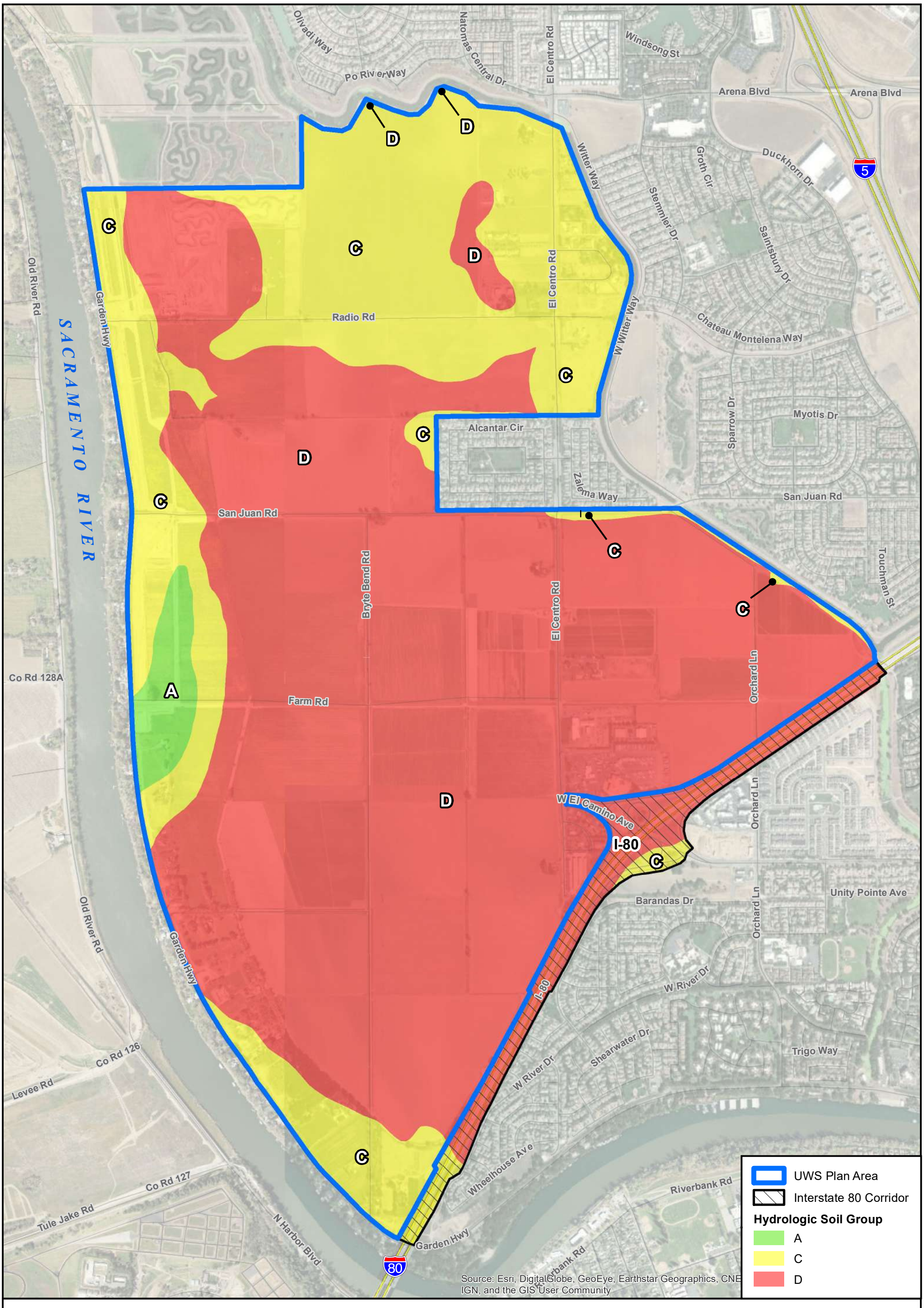
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WOOD RODGERS

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**FIGURE 2.9**




# HYDROLOGIC SOIL GROUPS MAP

UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY

SACRAMENTO COUNTY, CA
MAY 2024

Data Source: Natural Resources Conservation Service (NRCS) soil Survey, https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/survey/

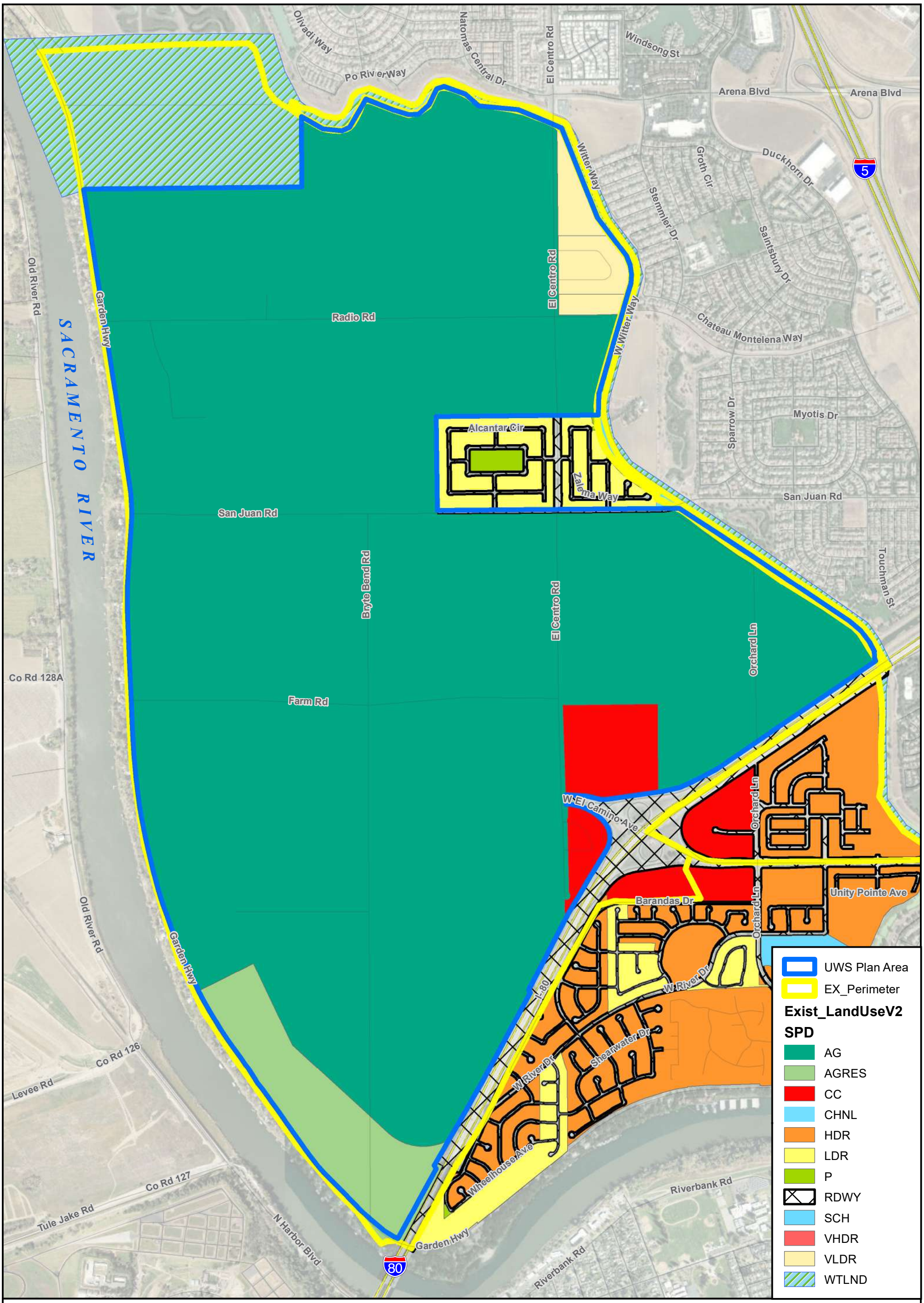
0 600 1,200
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NORTH

WOOD RODGERS

J:\3000-s\3616_Natomas_Boot\Natomas_Boot-OA\GIS\Tasks\Studies\Drain\MasterDrainage Study\Resubmittal_20230908\FIG2.10_SoilsMap.mxd 9/7/2023 4:25:09 PM jcarey

**FIGURE 2.10**




# EXISTING CONDITIONS LAND USE PLAN

UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY
SACRAMENTO COUNTY, CA
MAY 2024

Data Source: Land use data provided by Sacramento County GIS Data Base, Dated JAN 2020.

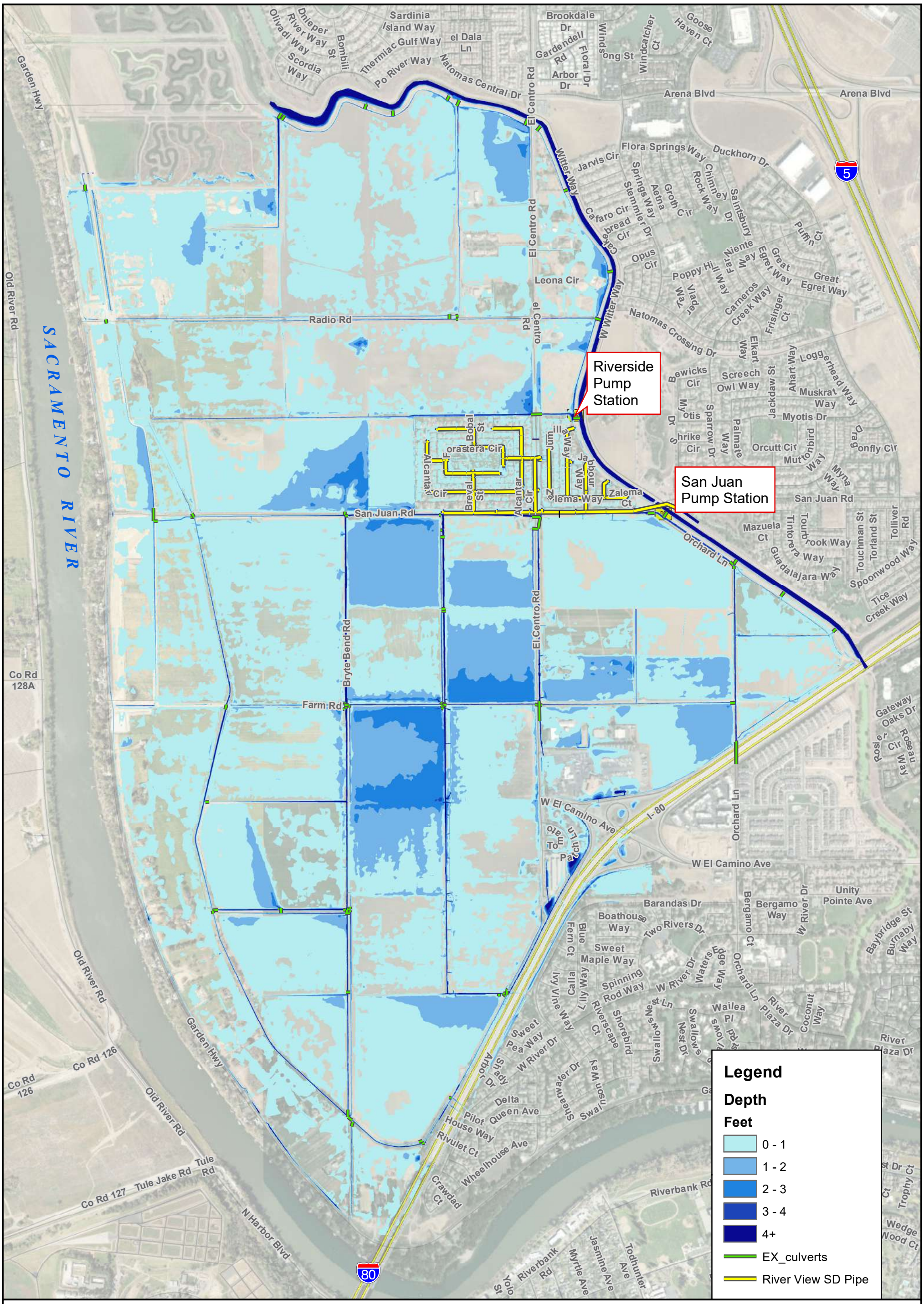
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WOOD RODGERS

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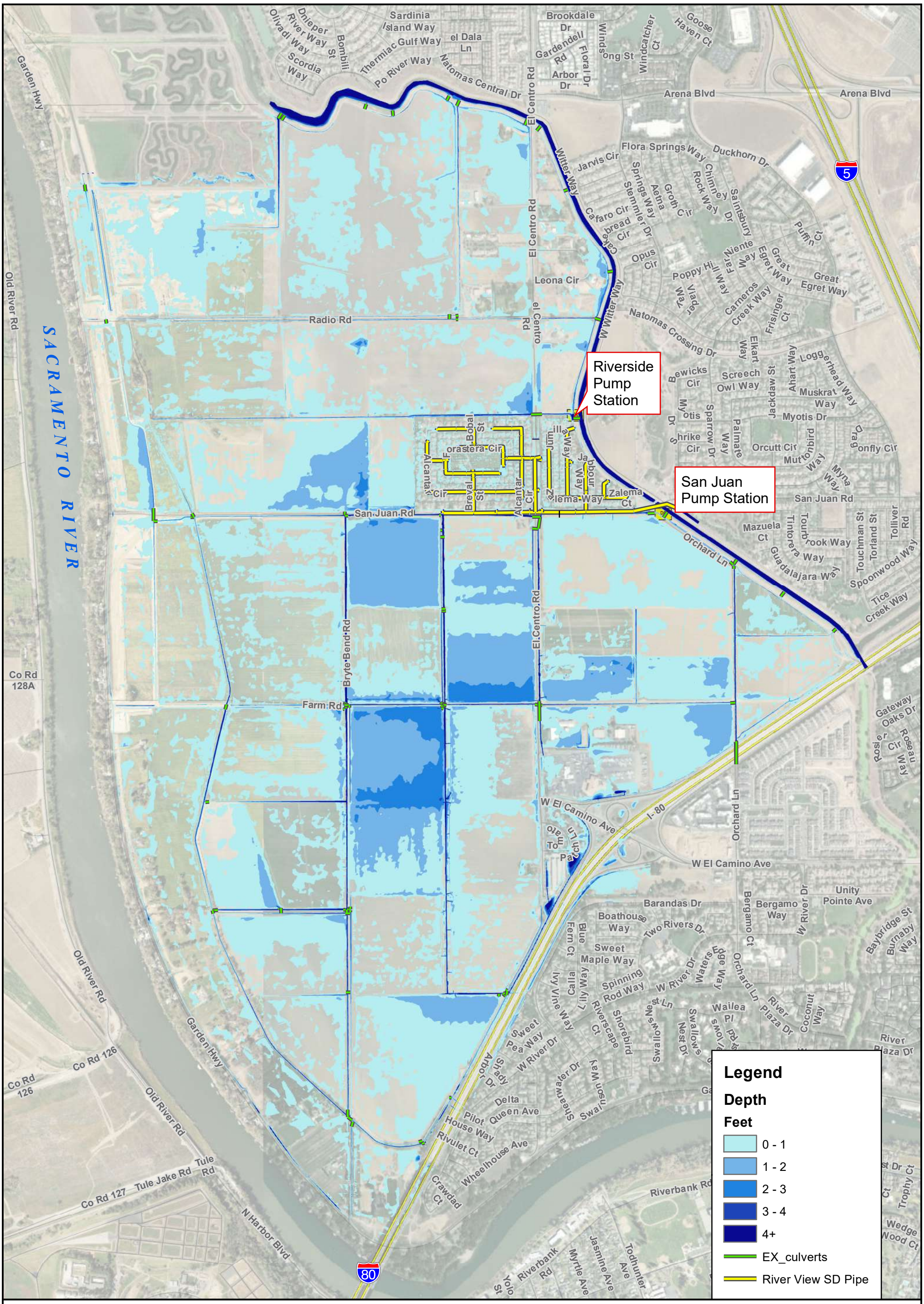
**FIGURE 2.11**




**EXISTING CONDITIONS MAXIMUM FLOODPLAIN DEPTH**
**100-YEAR, 24-HOUR EVENT**
UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY
SACRAMENTO COUNTY, CA
MAY 2024

J:\3000-s\3616_Natomas_Boot\Natomas_Boot-OA\GIS\Tasks\Studies\Drain\MasterDrainage Study\Resubmittal_20230908\FIG2.12_Existing_FloodDepthQ100_24.mxd 1/29/2024 2:31:26 PM jcarey

**FIGURE 2.12**

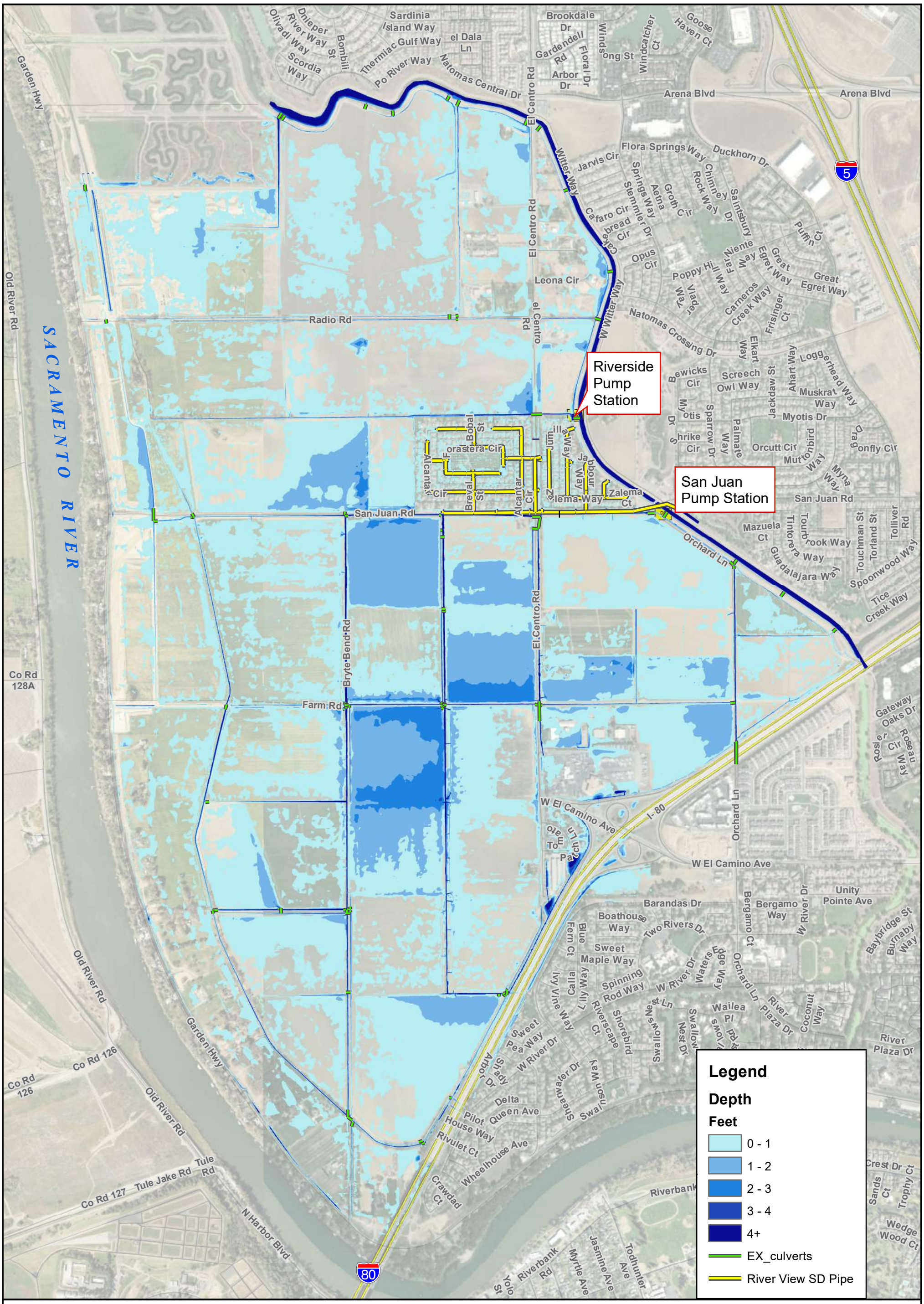



**EXISTING CONDITIONS MAXIMUM FLOODPLAIN DEPTH**
**100-YEAR, 36-HOUR EVENT**
UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY
SACRAMENTO COUNTY, CA
MAY 2024

WOOD RODGERS

J:\3000-s\3616_Natomas_Boot\Natomas_Boot-OA\GIS\Tasks\Studies\Drain\MasterDrainage Study\Resubmittal_20230908\FIG2.13_Existing_FloodDepthQ100_36.mxd 1/29/2024 2:34:15 PM jcarey

**FIGURE 2.13**




**EXISTING CONDITIONS MAXIMUM FLOODPLAIN DEPTH**
**100-YEAR, 5-DAY EVENT**
UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY
SACRAMENTO COUNTY, CA
MAY 2024

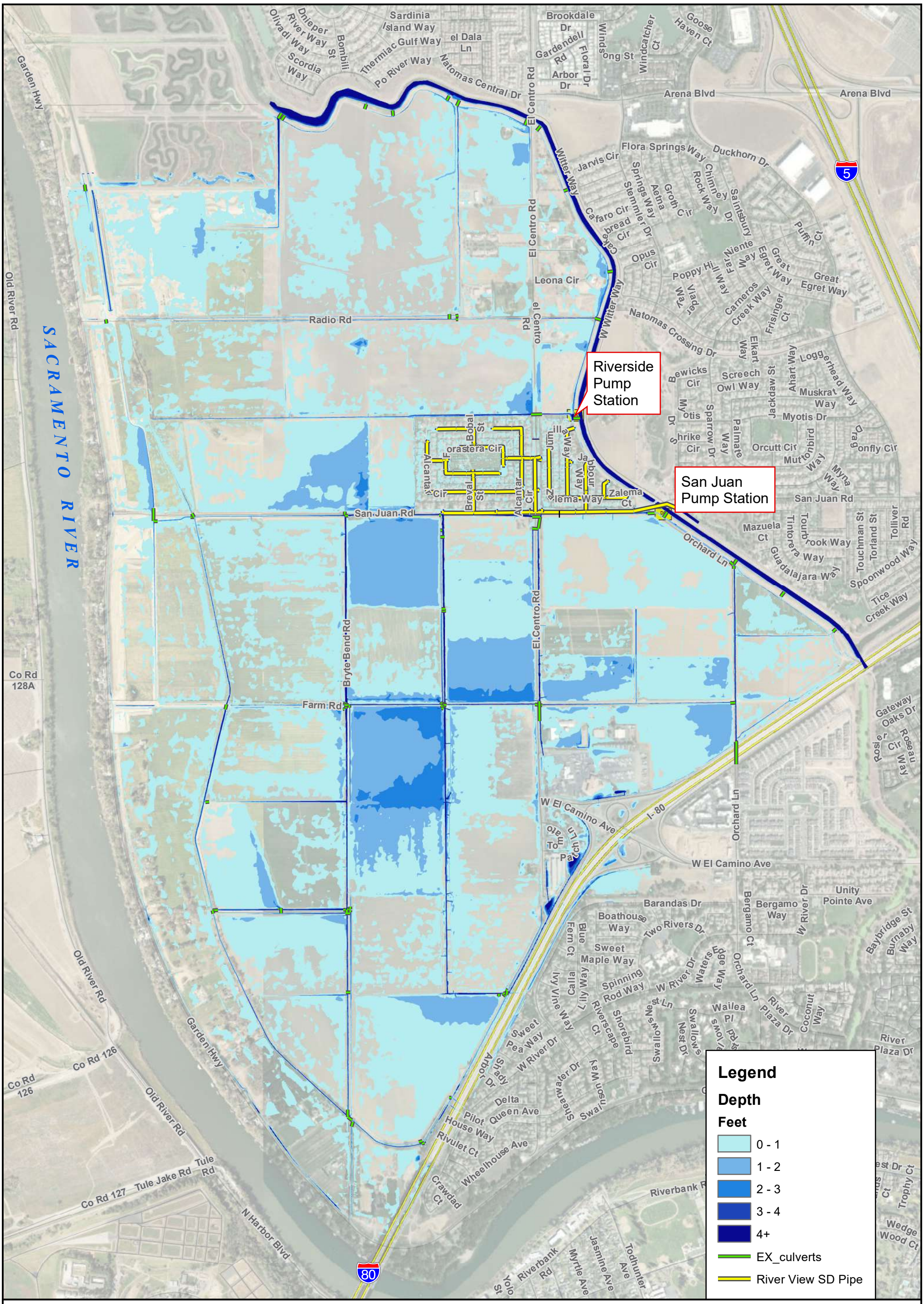
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NORTH

WOOD RODGERS

J:\3000-s\3616_Natomas_Boot\Natomas_Boot-OA\GIS\Tasks\Studies\Drain\MasterDrainage Study\Resubmittal_20230908\FIG2.14_Existing_FloodDepthQ100_5.mxd 1/29/2024 2:36:14 PM jcarey

**FIGURE 2.14**

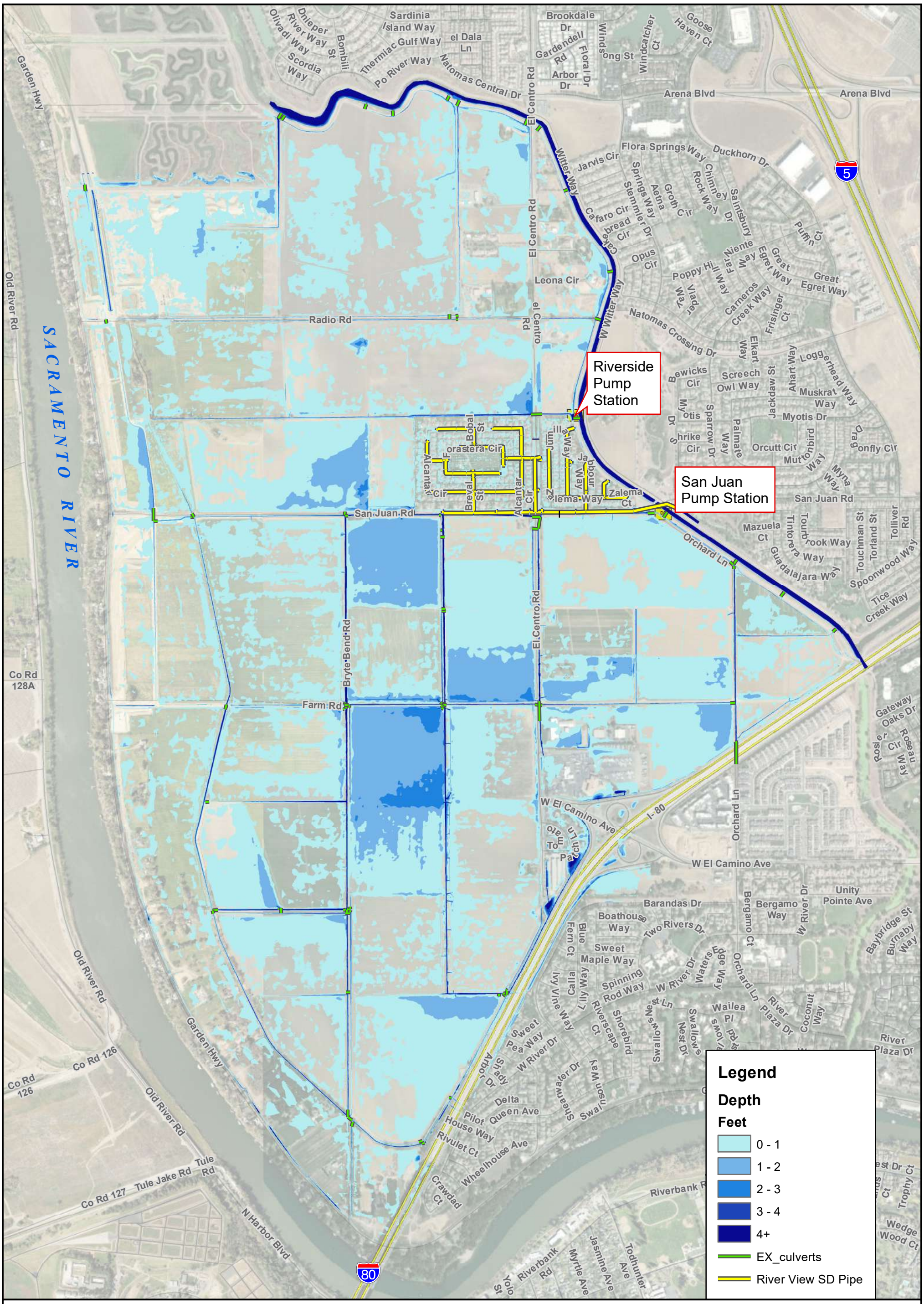



**EXISTING CONDITIONS MAXIMUM FLOODPLAIN DEPTH**
**100-YEAR, 10-DAY EVENT**
UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY
SACRAMENTO COUNTY, CA
MAY 2024

WOOD RODGERS

J:\3000-s\3616_Natomas_Boot\Natomas_Boot-OA\GIS\Tasks\Studies\Drain\MasterDrainage Study\Resubmittal_20230908\FIG2.15_Existing_FloodDepthQ100_10.mxd 1/29/2024 2:38:19 PM jcarey

**FIGURE 2.15**




**EXISTING CONDITIONS MAXIMUM FLOODPLAIN DEPTH**
**100-YEAR, 10-DAY NO CLIMATE CHANGE EVENT**
UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY
SACRAMENTO COUNTY, CA
MAY 2024

0 600 1,200
Feet

NORTH

WOOD RODGERS

J:\3000-s\3616_Natomas_Boot\Natomas_Boot-OA\GIS\Tasks\Studies\Drain\MasterDrainage Study\Resubmittal_20230908\FIG2.16_Existing_FloodDepthQ100_10noCC.mxd 1/29/2024 2:40:16 PM jcarey

**FIGURE 2.16**

# 3.0 Mitigated Project / Proposed Conditions

## 3.1 Proposed Land Use

**Figure 3.2: Proposed Conditions Land Use Plan** presents proposed land uses in the Plan Area. The proposed project envisions five distinct planning districts as defined in the Specific Plan, including the central Town Center District, the residential West "C" District, the residential and commercial East Triangle District, the educational and residential Young Scholars District, and the Ag-Buffer District that will sit outside of the 1,566-acre Developable Area. **Table 3.1: Proposed Land Use Summary** below contains a summary of the proposed land uses.

The Town Center District is the urban core of the Plan Area and is set on a pedestrian friendly street grid system. The Town Center will feature a main street along West El Camino Avenue and a north-south recreational canal which also provides for drainage conveyance. The West "C" District will predominantly consist of residential neighborhoods that surround the Town Center to the north, west and south. The East Triangle District will feature Employment / Highway Commercial uses near the I-80 and West El Camino Avenue interchange. The Young Scholar's District will be centered around three educational facilities: a high school, a K-8 school, and a satellite campus for the Los Rios Community College District. The Ag-Buffer District will preserve the existing Ag-Cropland (AG – 421.6 acres) and Ag-Residential (AR – 93.3 acres) land uses.

**Table 3.1: Proposed Land Use Summary**
*Source: Wood Rodgers, Preliminary Land Use Plan – Missing Middle Density Bonus, dated September 1, 2023.*

| Land Use District | Area (acres) | Estimated Dwelling Units | Estimated Square Footage |
|---|---|---|---|
| Very Low Density Residential | 166.7 | 168 | |
| Low Density Residential | 390.8 | 2,149 | |
| Low / Medium Density Residential | 134.9 | 1,079 | |
| Medium Density Residential | 61.9 | 743 | |
| High Density Residential | 36.4 | 910 | |
| Very High Density Residential | 22.6 | 791 | |
| Commercial Mixed Use | 83.6 | 3,216 | 2,184,970 |
| Employment / Highway Commercial | 52.9 | | 921,730 |
| School | 124.2 | | |
| Park | 79.1 | | |
| Green Belt / Urban Farm | 44.1 | | |
| Open Space (Basins & Channels) | 167.9 | | |
| Open Space (Ag Buffer) | 36.6 | | |
| Ag Cropland | 414.3 | | |
| Ag Residential | 86.1 | | |
| Open Space Water (Canal) | 15.0 | | |
| Landscape Corridor | 27.8 | | |
| Major Roads A | 115.9 | | |
| Major Roads B (Within Ag Buffer) | 5.4 | | |
| Missing Middel Density Bonus | | 300 | |
| **Total** | **2066.2** | **9,356** | **3,106,700** |

## 3.2 Grading Plan

**Figure 3.3: Proposed Conditions Conceptual Grading Plan** presents the proposed Conceptual Grading Plan for the Plan Area. The site was graded to balance cut and fill areas and to direct flows towards one of four detention basins that are proposed to provide sufficient storage to eliminate adverse impacts in RD 1000 facilities (to meet RD 1000 requirements) and in adjacent properties (to meet the County Floodplain Management Ordinance). The proposed detention basins, or a portion of the basin, would be excavated to an elevation of minus three (-3) feet (NAVD 88) to provide the necessary earth fill material. Preliminary geotechnical investigations and a review of historical groundwater levels indicate groundwater as high as elevation 10 feet. Therefore, the detention basins will be equipped with dedicated groundwater pumps to evacuate groundwater to elevation five (5) feet for the proposed condition hydraulic analysis, and to ensure

sufficient flood mitigation storage during periods of high seasonal groundwater. **Appendix D** presents the Preliminary Grading Exhibit for the Project Site.

The detention basin excavations will not encroach within the limits established for protection of the levee integrity. The limits are described as a no excavation within a 50-foot corridor from the levee toe and below a projected plane of 10 horizontal to 1 vertical beyond the 50-foot levee setback corridor. Upon completion of the site specific subsurface geotechnical investigations and analysis, further setback or other remediation measures may be warranted.

## 3.3 Offsite Considerations

No offsite drainage improvements are proposed, except as discussed below. It is not anticipated that offsite improvements to meet embankment freeboard, geometry and other criteria for the West Drainage Canal will be necessary. It is presumed that RD 1000 and its contractors will review the developed conditions RD 1000 XPSWMM model with included input hydrographs from the developed Planning Area in order to confirm that no adverse impacts occur at existing RD 1000 facilities.

The Riverside Water Supply Pump Station operated by NCMWC would remain operational during and after development of the proposed project in order to serve adjacent areas. The water supply transmission line (Riverside Canal) has been revised to an underground pipe per the Riverside Canal Phase 2 Relocation Project design plans (Reference 10). The water supply ditch along Radio Road is served by a 30-inch HDPE turnout. Any runoff generated from irrigated lands along the Radio Road ditch would eventually be drained via the on-site storm drain into the North Detention Basin following existing drainage patterns. South of Farm Road, the Riverside Canal continues south along existing RD 1000 and NCMWC easements.

The River View #2 development has been evaluated and Wood Rodgers has determined that the 100-year storm conditions within River View #2 are hydraulically separate from land outside of River View #2, as it is directed to drain under the West Drainage Canal to existing the existing Sump 17 Pond 7B Detention Basin.

### El Centro Road West Drainage Canal Crossing

El Centro Road south of Arena Boulevard will require widening to accommodate the ultimate roadway section and a right turn pocket at Arena Boulevard. This will result in replacing or extending the existing

72-inch corrugated metal pipe culverts to account for the roadway widening. The sizing, type, and whether the culverts can be extended will be determined with future design efforts. Hydraulic analysis will be performed such that the hydraulic conditions in the canal are consistent with or better than pre-project conditions. The County will consult with RD1000 on the details of modifying the culvert encroachments on the West Drainage Canal, the condition of existing features, and the potential impacts to adjacent features.

## 3.4 Onsite Improvements

Onsite improvements are presented in **Figure 3.4: Proposed Conditions Onsite Improvements Map**. Runoff directed to the West Detention Basin will be detained and pumped into a proposed earthen channel flowing east towards the East Detention Basin. Runoff directed to the South Detention Basin will be detained and pumped into the Central Canal. This canal will be used primarily as a water feature but will have available conveyance capacity to direct flows from the South Detention Basin north to a proposed earthen channel along San Juan Road that will discharge into the East Detention Basin. The Central Canal will be drained via a 20-foot wide weir at elevation 12.0 and a low flow outlet (8-inch diameter orifice) at elevation 8.0, which will allow for a permanent pool in the canal below elevation 8.0 to be used as a water feature. The starting water surface elevation of the Central Canal has been set to 10-ft to match the high groundwater level.

Runoff directed to the North Detention Basin and East Detention Basin will be pumped into the West Drainage Canal via a proposed pump station at each basin. It is important to note that the existing development known as Natomas Estates is considered more than 50% built out and is assumed to continue to drain by gravity directly into the West Drainage Canal. There is no mechanism for forcing the existing developed parcels within Natomas Estates to drain into the North Basin and be pumped when they already drain by gravity or forcing the remnant parcels to build a separate drainage system and be responsible for paying for the entire subdivision drainage improvements and pumping in perpetuity. In the future tentative map analysis the North Basin will be modeled as two cells, and the connecting culvert between the cells will be evaluated in greater detail.

The onsite drainage system is designed to include reserved storage in the West Detention Basin that would be utilized once water surface elevations in the adjacent channels reach 9.5 feet in elevation. An equalization conveyance structure (such as an RCB culvert with a weir) at elevation 9.5 from the West Detention Basin to the adjacent outfall channel will allow flows to enter the West Drainage Basin instead of the East Detention Basin during times of extreme high flows.

## Ag-Buffer Drainage

Several drainage canals are proposed to be built on the boundary of the proposed development and in areas within the Plan Area that will not be graded or developed (e.g., remaining agricultural areas). These proposed drainage canals would drain existing irrigation canals located within the remaining agricultural areas during winter months when no irrigation water supply is present in the system. The system configuration would allow for continued agricultural production after development of the Plan Area is completed by maintaining proper drainage. The channel improvements constructed with the Riverside Canal Phase 2 Relocation Project design plans (Reference 10) would be maintained. Where required to facilitate ag-buffer runoff, channel and storm drain improvements would be constructed primarily within existing easements dedicated to RD 1000 and to the Natomas Central Mutual Water Company but not in conflict with their facilities. Drainage improvements that are subject to County jurisdiction will require quitclaim by RD1000. These proposed channels will be sized to convey the 100-year design storm event with one foot of freeboard per Sacramento County standards. They will also be designed to provide enough capacity to reduce increases in peak water surface elevations to no more than 0.1 foot for the remaining agricultural areas (as per the Sacramento County Floodplain Management Ordinance).

**Figure 3.1: Ag-Buffer Urban Interface** below depicts the typical condition of a cut-off channel to intercept the Ag Buffer runoff and collect that runoff intermittently at Type F Drop Inlets. The drainage is then conveyed via drainage pipes to the North, West and South detention basins. This drainage report assesses all Ag Buffer runoff being conveyed within the Ag Buffer corridor consistent with the first cross section, draining directly into detention basins. A potential alternative section has also been presented depicting conveyance of the Ag Buffer runoff through the local street drainage system at intermittent locations. As an option, the alternative section can be studied during tentative map submittal reviews once streets and

lots have been located. Drainage facilities along the ag-buffer constructed to convey runoff per County Standards will be operated and maintained by the County.

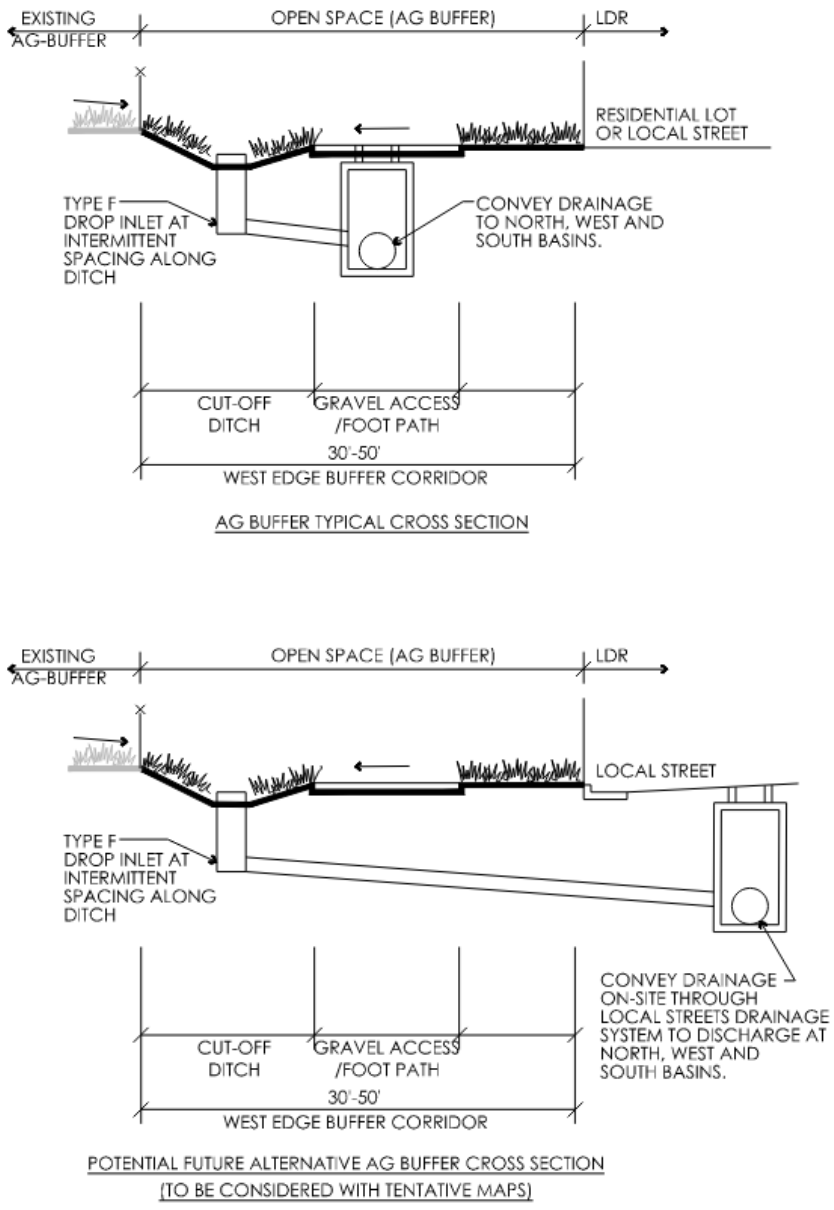



**Figure 3.1: Ag-Buffer Urban Interface**

### Onsite Channels

All proposed channels will be designed to have the required freeboard relative to graded conditions immediately proximate to the channel banks (landscape corridors and/or access roads directly adjacent to channels). All proposed channels are anticipated to be operated and maintained by the County, except for the Central Canal feature. Final ownership and operation / maintenance responsibilities are expected to be determined in the future under Specific Plan implementation or Tentative Map efforts.

### Natomas Mutual Company Irrigation Water

Phasing within the development will have to account for the continued operation of the Riverside Canal as well as all canals that are left to serve the remaining agricultural areas. While existing agricultural channels may be repurposed to convey drainage flow in the future, it is not the intent of this plan area to convey irrigation water supply flows through underground (newly constructed) storm drainage systems that fall under the operation and maintenance responsibility of SCDWR. All storm drainage facilities operated by SCDWR will be dedicated to drainage. Separate water supply facilities will be constructed as needed for phasing. Phasing is to be determined during the Tentative Map and improvement plan efforts, as discussed in Section 4.7 below. Additionally, sufficient analyses showing adherence to the Sacramento County Floodplain Management Ordinance will be provided during the Tentative Map process and with grading plans.

## 3.5 Hydrologic & Hydraulic Modeling Assumptions

The proposed condition XPSWMM model is intended to:

1. Determine the total runoff to the west drainage canal for the 100-year 10-day storm event;
2. Show that the proposed condition is in compliance with the Sacramento County Floodplain Management Ordinance;
3. Show that the proposed detention basins meet freeboard requirements per SCDWR Pump Station and Detention Basin Design Criteria; and

4. Show the peak floodplain water surface elevations in the 200-year design storm within the West Drainage Canal.

The proposed condition XPSWMM model is also intended to evaluate proposed trunk storm drains per the Nolte Method and street ponding, and to show compliance with 50% pump operating criteria as required by the SCDWR Pump Station and Detention Basin Design Criteria.

The proposed condition XPSWMM model has been developed to determine proposed condition flows into the West Drainage Canal using the 100-year 10-day design storm consistent with what was used in the RD 1000 XPSWMM model to evaluate the impacts of the proposed project on the existing RD 1000 drainage system. It is assumed that RD 1000 will review the XPSWMM models and input hydrographs and the Wood Rodgers updated RD 1000 XPSWMM model to confirm that the proposed project would have no adverse impacts to the RD 1000 drainage facilities in the 100-year 10-day storm.

The proposed condition XPSWMM model will also serve as a basis of establishing compliance with the County Floodplain Management Ordinance which states that the proposed project shall result in no adverse impacts. This is defined as:

> *…causing increased flood stages, increased flood velocity, or increased flows in or near a special or local flood hazard area, to an extent including to but not limited to an increase in base flood elevation equal or greater than 0.1 foot on upstream, downstream, or adjacent properties*.

The West Drainage Canal was not included in the model domain because RD 1000 will continue to utilize the RD 1000 XPSWMM system model to evaluate the impacts of the proposed project on the existing RD 1000 drainage system. The pump stations were modeled using single-flow pumps instead of pump curves. Subsequent studies advancing the design of the pump stations will require pump curves that are specific to each selected motor/pump configuration.

Most of the culverts shown on **Figure 2.6: West Drainage Canal Existing Storm Drain Connections** are in areas that are not participating in this development and will not be modified by this project and will continue to drain into the West Drainage Canal. Culverts C-6, C-5, C-15, F-17A, and F-17 will be removed as this project develops in those locations.

The water supply transmission line (Riverside Canal) has been revised to an underground pipe. The existing conditions HEC-RAS 2D models include the new geometry for the Riverside Canal and associated culverts, as well as ditches per the Riverside Canal Phase 2 Relocation Project design plans (Reference 10).

## 3.6 Description of XPSWMM Model

An on-site 1D hydrologic and hydraulic XPSWMM model was developed to model estimated pipes using the Nolte method and to show compliance with the SCDWR Pump Station and Detention Basin Design Criteria for 50% of pumps not operating scenario as shown in **Figure 1.1: Maximum WSE Exhibit, Street Section**.

The proposed conditions XPSWMM model utilizes 1D hydrology to represent areas that are modified and unmodified by the project. Project areas that are proposed to be graded are represented by 1D model elements, with watersheds delineated based on proposed grading. Infiltration losses are standardized to 0.014 inch/hour across the project, and a backbone trunk storm drainage system including proposed pipes and drainage channels are designed to meet SCDWR criteria. Detention basins and pump stations were designed to meet the criteria presented in **Table 1.1: Pump Station Design Criteria**. The backbone storm drain system was evaluated using the Nolte method and a starting WSE in the downstream detention basin set to the maximum 10-year WSE from subsequent model runs.

The remaining agricultural areas within the Plan Area that are located adjacent to proposed graded areas are represented by 1D hydrology, with infiltration losses standardized to 0.014 inch/hour.

## 3.7 Watershed Delineation

**Figure 3.5: Proposed Conditions Watershed Map** presents the proposed condition watershed map. Watersheds were delineated based on the general drainage patterns developed with the conceptual grading plan to facilitate development of the backbone storm drain system. The average watershed size is approximately 25 acres. Runoff from the watersheds was directed to each adjacent trunk drainage system or drainage channel represented as 1D links in the proposed condition XPSWMM model.

## Model Layout

**Figure 3.6: Proposed Conditions XPSWMM Model** presents the proposed conditions XPSWMM model layout. Runoff hydrograph calculations were performed for the watersheds shown on **Figure 3.5** with infiltration losses standardized to 0.014 inch/hour across the project, and injected to the hydraulic network shown on **Figure 3.6**.

The trunk drainage system within the Plan Area is represented using the multi-link option within XPSWMM. With the multi-link option, multiple parallel conveyances, such as a pipe and the street above it, can be represented with a single model link. Street sections are based on the preliminary street sections provided from the Upper Westside Specific Plan Administrative Draft dated July 20, 2023.

## Software Application and Version

XPSWMM version 17.1 with the Sacramento method module were used for the proposed conditions hydrologic and hydraulic analysis. The historical storm option was utilized to account for climate change precipitation factors.

## Limits of Study

The limits of study are the Plan Area and adjacent areas west and south of the West Drainage Canal, the adjacent tributary roadway areas along I-80, the River Oaks development located south of I-80, and the River View #2 development.

## Climate Change Precipitation Factors

Precipitation factors were provided by the County for the proposed condition analysis in order to account for potential increases in precipitation due to climate change. Climate change precipitation factors are currently under development by the County and have not been finalized. **Table 3.2: Climate Change Scaling Factors used in Proposed Conditions Model** presents climate change factors used for proposed conditions models for UWS. For design storms with a duration of 24 hours, the scaling factors were applied to each individual value within the hyetograph ranging from the 5-minute precipitation value to the 24-hour precipitation value. For design storms with a duration longer than 24 hours, the scaling factors were applied

to the total design storm precipitation values. These factors were used in the preliminary design of the proposed drainage facilities.

These interim climate change factors are provided by the County. It is understood that, once approved and adopted, all future studies within the Plan Area will be subject to the County's final version of the climate change analysis and methodology.

**Table 3.2: Climate Change Scaling Factors used in Proposed Conditions Model**
*Source: Sacramento County, Department of Water Resources*

| Duration | Recurrence Interval (year) | | | | |
|---|---|---|---|---|---|
| | 10 | 50 | 100 | 200 | 500 |
| 5-min | 1.30 | 1.36 | 1.47 | 1.59 | 1.72 |
| 10-min | 1.30 | 1.36 | 1.47 | 1.59 | 1.72 |
| 15-min | 1.30 | 1.36 | 1.47 | 1.59 | 1.72 |
| 30-min | 1.30 | 1.36 | 1.47 | 1.59 | 1.72 |
| 1-hour | 1.30 | 1.36 | 1.47 | 1.59 | 1.72 |
| 3-hour | 1.22 | 1.34 | 1.44 | 1.55 | 1.69 |
| 6-hour | 1.20 | 1.38 | 1.43 | 1.56 | 1.68 |
| 12-hour | 1.20 | 1.30 | 1.36 | 1.39 | 1.42 |
| 24-hour | 1.16 | 1.25 | 1.30 | 1.31 | 1.33 |
| 36-hour | 1.15 | 1.17 | 1.17 | 1.21 | 1.23 |
| 5-day | 1.15 | 1.17 | 1.17 | 1.16 | 1.16 |
| 10-day | 1.08 | 1.07 | 1.09 | 1.09 | 1.10 |

## Soils

**Figure 2.10: Hydrologic Soils Groups Map** presents soils with HSG values as determined by the USDA NRCS SSURGO Database. Soils in the project area are composed primarily of HSG C and D soils, with some HSG A soils in the undeveloped area along the Sacramento River Levee. The HSG values are provided as background but were not a factor in the analysis due to the alternative basis for the infiltration rate that was used.

## Land Use

**Table 3.3: Proposed Conditions Land Use** below presents the various land uses within the Plan Area for proposed conditions along with the corresponding Sacramento County land use (SacCalc) code. Corresponding published impervious area percentages are listed. Infiltration rates were standardized to

0.014 inch/hour across the project consistent with the RD 1000 Natomas Basin-wide modeling as presented in Reference 9 and **Appendix B**.

**Table 3.3: Proposed Conditions Land Use**
*Source: Sacramento City/County Drainage Manual Volume 2: Hydrology Standards*

| Land Use Designation | Sacramento County SacCalc Code | Description | Zoning | Density (units/acre) | Impervious Percentage |
|---|---|---|---|---|---|
| AG | R16 | General Agriculture | IR | N/A | 2 |
| AG/RES | R14 | Agricultural Reserve | AR-1, AR-2 | 0.2-0.5 | 10 |
| CC | R02 | Commercial & Office | LC | - | 90 |
| CHNL | R17 | Flood Control Channel | F | - | 2[2] |
| CMU | R02 | Mixed-Use | CMC | - | 90 |
| E/HC | R02 | Highway Commercial | GC | - | 90 |
| HDR | R04 | High Density Residential | RD-25 | 25 | 80 |
| LC | R17 | Landscape Corridor | N/A | N/A | 5 |
| LDR | R09 | Low Density Residential | RD-5 | 4-6 | 40 |
| LMDR | R08 | Low-Medium Density Residential | RD-7 | 6-8 | 50 |
| MDR | R06 | Medium Density Residential | RD-10 | 10 | 70 |
| P | R17 | Park | O | - | 5 |
| RDWY | R01 | Roadway | N/A | - | 95 |
| SCHOOL | R08 | Public/Quasi-Public | P/QP | - | 50 |
| UF | R16 | Agricultural Urban Reserve | UR | - | 5 |
| VHDR | R04 | Very High Density Residential | RD-40 | 40 | 80 |
| VLDR | R12 | Very Low Density Residential | RD-2 | 1-2 | 20 |
| W | R01 | Detention Basin | O | - | 5[3] |
| WTLND | R17 | Open Space/Natural Reserve | O | - | 2 |

## Lag Transformation Method

Lag transformation was calculated using the Basin "n" method as described in the *"Sacramento City/County Drainage Manual Volume 2: Hydrology Standards"*, Chapter 7 – Basin Lag. The formula for lag transformation is:

$$L_g = Cn\langle LL_c|S^{0.5}\rangle^{0.33}$$

Where:
$L_g$ = Lag time, minutes
$C =$ 1,560

[2] The Central Canal impervious percentage is 95%.

[3] At the request of SCDWR the impervious percentage for detention basins is to be 95%.

$n =$ Basin "n"
$L =$ Length of longest watercourse, miles
$L_c =$ Length along the watercourse to a point close to the centroid of basin, miles
$S =$ Slope of longest watercourse, feet/mile

**Table 3.4: Lag Parameters, Proposed Condition** presents the Basin "n" values for proposed land uses within the Plan Area. The "Developed Pipe/Channel" channelization description values were chosen for the proposed buildout condition. Composite Basin "n" calculations were performed for each watershed by the Sacramento module for the XPSWMM program.

**Table 3.4: Lag Parameters, Proposed Condition**
*Source: Table 7-1 of City/County of Sacramento Drainage Manual, Volume 2*

| Land Use Designation | Basin "n" |
|---|---|
| AG | 0.07 |
| AG/RES | 0.06 |
| CC | 0.031 |
| CMU | 0.031 |
| E/HC | 0.031 |
| HDR | 0.033 |
| LC | 0.075 |
| LDR | 0.042 |
| LMDR | 0.04 |
| MDR | 0.035 |
| P | 0.075 |
| RDWY | 0.03 |
| SCHOOL | 0.04 |
| UF | 0.07 |
| VHDR | 0.033 |
| VLDR | 0.053 |
| W | 0.03 |
| WTLND | 0.075 |

## Routing

Routing was accomplished hydraulically using the proposed drainage system and proposed detention basins in the XPSWMM model. Runoff will drain by gravity through a combination of storm drain pipes, streets, and open channels into four detention basins. **Figure 3.5: Proposed Conditions Watershed Map** identifies the areas tributary to each of the four basins: East, West, North and South.

## Water Quality Volume

For each detention basin, a preliminary water quality volume (WQV) based on pre-LID requirements was calculated at the request of SCDWR. **Table 3.5: Preliminary (Pre-LID) Water Quality Volume Calculations** presents the results of hypothetical WQV calculations based on the tributary area to each detention basin and the weighted impervious area for each tributary area. The contributions of I-80 were accounted for in both the southern and eastern detention basins. The detentions basins will be designed consistent with Table DB-1 of the SQDM.

**Table 3.5: Preliminary (Pre-LID) Water Quality Volume Calculations**

| Basin Location | Basin Shed Area (acre) | Impervious Area (acre) | Impervious Percentage | $P_0$ | Pre-LID WQV (ac-ft) | 1.25 Pre-LID WQV (ac-ft) |
|---|---|---|---|---|---|---|
| **North** | 431.4 | 151.8 | 35.2 | 0.27 | 10 | 12 |
| **South** | 517.9 | 225.8 | 43.6 | 0.33 | 14 | 18 |
| **West** | 524.7 | 176.9 | 33.7 | 0.25 | 11 | 14 |
| **East** | 508.1 | 323.3 | 63.6 | 0.46 | 20 | 24 |
| **Combined to East Basin** | 1550.8 | 726.0 | 46.8 | 0.35 | 45 | 57 |

## Detention Basin Storage & Pumping

Stage storage definitions for proposed detention basins are provided below in **Table 3.6: Proposed Detention Basin Stage Storage**. The detention basin pumps are configured to allow for the flexibility of use as water quality detention basins as well as regional detention basins. The determination of the number of pumps and the sizes of pumps as well as the detention basin sizes was accomplished iteratively by checking for impacts in the RD 1000 system and within the plan area under various storm scenarios.

**Table 3.6: Proposed Detention Basin Stage Storage**

| | North Basin | | West Basin | | South Basin | | East Basin | |
|---|---|---|---|---|---|---|---|---|
| **Maximum Allowable WSE[4]:** | **14.6 ft** | | **13.3 ft** | | **13.0 ft** | | **13.3 ft** | |
| **Elevation** | **Area (acres)** | **Volume[5] (ac-ft)** | **Area (acres)** | **Volume[5] (ac-ft)** | **Area (acres)** | **Volume[5] (ac-ft)** | **Area (acres)** | **Volume[5] (ac-ft)** |
| -3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 21.2 | 0 | 28.3 | 0 | 21.4 | 0 | 28.2 | 0 |
| 6 | 21.9 | 21.5 | 28.8 | 28.6 | 21.8 | 21.6 | 28.6 | 28.4 |
| 7 | 22.7 | 43.8 | 29.3 | 57.6 | 22.2 | 43.6 | 29.1 | 57.3 |
| 8 | 23.5 | 66.9 | 29.8 | 87.1 | 22.7 | 66.1 | 29.6 | 86.6 |
| 9 | 24.2 | 90.8 | 30.3 | 117.2 | 23.1 | 89 | 30.1 | 116.5 |
| 10 | 25.0 | 115.4 | 30.7 | 147.6 | 23.5 | 112.3 | 30.6 | 146.8 |
| 11 | 25.8 | 140.8 | 31.2 | 178.6 | 23.9 | 136 | 31.1 | 177.7 |
| 12 | 26.6 | 167.0 | 31.7 | 210.0 | 24.4 | 160.1 | 31.6 | 209 |
| 13 | 27.4 | 194.1 | 32.2 | 242.0 | 24.8 | 184.7 | 32 | 240.8 |
| 14 | 28.4 | 222.0 | - | - | - | - | - | - |

Basin pump station capacities for the proposed pumps are presented below in **Table 3.7: Proposed Pump Stations.** To control groundwater and nuisance flows, a low-flow pump will be required. For the purposes of this study, the low-flow and redundant pump is not considered in hydraulic calculations. Subsequent studies will determine the rate of infiltration and size of low-flow pumps at each basin location.

The first three pump's on/off elevations are determined based on *"City of Sacramento Design and Procedure Manual"*, Section 12, Storm Drainage Design Standards. Calculations specific to Section 12.6.1.4. "Pump Calculations in Natomas" were not included in this analysis and will be performed to these standards in a future analysis.

The Pump 1 "on elevation" for each detention basin was assumed to account for the volume of water quality storage and estimated at 6-inches above the water quality permanent pool. The Pump 2 "on elevation" is set at one foot above the assumed water quality storage volume. The Pump 3 "on elevation" is set at the

[4] The maximum allowable water surface elevation is estimated using the 100-year storm event, reflecting climate change influences, while not exceeding one-foot of flooding at the gutter flow line anywhere in the system.

[5] Storage not considered for wet portion of detention basin. Starting water surface elevation assumed at elevation 5 feet.

maximum WSE for the 10-year storm event, requiring a separately modeled 10-year scenario with only two pumps running to determine the peak value without the third pump. Subsequent pumps are added as needed to balance storage and freeboard requirements to meet SCDWR Pump Station and Detention Basin Design Criteria including under climate change scenarios.

The simulation of the 100-year 24-hour storm with climate change was extended to capture the drawdown time back to the permanent pool elevation for the on-site detention basins. The resilience of the on-site detention systems was also analyzed using Sacramento County standardized 100-year 10-day and 100-year 5-day storms while not exceeding the maximum allowable water quality elevation. The longest drain time (from peak to permanent pool elevations) occurs in the East Detention Basin, taking several days to drain the storage volume to starting conditions. The analysis of the hydraulic behavior of the basins during long duration storm simulations is considered sufficient to establish the reliability of the proposed basins under multiple cloudburst conditions (successive storm events) using determined peak pumping rates.

**Table 3.7: Proposed Pump Stations**

| Location | North | South | West | East |
|---|---|---|---|---|
| **No. of Pumps[6]** | **3** | **3** | **4** | **5** |
| **Capacity (cfs)** | 10 – 10 – 10 | 15 – 15 – 15 | 30 – 30 – 30 – 30 | 20 – 20 – 20 – 20 – 20 |
| **Elevation On** | 5.5 – 6.0 – 9.5 | 5.5 – 7.0 – 9.4 | 5.5 – 6.0 – 10.7 – 11.0 | 5.5 – 6.0 – 10.7 – 12.1 – 12.1 |
| **Elevation Off** | 5.0 – 5.0 – 8.5 | 5.0 – 5.0 – 9.0 | 5.0 – 5.5 – 6.0 – 8.0 | 5.0 – 5.0 – 5.0 – 5.0 – 5.0 |
| **Excavated Bottom Elevation[7]** | -3.0 feet | -3.0 feet | -3.0 feet | -3.0 feet |
| **Water Quality Volume (acre-feet)** | 9.6 | 14.9 | 11.1 | 48.5[8] |
| **Top of Basin Elevation[7]** | 14.0 feet | 13.0 feet | 13.0 feet | 13.0 feet |
| **Assumed Starting WSE[7]** | 5.0 feet | 5.0 feet | 5.0 feet | 5.0 feet |

[6] Redundant pumps and low-flow pump to be provided at each detention basin. These are not included in the hydraulic modeling or the above table.

[7] NAVD 88 vertical datum.

[8] East basin WQV alone is 21 acre-feet. Value shown is a cumulative value of the South, West, and East basins combined.

## Boundary Conditions

The Proposed Conditions XPSWMM analysis assumes that areas that are not changing their development levels and that are draining by gravity to the West Drainage Canal will continue to drain. Some of these culverts will operate with reduced drainage areas due to implementation of development within Upper Westside. It is the intent of this preliminary layout and analysis to route undeveloped areas directly to the RD1000 system under gravity flow conditions, without creating increases, to limit treatment and pumping. Significant areas along the western (ag buffer) boundary must be collected and routed through the plan area facilities to prevent offsite impacts.

Each RD1000 XPSWMM model node adjacent to the project is further described below.

### *Model Node 11011*

The gravity outfalls into the West Drainage Canal west of El Centro Road are represented as two remnant watersheds being combined and injected into the RD 1000 model at node 11011 using peak stage as backwater. These watersheds are discussed below:

- Watershed OFFN02: Models simple upstream attenuation using storage node capacity before the flows are routed through the existing drainage channels that drain to C-10.
- Watershed OFFN03: Watershed is applied directly into the existing culvert C-9.

### *Model Node 11010*

- Watershed NORT09C: Watershed is applied directly to existing culvert S-18 and injected at the RD1000 model node 11010.

### *Model Node 170*

The following water sheds outflows are combined and injected into the RD1000 Model at node 170.

- Watershed NORT09A: Watershed flows to existing culvert S-16
- Watershed NORT09B: Watershed flows to existing culvert S-17.

### *Model Node 11577*

For the proposed condition, the constructed wetland areas to the northwest of the plan area remain unchanged from baseline conditions. They continue to be defined by the baseline conditions HEC-RAS model as separate drainage. The watershed is injected to the RD1000 system near Pump Station 3 at the model node labeled 11577.

### *River View #2 Subdivision*

Also, for the proposed conditions, no runoff from the Upper Westside project is connected / interacting with the River View #2 project area. All hydrologic inputs from the River View #2 area are assumed to be accounted for in the Sump 17A watershed within the RD1000 XPSWMM model. The hydraulic boundary conditions for baseline conditions was set at 7.1 feet elevation as cited above for River View #2 draining to Sump 17A.

### *Boundary Routing Contributions*

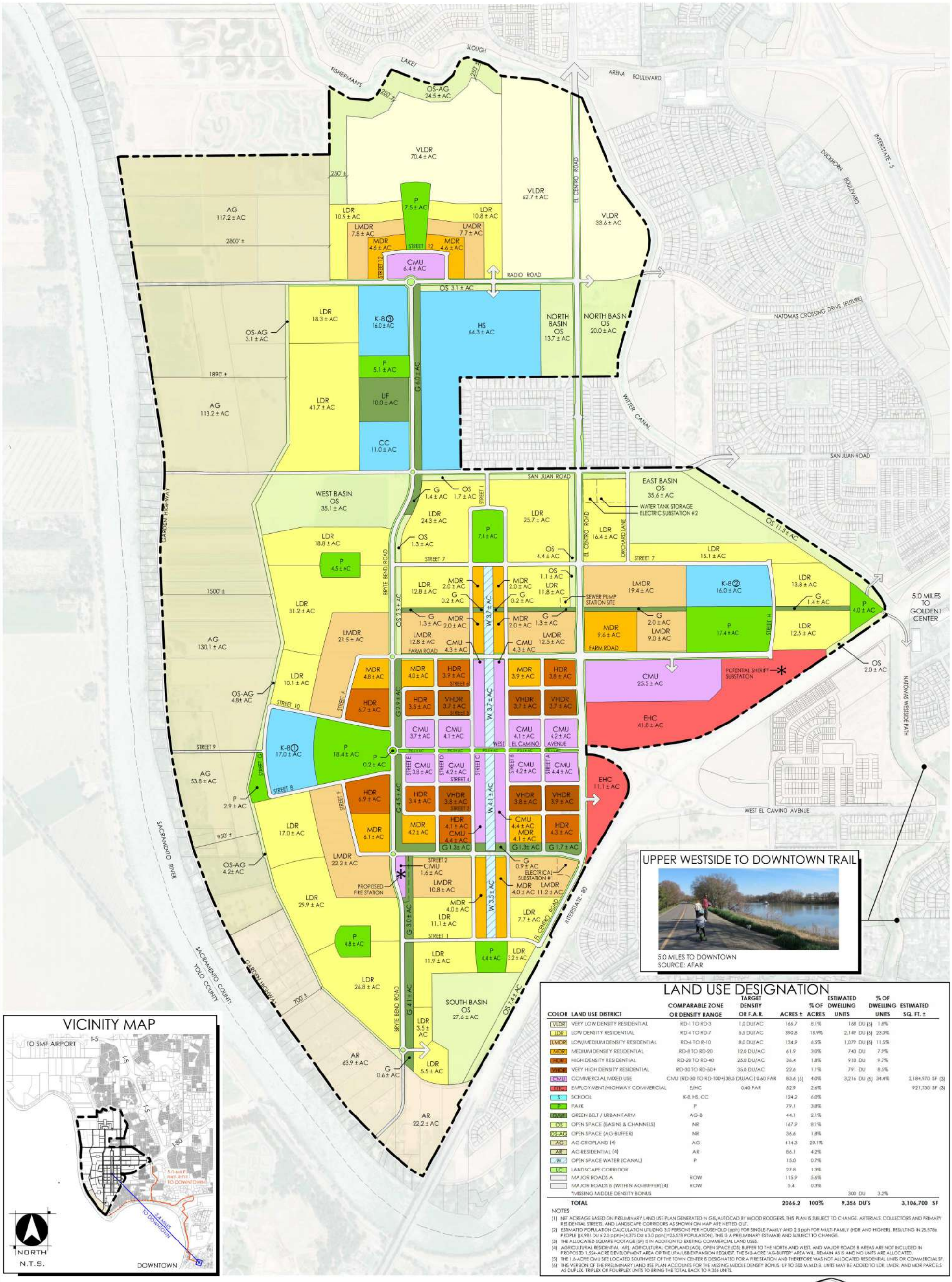
The modeled outfalls from the proposed conditions XPSWMM model to the West Drainage Canal are configured to align with the existing gravity culverts C-9 C-10, S-18, S-17, and S-16 (shown on **Figure 2.6**), with the East and North Pump Stations being pumped outfalls. The existing gravity culvert labeling is consistent with the North Natomas Levee Project documentation, provided by Mead & Hunt. The flow results were combined to the nearest RD1000 model nodes as the model does not separately define every small culvert entering the system. Boundary conditions within the West Drainage Canal will not have any effect on the proposed condition hydraulic analysis for the pumped basins.

PRELIMINARY LAND USE PLAN - MISSING MIDDLE DENSITY BONUS

# UPPER WESTSIDE

COUNTY OF SACRAMENTO, CALIFORNIA

MAY 2024




## VICINITY MAP




## LAND USE DESIGNATION

| COLOR | LAND USE DISTRICT | COMPARABLE ZONE OR DENSITY RANGE | TARGET DENSITY OR F.A.R. | ACRES ± | % OF ACRES | ESTIMATED DWELLING UNITS | % OF DWELLING UNITS | ESTIMATED SQ. FT. ± |
|---|---|---|---|---|---|---|---|---|
| VLDR | VERY LOW DENSITY RESIDENTIAL | RD-1 TO RD-3 | 1.0 DU/AC | 166.7 | 8.1% | 168 DU (6) | 1.8% | |
| LDR | LOW DENSITY RESIDENTIAL | RD-4 TO RD-7 | 5.5 DU/AC | 390.8 | 18.9% | 2,149 DU (6) | 23.0% | |
| LMDR | LOW/MEDIUM DENSITY RESIDENTIAL | RD-6 TO R-10 | 8.0 DU/AC | 134.9 | 6.5% | 1,079 DU (6) | 11.5% | |
| MDR | MEDIUM DENSITY RESIDENTIAL | RD-8 TO RD-20 | 12.0 DU/AC | 61.9 | 3.0% | 743 DU | 7.9% | |
| HDR | HIGH DENSITY RESIDENTIAL | RD-20 TO RD-40 | 25.0 DU/AC | 36.4 | 1.8% | 910 DU | 9.7% | |
| VHDR | VERY HIGH DENSITY RESIDENTIAL | RD-30 TO RD-50+ | 35.0 DU/AC | 22.6 | 1.1% | 791 DU | 8.5% | |
| CMU | COMMERCIAL MIXED USE | CMU (RD-30 TO RD-100+) | 38.5 DU/AC \| 0.60 FAR | 83.6 (5) | 4.0% | 3,216 DU (6) | 34.4% | 2,184,970 SF (3) |
| EHC | EMPLOYMENT/HIGHWAY COMMERCIAL | E/HC | 0.40 FAR | 52.9 | 2.6% | | | 921,730 SF (3) |
| S | SCHOOL | K-8, HS, CC | | 124.2 | 6.0% | | | |
| P | PARK | P | | 79.1 | 3.8% | | | |
| G/UF | GREEN BELT / URBAN FARM | AG-B | | 44.1 | 2.1% | | | |
| OS | OPEN SPACE (BASINS & CHANNELS) | NR | | 167.9 | 8.1% | | | |
| OS-AG | OPEN SPACE (AG-BUFFER) | NR | | 36.6 | 1.8% | | | |
| AG | AG-CROPLAND (4) | AG | | 414.3 | 20.1% | | | |
| AR | AG-RESIDENTIAL (4) | AR | | 86.1 | 4.2% | | | |
| W | OPEN SPACE WATER (CANAL) | P | | 15.0 | 0.7% | | | |
| LC | LANDSCAPE CORRIDOR | | | 27.8 | 1.3% | | | |
| | MAJOR ROADS A | ROW | | 115.9 | 5.6% | | | |
| | MAJOR ROADS B (WITHIN AG-BUFFER) (4) | ROW | | 5.4 | 0.3% | | | |
| | *MISSING MIDDLE DENSITY BONUS | | | | | 300 DU | 3.2% | |
| | TOTAL | | | 2066.2 | 100% | 9,356 DU'S | | 3,106,700 SF |

NOTES

(1) NET ACREAGE BASED ON PRELIMINARY LAND USE PLAN GENERATED IN GIS/AUTOCAD BY WOOD RODGERS. THIS PLAN IS SUBJECT TO CHANGE. ARTERIALS, COLLECTORS AND PRIMARY RESIDENTIAL STREETS, AND LANDSCAPE CORRIDORS AS SHOWN ON MAP ARE NETTED OUT.

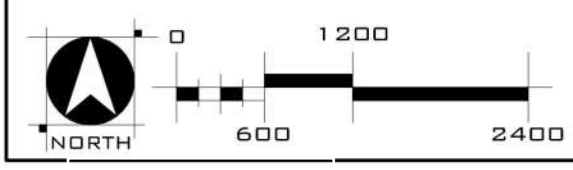
(2) ESTIMATED POPULATION CALCULATION UTILIZING 3.0 PERSONS PER HOUSEHOLD (pph) FOR SINGLE-FAMILY AND 2.5 pph FOR MULTI-FAMILY (HDR AND HIGHER). RESULTING IN 25,578± PEOPLE [(4,981 DU x 2.5 pph)+(4,375 DU x 3.0 pph)]=25,578 POPULATION). THIS IS A PRELIMINARY ESTIMATE AND SUBJECT TO CHANGE.

(3) THE ALLOCATED SQUARE FOOTAGE (SF) IS IN ADDITION TO EXISTING COMMERCIAL LAND USES.

(4) AGRICULTURAL RESIDENTIAL (AR), AGRICULTURAL CROPLAND (AG), OPEN SPACE (OS) BUFFER TO THE NORTH AND WEST, AND MAJOR ROADS B AREAS ARE NOT INCLUDED IN PROPOSED 1,524-ACRE DEVELOPMENT AREA OR THE UPA/USB EXPANSION REQUEST. THE 542-ACRE "AG-BUFFER" AREA WILL REMAIN AS IS AND NO UNITS ARE ALLOCATED.

(5) THE 1.6-ACRE CMU SITE LOCATED SOUTHWEST OF THE TOWN CENTER IS DESIGNATED FOR A FIRE STATION AND THEREFORE WAS NOT ALLOCATED RESIDENTIAL UNITS OR COMMERCIAL SF.

(6) THIS VERSION OF THE PRELIMINARY LAND USE PLAN ACCOUNTS FOR THE MISSING MIDDLE DENSITY BONUS. UP TO 300 M.M.D.B. UNITS MAY BE ADDED TO LDR, LMDR, AND MDR PARCELS AS DUPLEX, TRIPLEX OR FOURPLEX UNITS TO BRING THE TOTAL BACK TO 9,356 UNITS.




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PRELIMINARY LAND USE PLAN - UPPER WESTSIDE INFILL

FIGURE 3.2

North Shed
431.4 acres

West Shed
524.7 acres

East Shed
488.8 acres

South Shed
459.5 acres

PS

Proposed Pump Station

Detention Basin

UWS Plan

**Finished Grade**

**Value**

High : 96.8465

Low : -3

# PROPOSED CONDITIONS CONCEPTUAL GRADING PLAN

UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY
SACRAMENTO COUNTY, CA
MAY 2024

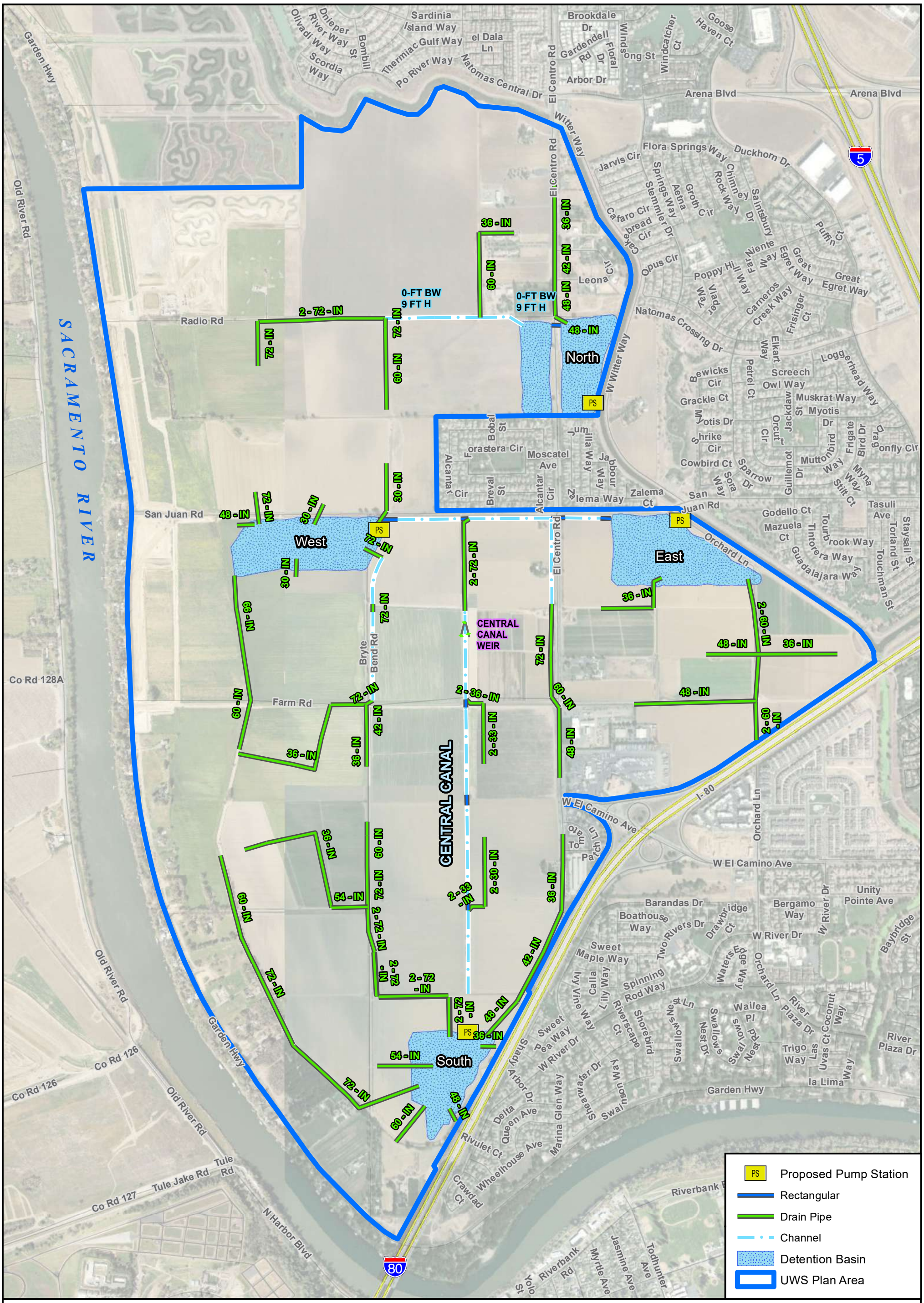
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Feet

NORTH

WOOD RODGERS

J:\3000-s\3616_Natomas_Boot\Natomas_Boot-OA\GIS\Tasks\Studies\Drain\MasterDrainage Study\Resubmittal_20240202\FIG3.3_Proposed_Grading.mxd 2/16/2024 8:11:15 AM jcarey

**FIGURE 3.3**




# PROPOSED CONDITIONS ON-SITE IMPROVEMENTS MAP

UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY
SACRAMENTO COUNTY, CA
MAY 2024

NOTE: All proposed channels are assumed to have a 3:1 side slope on both sides.

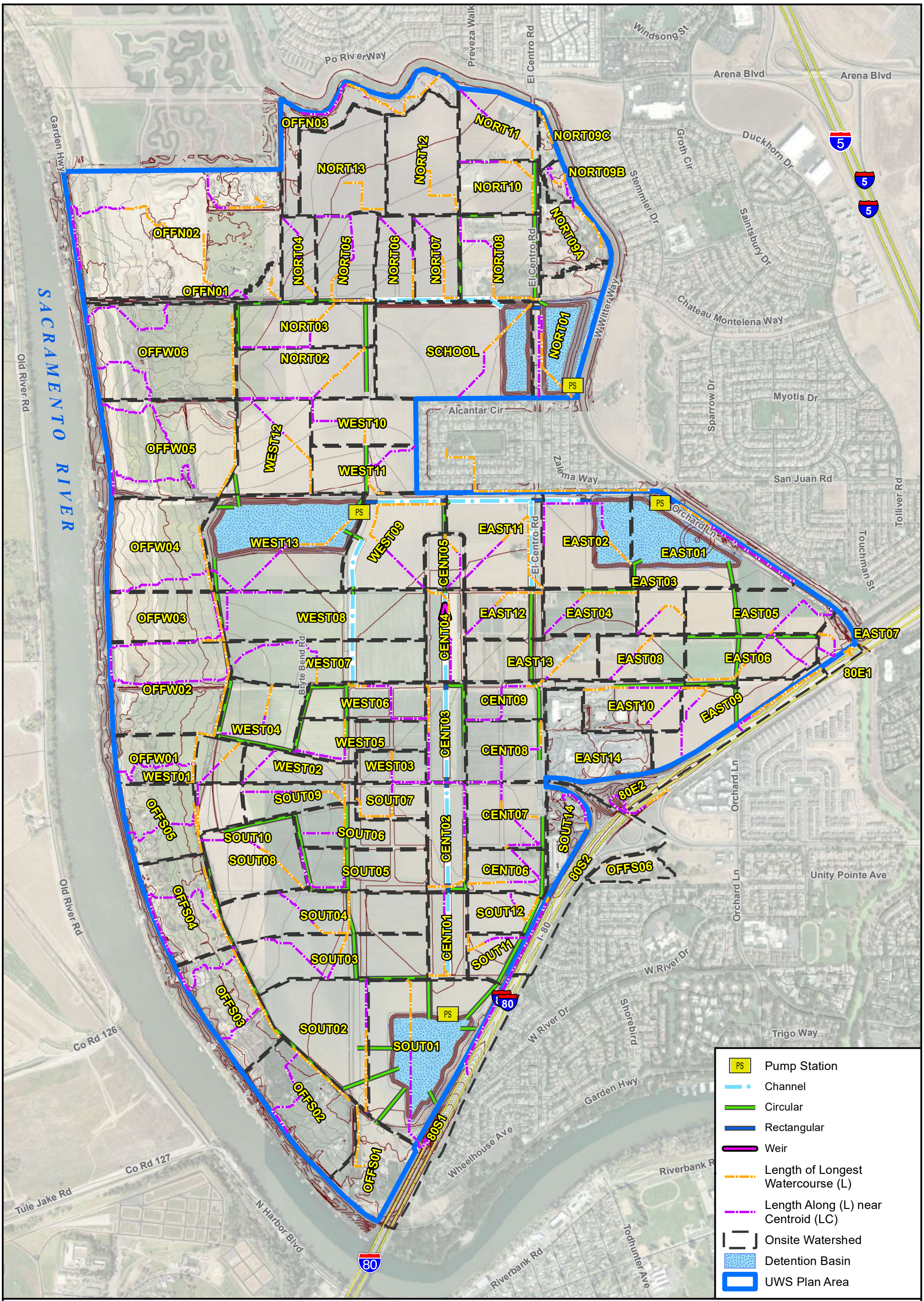
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WOOD RODGERS

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**FIGURE 3.4**




# PROPOSED CONDITIONS WATERSHED MAP

XPSWMM MODEL ONLY
UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY
SACRAMENTO COUNTY, CA
MAY 2024

NOTE: XPSWMM Model utilized for Nolte method and for 50% pumps operating scenarios only

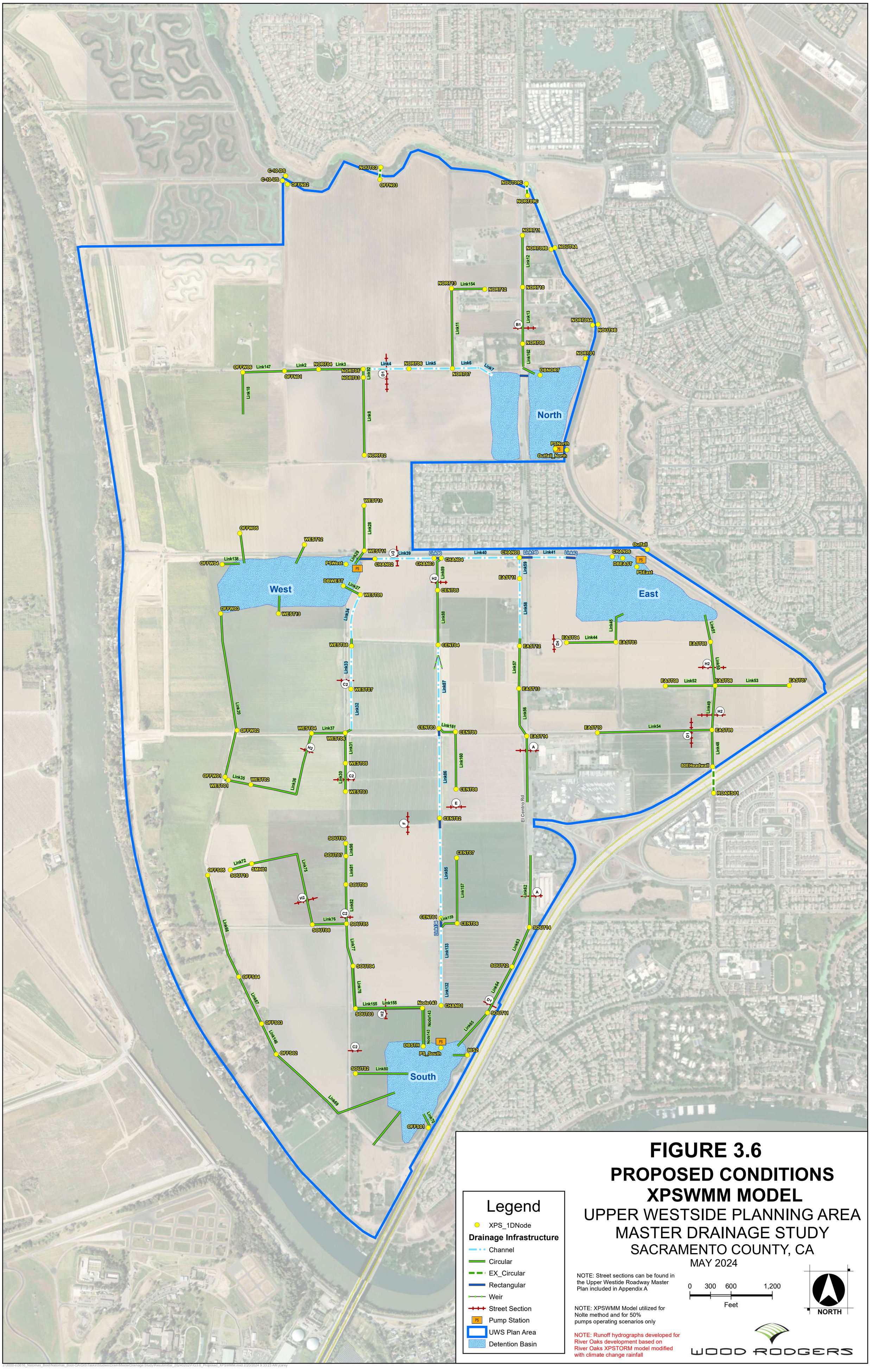
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WOOD RODGERS

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**FIGURE 3.5**




# FIGURE 3.6
## PROPOSED CONDITIONS XPSWMM MODEL
## UPPER WESTSIDE PLANNING AREA MASTER DRAINAGE STUDY
## SACRAMENTO COUNTY, CA
MAY 2024

### Legend
- XPS_1DNode

**Drainage Infrastructure**
- Channel
- Circular
- EX_Circular
- Rectangular
- Weir
- Street Section
- Pump Station
- UWS Plan Area
- Detention Basin

NOTE: Street sections can be found in the Upper Westside Roadway Master Plan included in Appendix A

NOTE: XPSWMM Model utilized for Nolte method and for 50% pumps operating scenarios only

NOTE: Runoff hydrographs developed for River Oaks development based on River Oaks XPSTORM model modified with climate change rainfall

0 300 600 1,200
Feet

NORTH

WOOD RODGERS

# 4.0 Proposed Project Discharges and Stages

Model results for all storm events in the proposed conditions XPSWMM model are presented in **Appendix B**. Detailed conduit profiles from proposed condition XPSWMM model runs are provided in **Appendix E**.

## 4.1 Onsite Watershed Summary

### Floodplain Extents

The onsite floodplain extents were not mapped given the proposed conditions flooding was modeled using XPSWMM 1D modeling of pipes and streets. Tabular output data is provided in **Appendix E**. No adverse impacts to offsite properties are allowed for peak 100-year water surfaces outside of the plan area.

### Storm Drain Trunk Line Results

**Figure 4.1: 100-year 24-hour Design Storm Freeboard** and **Figure 4.2: 100-year 10-day Design Storm Freeboard** show the freeboard values form the proposed condition XPSWMM model for the 100-year 24-hour and 10-day storm events, respectively. The exhibits show that the water surface elevation is no greater than 1-foot above the gutter flow line elevations. The project is located within the Sacramento Method (Sacramento City and County Rainfall) Hydrology Zone 2.

**Figure 4.3: Nolte Design Storm Freeboard** presents freeboard values from the proposed condition XPSWMM model for the Nolte Design storm. A minimum of 6-inches of freeboard measured from the gutter flow line is provided for each run of pipe in this scenario. The project area is located with the Nolte Hydrologic Zone 3.

### Detention Basin & Pump Station Summary

**Table 4.1: WSE for Storm Events in Proposed Condition XPSWMM Model** presents water surface elevations for various storm events in the proposed condition at the detention basins. The results in **Table 4.1** include the use of climate precipitation factors as described in **Section 3.7** and **Table 3.2: Climate Change Scaling Factors used in Proposed Conditions Model**. A minimum freeboard of 1.0 foot to the lowest adjacent gutter flow line was met in all the model scenarios up to the 100-year storm event.

**Table 4.1: WSE for Storm Events in Proposed Condition XPSWMM Model**

| | East Basin | | North Basin | | South Basin | | West Basin | |
|---|---|---|---|---|---|---|---|---|
| **Lowest Adjacent Gutter Flow Line Elevation (feet)** | **13.8ft** | | **14.6 ft** | | **13.0 ft** | | **13.8 ft** | |
| **Storm Event** | **Peak WSE (feet)** | **Freeboard (feet)** | **Peak WSE (Feet)** | **Freeboard (feet)** | **Peak WSE (feet)** | **Freeboard (feet)** | **Peak WSE (feet)** | **Freeboard (feet)** |
| 100-yr 24-hr | 11.4 | 2.4 | 11.2 | 3.5 | 12.0 | 1.0 | 11.4 | 2.4 |
| 100-yr 5-day | 12.5 | 1.3 | 10.9 | 3.7 | 11.5 | 1.5 | 12.5 | 1.3 |
| 100-yr 10-day | 12.2 | 1.6 | 10.5 | 4.1 | 10.7 | 2.3 | 12.2 | 1.6 |
| 200-yr 24-hr | 12.1 | 1.6 | 11.8 | 2.8 | 12.8 | 0.2 | 12.0 | 1.8 |
| 200-yr 5-day | 13.3 | 0.5 | 11.8 | 2.8 | 12.5 | 0.5 | 13.3 | 0.5 |
| 200-yr 10-day | 12.9 | 0.9 | 11.3 | 3.3 | 11.7 | 1.3 | 12.9 | 0.9 |
| 500-yr 24-hr | 12.7 | 1.1 | 12.8 | 1.8 | 14.0 | -1.0 | 12.7 | 1.1 |
| 500-yr 5-day | 14.3 | -0.5 | 12.8 | 1.8 | 13.8 | -0.8 | 14.3 | -0.5 |
| 500-yr 10-day | 14.2 | -0.4 | 12.4 | 2.3 | 13.1 | -0.1 | 14.1 | -0.3 |

## 50% Pumps Not Operating

For this scenario, 50% of the pumps (including redundant pumps) for each pump station are turned off (see **Table 3.7**), and the 50-percent requirement is met because a redundant pump assumed to be included at each pump station which will also not be operating in this event. Because of the multi-pump configurations in all the onsite basins, multiple combinations of inactive pumping were tested to find the configuration of inactive pumps that yielded the highest water surface elevations. It was consistently found that the highest water surface elevations resulted when the bottom two pumps were left off in all four basins.

The maximum water surface criteria for the 100-year 10-day storm event with 50 percent of the pumps not operating is one foot above the gutter flow line, as shown in **Figure 1.1**. To meet freeboard criteria in the East Basin, an additional redundant pump must be installed to allow for the operation of four pumps during the 50% pumps no operating scenarios. The analysis shows that the maximum water surface standard of

1.0 foot above the gutter flow line is met at all locations for the 100-year 24-hour and 100-year 10-day storm events. The results from the proposed condition XPSWMM model are shown in **Figure 4.4: 100-year 24-hour Design Storm Freeboard, 50% Pumps Not Operating** and **Figure 4.5: 100-year 10-day Design Storm Freeboard, 50% Pumps Not Operating.**

## 4.2 River View & I80 Discharges to Plan Area

**Table 4.2: Peak Stage Comparison Draining Existing Across Interstate 80** presents a comparison of existing and proposed condition stages at the downstream headwall of the dual 36-inch RCP under I-80. The existing River Oaks development only conveys runoff for storms exceeding the 10-year event north into the existing dual 36-inch RCP culverts. The 100-year peak flow information for all three storm durations was calculated using the XPSWMM model provided by the City of Sacramento and adding climate change factors to the rainfall. The 24-hour storm scenarios for the 100-year, 200-year, and 500-year reached the existing dual 36-inch RCP culverts and flowed into the plan area.

**Table 4.2** shows the proposed condition peak stages are lower than the corresponding existing condition peak stage in all 100-year storm events at the downstream headwall of the dual 36-inch RCP. This lowers the tailwater below existing conditions and allows all runoff from River Oaks to travel north as it does today, without worsening the hydraulic conditions within River Oaks. Therefore, it is assumed the proposed project will not result in adverse impacts to the existing River Oaks development because of the decreased peak stages in all design storms in the 100-year storm events.

Additionally, a similar comparison of existing and proposed water surface elevations downstream of the I-80 culverts discharging into the South Detention Basin is provided in **Table 4.2.** The results show that drainage along I-80 is not adversely impacted. **Figure 2.4** provides a graphical representation of the I-80 crossings onto the Plan Area.

**Table 4.2: Peak Stage Comparison Draining Existing Across Interstate 80**

| Storm Event | Peak Water Surface Elevation | | | | | |
|---|---|---|---|---|---|---|
| | River Oaks Crossing | | I-80 Dual 18-inch Crossing | | I-80 Single 36-inch Crossing | |
| | Existing Condition | Proposed Condition | Existing Condition | Proposed Condition | Existing Condition | Proposed Condition |
| 100-year 24-hour | 13.8 | 13.4 | 16.1 | 15.0 | 14.8 | 12.4 |
| 100-year 5-day | 13.6 | 12.1 | 15.7 | 14.0 | 14.7 | 11.5 |
| 100-year 10-day | 13.5 | 12.2 | 15.7 | 14.0 | 14.7 | 11.5 |

## 4.3 Ag-Buffer Discharges

The proposed ditches along the boundary between the Ag and Ag Res properties to the west of the project provide adequate conveyance and depth to prevent the outflows in all 100-year scenarios from spilling out of the channels and impacting the existing properties. **Table 4.3: Peak Stage Comparison At the Ag Res Buffer** shows that the proposed conditions peak stages are lower than the corresponding peak existing condition peak stages in all 100-year storm events.

**Table 4.3: Peak Stage Comparison At the Ag Res Buffer**

| Storm Event | Peak Water Surface Elevation | | | | | |
|---|---|---|---|---|---|---|
| | OFFN02 | | OFFW03 | | OFFS02 | |
| | Existing Condition | Proposed Condition | Existing Condition | Proposed Condition | Existing Condition | Proposed Condition |
| 100-year 24-hour | 20.8 | 20.3 | 17.4 | 11.4 | 18.0 | 15.7 |
| 100-year 5-day | 20.7 | 19.7 | 17 | 12.5 | 17.4 | 11.6 |
| 100-year 10-day | 20.7 | 20.0 | 17 | 12.2 | 17.5 | 11.6 |

## 4.4 Natomas Estates Discharges

**Table 4.4: Peak Stage Comparison At Natomas Estates** contains the peak stage comparison at the interface between the proposed development and Natomas Estates. The water surface elevations were taken at the existing culverts that the offsite sheds drain through in both existing and proposed conditions.

**Table 4.4: Peak Stage Comparison At Natomas Estates**

| Storm Event | Peak Water Surface Elevation | | | | | |
|---|---|---|---|---|---|---|
| | NORT09C | | NORT09B | | NORT09A | |
| | Existing Condition | Proposed Condition | Existing Condition | Proposed Condition | Existing Condition | Proposed Condition |
| 100-year 24-hour | 14.9 | 14.2 | 14.4 | 13.9 | 14.0 | 13.4 |
| 100-year 5-day | 14.4 | 13.2 | 13.7 | 13.1 | 13.5 | 13.1 |
| 100-year 10-day | 14.0 | 13.2 | 13.6 | 13.0 | 13.5 | 13.2 |

## 4.5 West Drainage Canal Summary

**Table 4.5: Peak WSE Comparison, RD 1000 XPSWMM Model** presents the peak WSEs in the West Drainage Canal from the preliminary RD 1000 XPSWMM model, utilizing input hydrographs from the existing conditions HEC-RAS and proposed conditions XPSWMM models for the 100-year 10-day event (without climate change) as these models were specifically created to assess RD 1000 impacts. **Table 4.5** shows the proposed project will not result in increased peak stages in the West Drainage Canal at any location adjacent to the UWS Plan Area. A comparison of peak flows entering the West Drainage Canal in the Wood Rodgers created existing conditions and the conditions this project proposes including onsite drainage improvements yield lower peak runoff entering the canal. The peak flow entering in the existing conditions is 269.7-cfs (190.7 cfs upstream of San Juan Road and 79 cfs downstream of San Juan Road) and the peak flow entering in the proposed conditions is 132.1-cfs (72.1 cfs upstream of San Juan Road and 60 cfs downstream of San Juan Road. It is assumed RD 1000 and its contractors will verify these values using the RD 1000 XPSWMM model. County DWR is not expected to review and approve models meant to satisfy RD-1000.

**Table 4.5: Peak WSE Comparison, RD 1000 XPSWMM Model**

| Location (XPSWMM NODE) | Existing Condition | Proposed Condition | Change in WSE (feet) |
|---|---|---|---|
| | Peak WSE[9] (feet) | Peak WSE[9] (feet) | |
| 169 | 13.404 | 13.355 | -0.049 |
| 11011 | 13.392 | 13.344 | -0.048 |
| 11010 | 13.077 | 13.014 | -0.063 |
| 170 | 13.056 | 12.988 | -0.068 |
| 171 | 13.049 | 12.98 | -0.069 |
| 11008 | 13.023 | 12.947 | -0.076 |
| 172 | 12.203 | 12.151 | -0.052 |
| 11509 | 12.18 | 12.132 | -0.048 |
| 11520 | 12.148 | 12.112 | -0.036 |
| 173 | 12.138 | 12.099 | -0.039 |
| 1914 | 11.87 | 11.833 | -0.037 |
| 11558 | 11.542 | 11.511 | -0.031 |
| 11511 | 11.457 | 11.424 | -0.033 |
| 174 | 11.125 | 11.09 | -0.035 |

Complete Model results for all storm events in the proposed conditions XPSWMM model, including XPSWMM modeling without climate change for assessing RD1000 impacts as well as onsite modeling including climate change for County requirements are presented in **Appendix E**.

## 4.6 Onsite 200-year Analysis

The project is designed such that the proposed pads will be above the 200-year, 10-day storm event water surface elevation within the West Drainage Canal. The best available data at the time of this study is the preliminary maximum water surface elevations of the West Drainage Canal, provided by Civil Solutions in 2021, ranging from an elevation of 14.17 in the north at Fisherman's Lake to 13.26 at I80. **Figure 4.6: Maximum Floodplain Depth Assuming Full Levee Failure 200-year, 10-day Event** shows the areas of the proposed project site that are below a hypothetical water surface plane that extends from the West Drainage Canal. This conservative approach assumes no containment of the West Drainage Canal to show that the proposed land uses will be above the 200-year, 10-day water surface elevation. The figure does show inundation in the proposed project detention basins, drainage channels, and existing low-lying areas of parcels currently improved.

[9] NAVD 88 vertical datum.

While the project does not rely on the containment of the West Drainage Canal to protect pads, the project will be designed to maintain the West Drainage Canal within its banks. The project will not increase the 200-year, 10-day water surface elevations in the West Drainage Canal and therefore does not increase the extent of mapped inundation. This can be accomplished by maintaining the containment conditions that exist under pre-project conditions and limiting developed outflow to not exceed existing maximum water surface elevations in the RD1000 system. Wood Rodgers does not anticipate any modifications will be required to the existing containment features. The analysis will be confirmed during Tentative Map and/or subsequent design level efforts.

## 4.7 Project Phasing

Conceptual project phasing has been identified in **Figure 4.7: Conceptual Phasing Plan** for purposes of the Public Facilities Financing Plan. In general, each of the four detention basins correspond to an assumed project phase. The deeper excavation of the detention basins is intended to produce material for the proposed development and generally corresponds to the project phasing.

Actual phasing will be dependent on the timing of development and improvements necessary to avoid adverse impacts. Subsequent entitlement applications (tentative map) or grading plan submission should address interim or phased improvements to support the specific proposal. Each project should address at a minimum the following phasing topics:

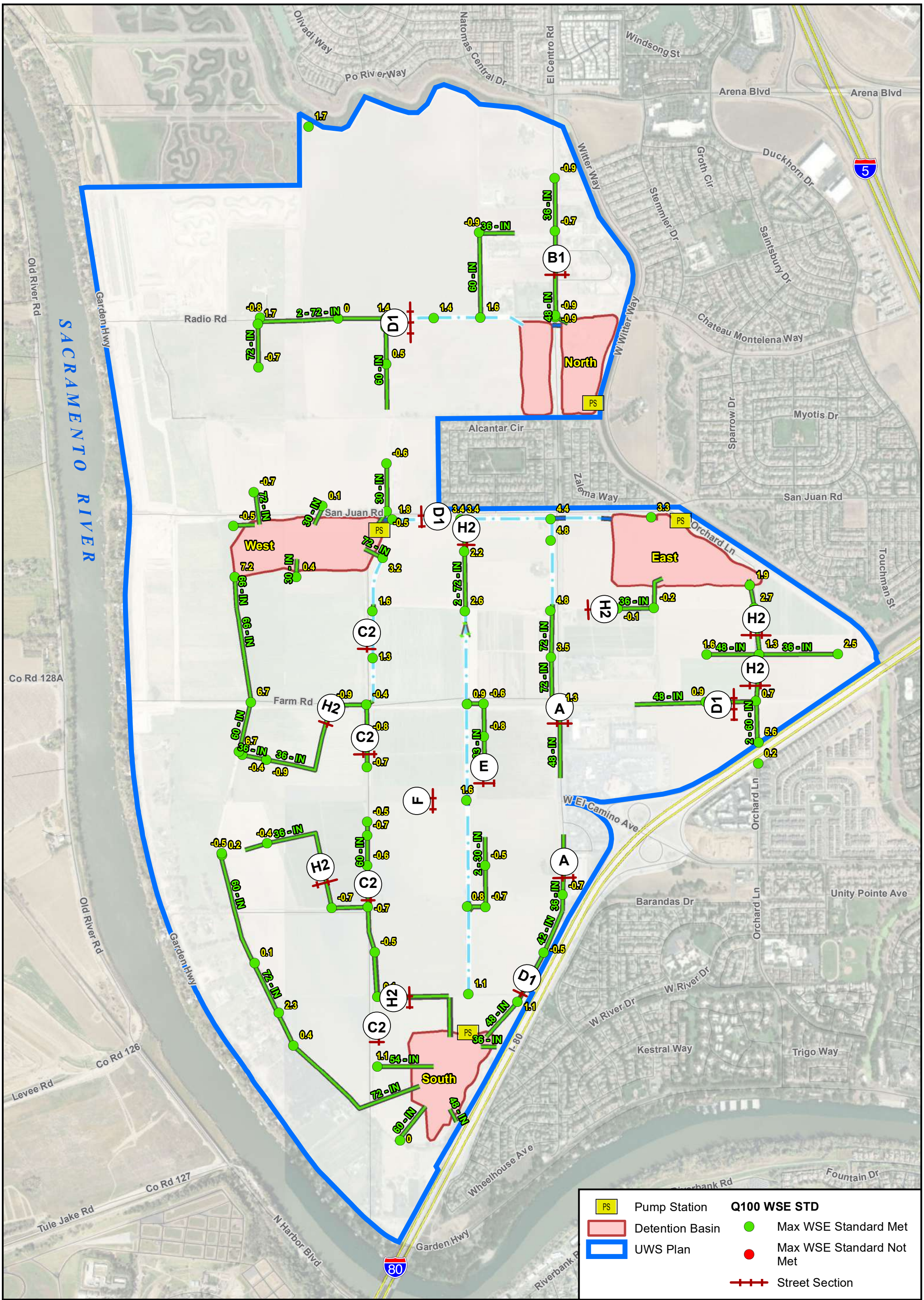
- Detention and pump station phasing (including anticipated interim and permanent locations).
- Earthwork / mass grade phasing.
- Natomas Mutual Water Company is phasing of facilities to convey irrigation water.
- Interim drainage of parcels that will develop in subsequent phases and are tributary to the developing parcel.
- The need for downstream / offsite improvements.
- How the phasing complies with the County's Floodplain Management Ordinance.

Prior to grading and/or improvement plan submittals a pump station design report will be required for each of the detention basins. Additionally, a geotechnical report will be necessary to anticipate the rate at which groundwater will infiltrate into the detention basins and to determine appropriate slope stability measures. Prior to construction of downstream improvements, the developing property owner will need to obtain easements and construction access to offsite properties requiring infrastructure improvements.

While some property owners are overburdened with specific plan infrastructure, including drainage infrastructure and detention basins, the Public Facilities Financing Plan provides for the costs and fees associated with constructed the backbone infrastructure. These costs include a component for land acquisition.

## 4.8 Wildlife Management Plan

It is anticipated that a wildlife management plan will be required at the time of grading plan submittal. The purpose of the wildlife mitigation plan is to deter wildlife that may present hazards to aircraft approaching and departing Sacramento International Airport. The wildlife management plan will articulate specific design features for the canal and detention basins that will deter wildlife. It will also include operation recommendations. The plan will require review and approval by Sacramento County Airports.




# 100-YEAR, 24-HOUR DESIGN STORM FREEBOARD

UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY
SACRAMENTO COUNTY, CA
MAY 2024

NOTES: 100-year freeboard to gutter flow line shown
RED = Maximum WSE Standard Not Met
GREEN = Maximum WSE Standard Met
Maximum WSE = 1.0-foot above gutter flow line

NOTE: Street sections can be found in the Upper Westide Roadway Master Plan included in Appendix A

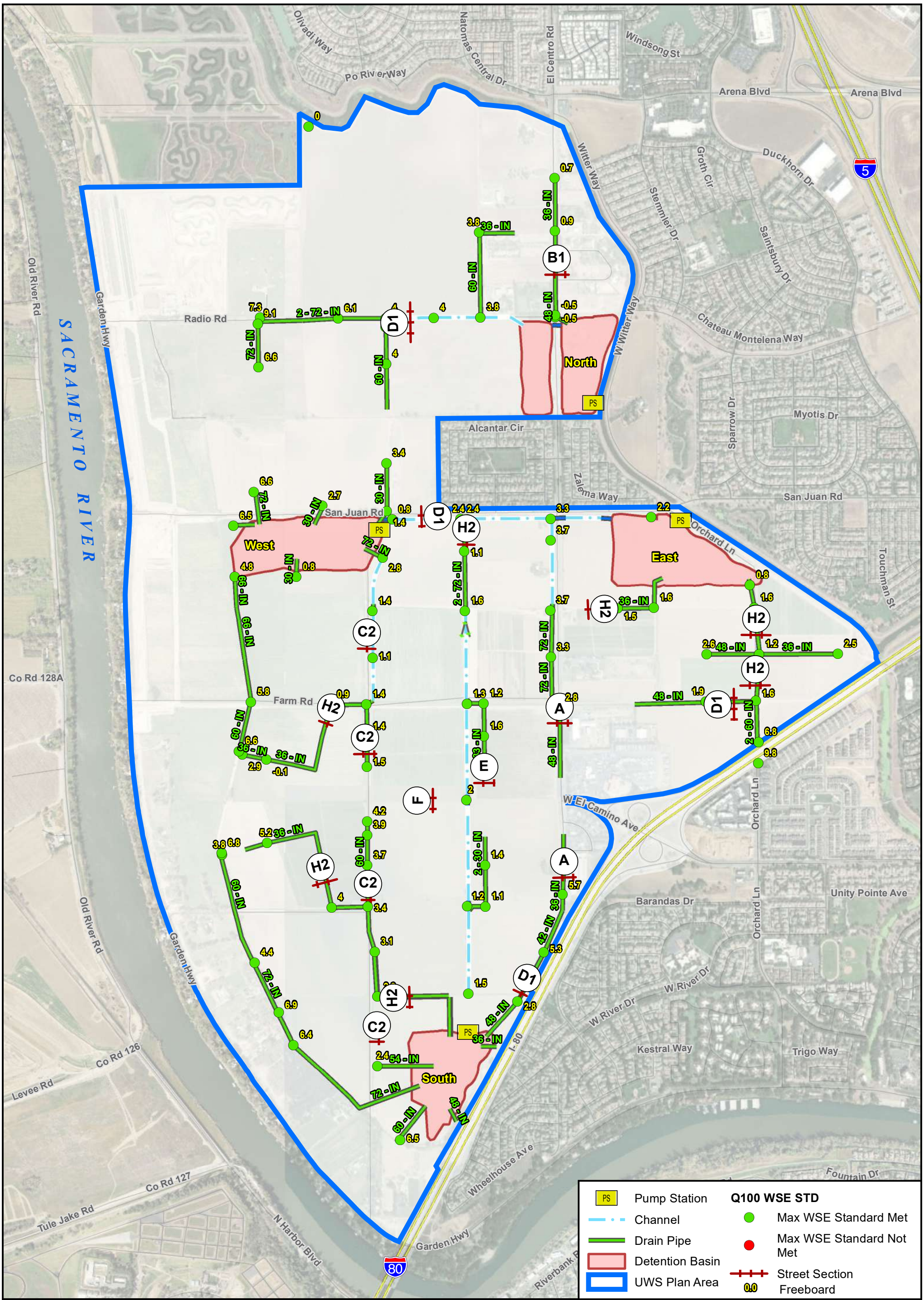
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WOOD RODGERS

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**FIGURE 4.1**




Pump Station
Channel
Drain Pipe
Detention Basin
UWS Plan Area

**Q100 WSE STD**
Max WSE Standard Met
Max WSE Standard Not Met
Street Section
Freeboard

# 100-YEAR, 10-DAY DESIGN STORM FREEBOARD

UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY
SACRAMENTO COUNTY, CA
MAY 2024

NOTES: 100-year freeboard to gutter flow line shown
RED = Maximum WSE Standard Not Met
GREEN = Maximum WSE Standard Met
Maximum WSE = 1.0-foot above gutter flow line

NOTE: Street sections can be found in the Upper Westside Roadway Master Plan included in Appendix A

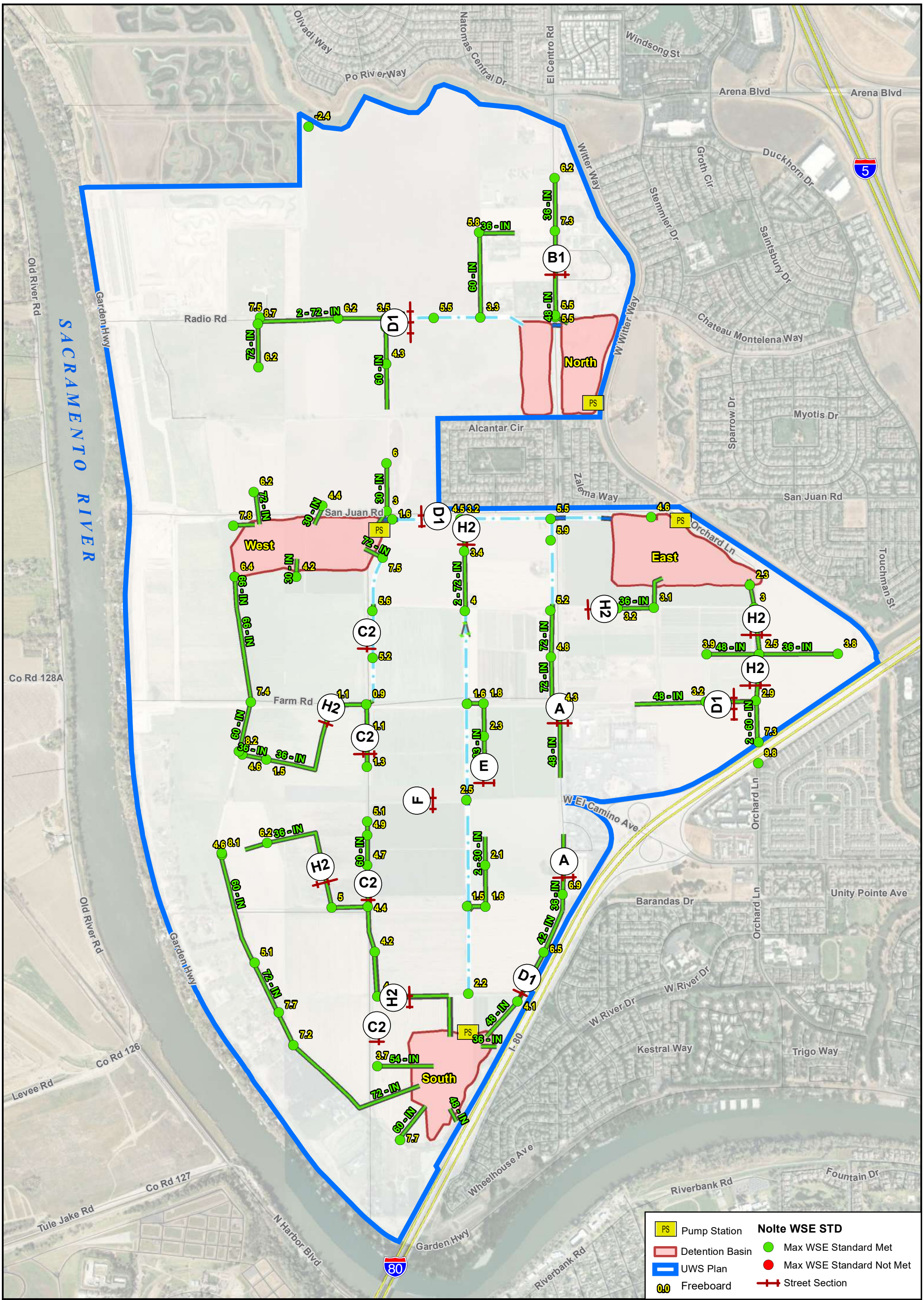
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WOOD RODGERS

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**FIGURE 4.2**




# NOLTE DESIGN STORM FREEBOARD

UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY
SACRAMENTO COUNTY, CA
MAY 2024

NOTES: Nolte freeboard to gutter flow line shown
RED = Maximum WSE Standard Not Met
GREEN = Maximum WSE Standard Met
Maximum WSE = 0.5-foot below gutter flow line

NOTE: Street sections can be found in the Upper Westside Roadway Master Plan included in Appendix A

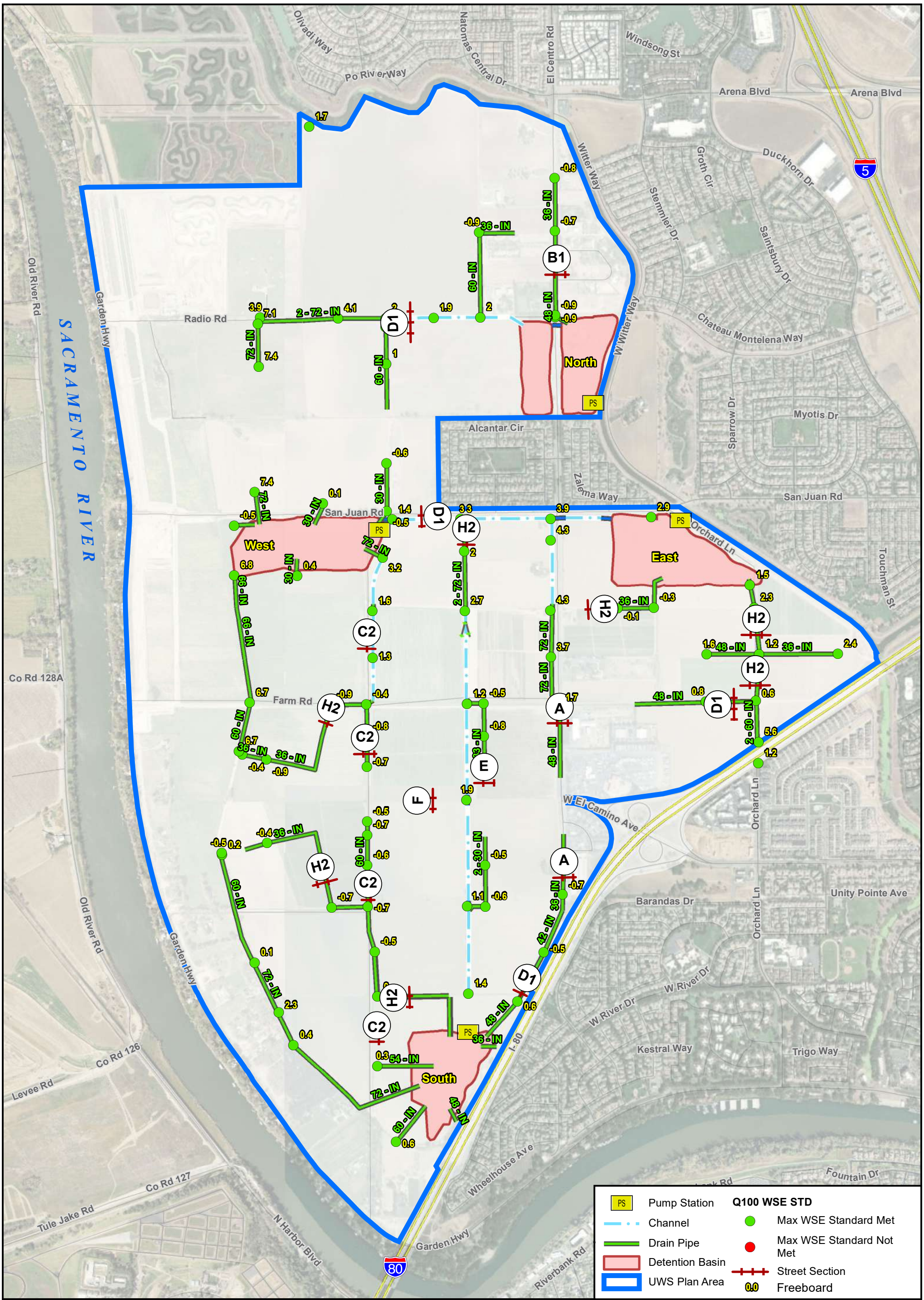
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WOOD RODGERS

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**FIGURE 4.3**




## 100-YEAR, 24-HOUR DESIGN STORM
## FREEBOARD WITH 50% OF PUMPS NOT OPERATING

UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY
SACRAMENTO COUNTY, CA
MAY 2024

NOTES: 100-year freeboard to gutter flow line shown
RED = Maximum WSE Standard Not Met
GREEN = Maximum WSE Standard Met
Maximum WSE = 1.0-foot above gutter flow line

NOTE: Street sections can be found in the Upper Westside Roadway Master Plan included in Appendix A

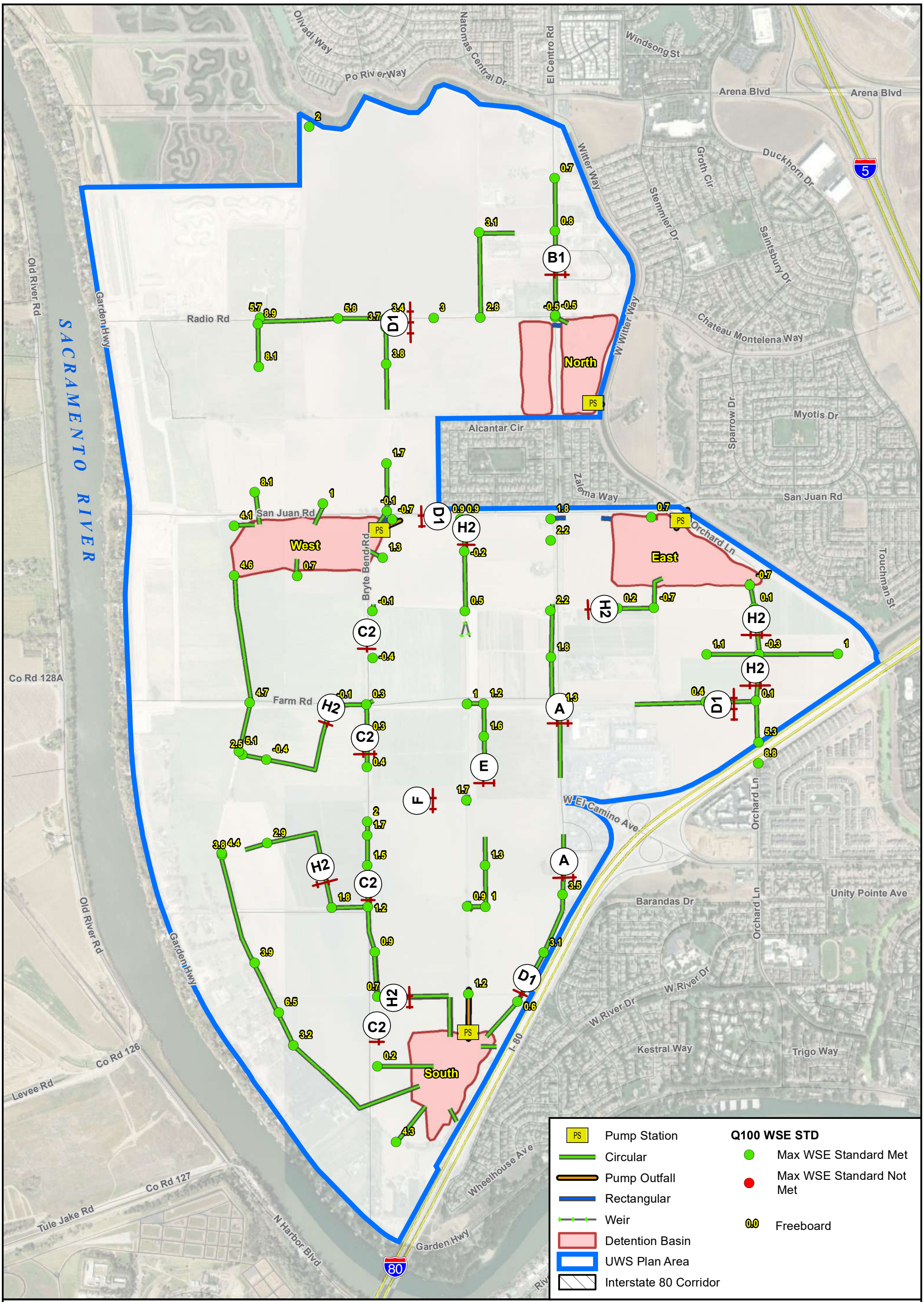
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WOOD RODGERS

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**FIGURE 4.4**




## 100-YEAR, 10-DAY DESIGN STORM
## FREEBOARD WITH 50% OF PUMPS NOT OPERATING

UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY
SACRAMENTO COUNTY, CA
MAY 2024

NOTES: 100-year freeboard to gutter flow line shown
RED = Maximum WSE Standard Not Met
GREEN = Maximum WSE Standard Met
Maximum WSE = 1.0-foot above gutter flow line

NOTE: Street sections can be found in the Upper Westside Roadway Master Plan included in Appendix A

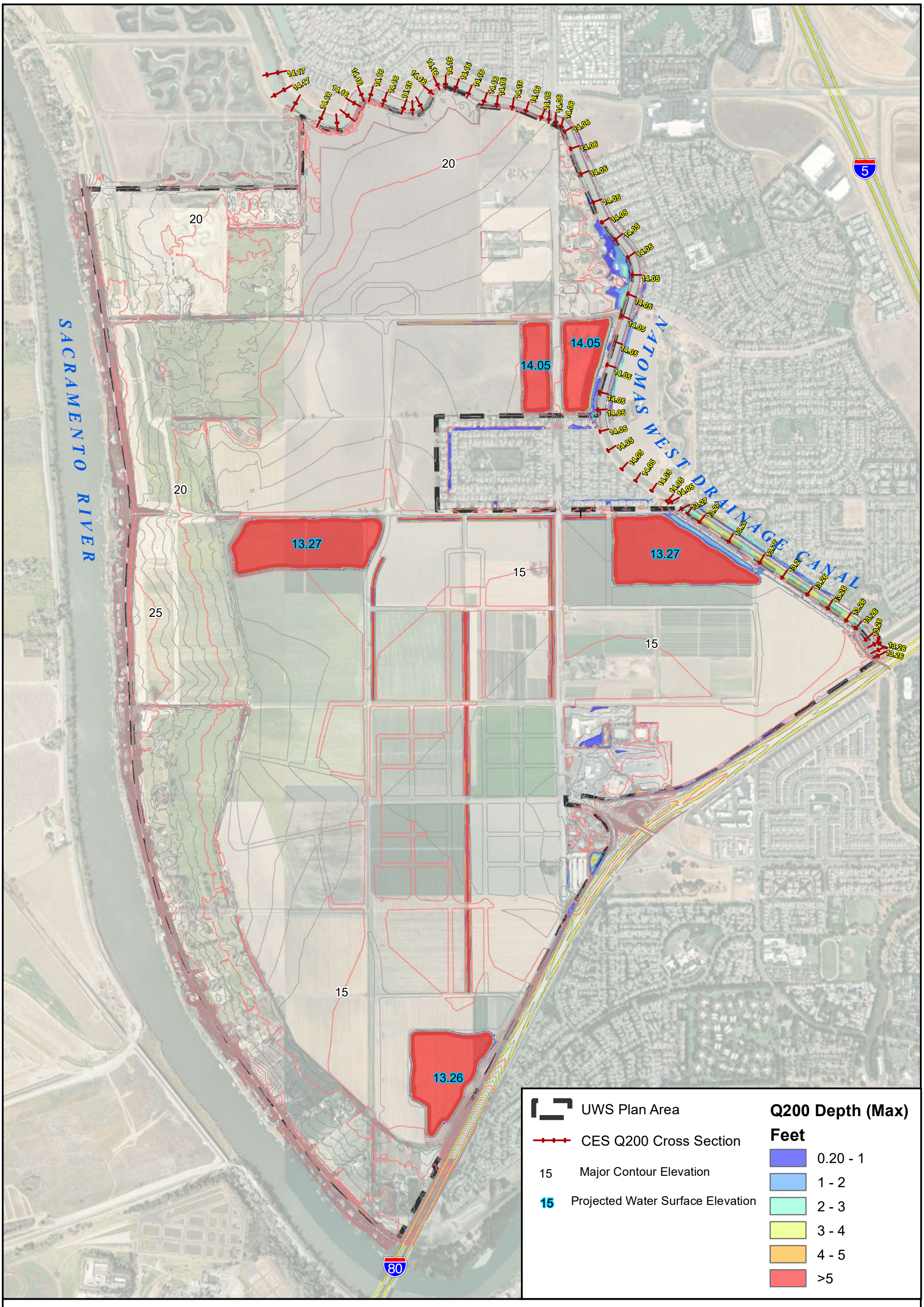
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NORTH

WOOD RODGERS

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**FIGURE 4.5**




**MAXIMUM FLOODPLAIN DEPTH ASSUMING FULL LEVEE FAILURE 200-YEAR, 10-DAY EVENT**

UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY
SACRAMENTO COUNTY, CA
MAY 2024

Data Source: Civil Engineering Solutions,
Preliminary Maximum Water Surface Elevations
in West Drainage Canal
10-day, 200-year storm event

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**FIGURE 4.6**

SACRAMENTO RIVER

NATOMAS WEST DRAINAGE CANAL

North

West

East

South

5

80

**Phasing Layer**

- PHASE 1
- PHASE 2
- PHASE 3
- PHASE 4
- UWS Plan Area
- DEM_TIN_Contours

# CONCEPTUAL PHASING EXHIBIT

UPPER WESTSIDE PLANNING AREA
MASTER DRAINAGE STUDY
SACRAMENTO COUNTY, CA
MAY 2024

0 600 1,200
Feet

NORTH

WOOD RODGERS

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**FIGURE 4.7**

## 5.0 Low Impact Development

The Project will be required to comply with the Sacramento Area-wide NPDES Municipal Stormwater Permit (Order No. R5-2008-0142). This Level 1 Master Drainage Study (MDS) addresses post-construction flow reduction and treatment requirements. The requirements for urban development are detailed in the SQDM. The SQDM provides instructions for how to plan a project to comply with the stormwater quality requirements, how to prepare calculations to support detailed design of flow reduction and treatment control measures, and how to document the plan and analysis to support it.

According to Table 3-2 in the SQDM, the project is required to incorporate source control measures, Low Impact Development (LID) control measures, and treatment controls throughout the site. Full trash capture control measures are required in areas with more than 10 dwelling units per acre, and in commercial areas and parking lots. In subsequent phases of design, trash capture loading rates will be calculated, and regional trash capture methods will be determined. At this time the plan assumes capture of trash at the detention basins as flows enter the pump stations. Table 3-3 in the SQDM provides a matrix of stormwater quality control measures that can be applied to meet the requirements for the various land use categories. Hydromodification management will not be required as discussed below.

The final determination of LID measures and implementation will be determined as the project's design evolves. Information presented in this MDS is provided to demonstrate that LID criteria can be achieved; however, the quantities presented may change or other Best Management Practices (BMPs) may be selected with the final design.

LID measures are typically integrated into site landscaping (including open space, yards, streetscapes, road medians, and parking lot and sidewalk planters) or into the design of paved and other impervious areas, such as building rooftops. Small-scale runoff controls integrated into the project design and located close to the source of the water and pollutants can help reduce the need to convey water and treat it in the large, end-of-pipe facilities that would be located at the downstream end of drainage areas.

Each priority, new development or redevelopment project is required to earn a minimum of 100 points based upon the LID measures selected and implemented. The computational procedure for residential projects

differs somewhat from commercial projects. Compliance with LID principles is required at all stages of approval, including master planning and final improvement or grading plans for individual projects.

LID is intended to reduce the increase in runoff volume that would otherwise be expected from a development by at least 50 percent. Reducing runoff using LID measures reduces the amount of runoff that needs to flow into treatment BMPs.

For this Master Drainage Study, a "high level" plan that explains how the project could achieve the required 100 points of LID credit is required. The Level 1 MDS needs to demonstrate an understanding of the quantity of LID measures that will be required. The SQDM includes detailed submittal requirements (Appendix A of the SQDM) and worksheets (Appendix D of the SQDM) to demonstrate compliance of specific projects that are in the design phase. This Level 1 MDS used the worksheets to assess the effectiveness of LID options. Overall project area land use information was used to identify the number of LID and treatment measures that might be needed to meet the requirements. For this initial evaluation, two "watersheds" (not actual topographic watersheds) were evaluated for the contributing areas to each detention basin, one for the areas that could use the form for residential development and one for the remainder of the project using the form for commercial development. Based on Table D-1a on the Residential calculation spreadsheet, the spreadsheet only applies to residential areas with no more than 20 dwelling units per acre. As detailed plans for project areas are developed, the actual measures that will be implemented will be determined and the appropriate forms and calculations will be provided.

If early phases of the project include more LID than required, future phases can incorporate less LID as long as the required LID credits up to any point in time have been implemented. In other words, future planned work cannot be used to meet the LID credit requirements, but previously completed measures can be counted toward future requirements.

## 5.1 Hydromodification

Per the Sacramento Stormwater Quality Partnership, Hydromodification Management Plan (HMP), the City of Sacramento's North Natomas Basin and unincorporated Metro Air Park are considered Special Drainage Areas and are exempt from hydromodification. This is primarily because the drainage facilities within North

Natomas are engineered to limit post-development discharges and drain to engineered canals that are maintained and operated by RD 1000. The UWS project shares the same drainage discharge characteristics as the City's North Natomas Basin and unincorporated area of Metro Air Park. The project will not increase water surface elevations in the West Drainage Canal which is an engineered canal operated and maintained by RD 1000. Therefore, the project will be exempt from hydromodification.

## 5.2 LID Evaluation / Open Space Credit

Open space is defined as "non-impervious area within the project that is subtracted from the total project area to reduce the area used in sizing treatment BMPs". Because of this benefit, open space is awarded LID credit points. The percentage of open space is translated directly into LID points on a 1:1 ratio (one (1) LID point for each one percent (1%) of open space in relation to the total project area).

For LID implementation, open space includes, but is not limited to, natural storage reservoirs, drainage corridors, buffer zones for natural water bodies, stream setbacks and buffers, and flood control detention basins.

For the purpose of this analysis, the total area of the Project is 2,066 acres. The schools will cover approximately 146 acres and are considered as commercial development in the appropriate LID spreadsheets. Areas designated for agricultural uses (including Urban Farm, landscape corridors, parks, open channels and basins) cover approximately 807 acres, or 42 percent of the net project area. Therefore, the project's open space is expected to provide 42 LID points overall.

**Table 5.1: Land Use Summary for LID Evaluations** provides a summary of the land uses[10], areas and dwelling units used as a basis for the LID evaluation. **Table 5.2** and **Table 5.3** provide land use and open space areas for the residential and commercial area LID evaluations, respectively, for the North Basin as an example of the methodology used for all four basins. The residential and commercial LID worksheets are included in **Appendix F**.

[10] Land uses and acreages may differ from those presented in Section 3.7 due to iterating of the land use plan. Differences produce negligible results at this scale and will be confirmed with subsequent studies.

The columns in **Table 5.2** and **Table 5.3** under the Residential and Commercial Open Space heading correspond to the LID credit calculations forms for the rows in Section 1b, “Project Drainage Shed” for distinguishing the categories of “Project-Specific Open Space (In-project, communal**).” The categories indicated by “b,” “c,” “d” and “e” correspond to “Buffer zones for natural water bodies,” “Natural areas including existing trees, other vegetation and soil,” “Landscape area/park,” and “Flood control/Drainage basins,” respectively.

**Table 5.1: Land Use Summary for LID Evaluations**

| Code | Land Use Description for LID Evaluation | North Basin Area (acres) | West Basin Area (acres) | South Basin Area (acres) | East Basin Area (acres) |
|---|---|---|---|---|---|
| AGRES | Agricultural Urban Reserve | 3 | 18.5 | 13.9 | 9.7 |
| CC | Commercial & Office | 0 | 0 | 1.2 | 0 |
| CHNL | Flood Control Channel | 1.5 | 10.7 | 3.7 | 8.8 |
| AG | General Agriculture | 113.2 | 126.72 | 139.14 | 0 |
| HDR | High Density Residential | 0 | 17.8 | 18.1 | 23.1 |
| E/HC | Highway Commercial | 0 | 0 | 11.1 | 41.8 |
| LC | Landscape Corridor | 7.7 | 4.6 | 11.8 | 14.2 |
| LDR | Low Density Residential | 218.4 | 143.1 | 124.3 | 108.2 |
| LMDR | Low-Medium Density Residential | 14.5 | 34.3 | 44.2 | 40 |
| MDR | Medium Density Residential | 9.8 | 8.6 | 10.3 | 33.8 |
| CMU | Mixed-Use | 6.4 | 7.7 | 7.9 | 59.9 |
| OS | Open Space | 24.2 | 0 | 0 | 11.5 |
| SCHOOL | Public/Quasi-Public | 80.6 | 35.7 | 8.6 | 16 |
| P | Recreation | 12.4 | 18.1 | 22.7 | 29 |
| RDWY | Roadway | 17.5 | 25.3 | 20.7 | 56.6 |
| W | Water/Detention | 20 | 20 | 20 | 36.4 |
| | Grand Total | 529.2 | 471.12 | 457.64 | 489 |

**Table 5.2: Residential Areas and Open Space for LID Evaluation (North Basin)**

| Code | Residential Watershed Area (acres) | Residential Open Space Area (acres) | | |
|---|---|---|---|---|
| | | 1b.c | 1b.d | 1b.e |
| LDR | 218.4 | | | |
| LMDR | 14.5 | | | |
| MDR | 9.8 | | | |
| P | 12.4 | | | |
| AG | 113.2 | 113.2 | | |
| AGRES | 3 | | 3 | |
| LC | 7.7 | | 7.7 | |
| OS | 24.2 | | 24.2 | |
| P | 12.4 | | 12.4 | |
| W | 20 | | | 20 |
| **Total** | **435.60** | **113.2** | **47.3** | **20** |

**Table 5.3: Commercial Areas and Open Space for LID Evaluation (North Basin)**

| Code | Commercial Watershed Area (acres) | Commercial Open Space Area (acres) | | |
|---|---|---|---|---|
| | | 1b.c | 1b.d | 1b.e |
| HDR | 0 | | | |
| VHDR | 0 | | | |
| CMU | 6.4 | | | |
| (Road) | 17.5 | | | |
| CC | 0 | | | |
| E/HC | 80.6 | | | |
| LC | | | 8.7 | |
| **Totals** | **587.6** | **0** | **8.7** | **0** |

## 5.3 Runoff Reduction

Projects receive one (1) LID point for every one percent (1%) of the project area managed through impervious area disconnection and interceptor trees.

Disconnected pavement can be used with a ratio of an impervious-to-pervious surface of 2:1 or less. Impervious surfaces can drain to landscaped areas or to pervious pavement with an area of 50 percent of the tributary impervious area.

Disconnected roof drains can be a highly effective tool to reduce runoff within the Low Density Residential land use areas including VLDR, LDR and LMDR categories. However, disconnected roof drains require detailed planning of minimum travel distance across vegetation and may involve the use of pop-up emitters.

Evergreen trees count for 200 square feet of managed project area and deciduous trees count for 100 square feet of managed project area. The project will include extensive tree plantings. This MDS makes conservative assumptions to estimate the minimum number of trees that will be in areas that count for runoff reduction.

## 5.4 Disconnected Impervious Areas

Disconnected impervious areas can be readily integrated into low- and medium-density lots. A preliminary estimate is that on-lot imperviousness for VLDR, LDR, LMDR and MDR could have an average efficiency factor of 0.45 for 60 percent of the roof drains. The project is calling for extensive use of separated sidewalks in the residential areas. For this MDS it has been assumed that 80 percent of the sidewalks in the residential areas will be separated.

## 5.5 Trees

Trees will be planted along most streets throughout the project area. On average, trees will be planted 30 feet on-center. An average of one tree every 35 feet was assumed to account for locations without trees, such as driveways. On arterials and major collectors that have a 20-foot landscape setback with a separated walk, it has been assumed that there will be two rows of trees: one row of deciduous trees and one row of evergreens. For primary residential streets, it has been assumed that there will be one row of deciduous trees. Our assumptions for tree planting also include trees at 30 feet on-center along the medians with two rows where a plaza is planned. An average tree spacing of 50 feet was assumed to account for areas without trees. For in-tract residential streets, it has been assumed that there would be four trees per VLDR lot, three trees per LDR lot, two trees per LMDR lot and one tree per MDR lot, all deciduous. Although many other trees will be planted, only trees within 25 feet of ground level impervious areas count for flow reduction.

For the MDS, is has been assumed that 3,000 evergreen trees and 7,700 deciduous trees will be planted for LID credit in the residential areas. Estimates for roadway corridor trees in the areas included in the commercial area LID evaluation are for 1,575 evergreen trees and 7,748 deciduous trees. It is likely that additional trees will ultimately be included in some parking areas and other locations. The current estimates

are thought to be conservative, but higher estimates for trees would not be expected to significantly impact the requirements for other BMPs.

## 5.6 Runoff Management

Projects receive 2 LID points for every 1 percent of project area effectively managed though the following runoff management measures:

- Porous Pavement
- Alternative Driveways
- Green Roof
- Capture and Re-Use
- Compost-Amended Soil – 25% of tributary impervious area
- Bioretention BMPs (which may be located in the detention basins, above the permanent pool elevation)

## 5.7 Limitations

Shallow groundwater may limit specific on-the-ground runoff management strategies, such as porous pavement which can only be used where the depth to high groundwater is at least 10 feet. Porous pavement also requires consideration of soil permeability, need for an underdrain and local County permitting. Similarly, compost-amended soil is allowed in areas where the water table is more than 10 feet from the surface. Use of dispersion trenches requires a 10-foot separation to groundwater below trench. Based upon initial groundwater elevation monitoring at the site we anticipate a majority of the plan area to be able to use these methods as solutions toward runoff management.

Local capture and use by rain barrels or cisterns is not expected to be a practical means to achieve significant flow reduction due to the relatively high cost of small rainfall storage tanks. One acre of treatment credit was assumed because it is likely that some demonstration projects will use these types of systems.

Some buildings may incorporate green roofs, but at this preliminary stage no green roofs have been assumed.

It may be feasible to provide stormwater capture and use on a larger scale by providing some landscape irrigation flows from the regional stormwater basins. The feasibility of such systems may be explored in the future, but they have not been included at this stage.

## 5.8 Runoff Management Credits

It is anticipated that bioretention planters will need to be used to manage roadway runoff from the other impervious surfaces. After all other measures were estimated, the area required for bioretention to meet 100 points was determined in the residential areas and in the commercial areas for each detention basin watershed. It is assumed that bioretention planters will be configured with underdrains to meet the design criteria specified in Table BP-1, Bioretention Planter Design Criteria and located in a benched area within the flood detention basins, above the permanent pool elevation. Based on these assumptions, both the residential and commercial areas would achieve 100 LID credits.

The LID measures that would provide the required LID credits do not eliminate the need for supplemental water quality treatment. The worksheets indicate that WQV with a 48-hour drawdown time would be needed to meet the water quality treatment requirements. Numerous options are available to meet the stormwater quality treatment requirement. Options include:

- Providing additional LID measures;
- Providing distributed flow-based or volume-based treatment BMPs; and
- Operating the regional stormwater basins to function as wet stormwater quality detention basins in addition to meeting high flow requirements.

Use of the regional basins for water quality treatment would require a maximum treatment volume of 55 acre-feet (North basin 12 acre-feet, East basin 21 acre-feet, South basin 11 acre-feet, and West basin 10 acre-feet) based on the sum of the volume-based treatment. The method utilizes the same basic assumptions of weighted percent imperviousness and area in establishing the watershed depth and

calculating the required volume as found in Appendix E of the SQDM. The analysis uses the equation WQV = $P_0$ x A/12, as already described in **Table 3.5: Preliminary (Pre-LID) Water Quality Volume Calculations**. If the East Basin were to incorporate all such water quality treatment for the East Basin, the West Basin and the South Basin, the combined volume would be 43 acre-feet.

The design volume would be 1.25 times the treatment volume to meet the wet basin design criteria. Therefore, the design volume, or minimum permanent pool, would be 61.16 acre-feet for water quality distributed over the planned basins. Considering that there are over 100 acres dedicated to the regional drainage basins and that the basins within these areas are planned to have deep (4-8 feet), permanent pools, the design details necessary to meet the minimum requirements for water quality wet basins are not expected to be complex and can be developed at basin improvement plan design, providing a minimum of 400 acre-feet of treated storage. With LID measures accounted for the volume required would be reduced. Additional information for how the water quality treatment requirements will be met will be determined when the Project advances to more detailed planning phases. Water balancing calculations will be required in the next level of analysis to ensure the permanent pool will be maintained in the dry season. Also, a supplemental source of water may be required to maintain the permanent pool during the dry season. The requirement for makeup water will be determined during detention basin design to meet SCDWR requirements.

# 6.0 Quality Assurance / Quality Control

## 6.1 Model Calibration

Model calibration was not performed for the existing or proposed condition models. However, Wood Rodgers prepared a TM to verify the loss rate of 0.014 which is presented in **Appendix B**.

GEI Consultants has been retained by the Sacramento County Department of Water Resources to perform detailed reviews of all modeling efforts.

## 6.2 Model Warnings and Errors Have Been Addressed

All warnings were investigated and changes to the model have been made as necessary.

# 7.0 Future Considerations

In accordance with SCDWR drainage study requirements, subsequent drainage studies will be required as the project moves forward. Level 2 studies will be required to be submitted with tentative subdivision map applications. Level 3/4 drainage studies are required before approval of improvement plans and construction drainage facilities. Subsequent studies will further refine the infrastructure to serve the project.

The following items are assumed to be required as part of subsequent drainage studies:

## 7.1 Low Impact Development

Low impact development design to be evaluated during tentative map design efforts.

## 7.2 Trunk Storm Drain Infrastructure Design

The onsite storm drainage systems conveying runoff into the proposed detention basins, including storm drains and overland release paths, will be evaluated and refined as appropriate to meet requirements under Nolte, 10-year, 100-year, and 200-year conditions under the Tentative Map level and subsequent analyses. This evaluation includes overland release. Drainage inlets will be sized, and overland release estimates will account for 50% clogging, in accordance with County standards.

As previously discussed, climate change was accounted for in the development of this study. SCDWR is expected in the near future to approve the climate change hydrology presented in this report. However, there are no design standards relating to the trunk storm drain infrastructure design under climate change. It is important to note that this report designed storm drain infrastructure utilizing current design standards but with flows resulting from climate change. Therefore, the trunk conveyance infrastructure presented in this report is likely oversized.

Absent of climate change design standards, further discussion with SCDWR will be required to define the appropriate design standards when utilizing climate change hydrology. As a result, it is anticipated that the infrastructure presented in this report will be downsized. This is anticipated to be assessed during subsequent Level 2 drainage studies.

## 7.3 Detention Basin & Pump Station Design

### Geotechnical Considerations

Basin design will require a geotechnical report which discusses the following geotechnical considerations:

- Groundwater and required low-flow pumping
- Proximity to the West Drainage Canal embankments
- Proximity to the Regional San Northwest Sewer Interceptor

### Final Configuration

The final configurations of detention basin design will fully account for all design features affecting the sizes of facilities. Design features include but are not limited to basin ramps (where required), setbacks, side slopes, easements, buffers, inlet structures, outlet structures, walls, and all other features deemed necessary by SCDWR.

For areas tributary to the North Detention Basin, modeling will separately consider the proposed two-cell basin design based on final design considerations.

### Water Quality

The Level 3-4 study shall include a full and detailed explanation of the water quality volumes and LID features proposed within the basins. It is important to note that with the implementation of permanent pools in the bottoms of detention basins, the water quality treatment volume requirements can be easily achieved. This is because the permanent pool provides volumes that far exceed the requirements, as further discussed in **Section 5.0 Low Impact Development**.

Per SCDWR direction, the future Level 3/4 flood assessment is anticipated to discount the volume of the dead storage within LID features. The dead storage provides limited localized temporary storage that relies on infiltration to evacuate otherwise trapped runoff.

### Submerged Pipes

The plan area is anticipated to contain trunk drainage conduits that contain flow lines below the permanent pool elevations of the detention basins. This is due to the relatively flat topography of the Plan Area.

Additionally, State domestic water requirements, relating to utility separation requirements, result in deeper storm drain systems that operate below the domestic water system. Submerged pipes are expected to occur, however submergence of storm drains within the system will be evaluated and eliminated where possible to optimize operation and maintenance concerns.

### Wildlife Management Plan

As previously discussed in Section 4.8 a wildlife management plan will be required concurrent with Level 3/4 drainage studies.

### Number of Pumps including Redundant Pumps

Wood Rodgers recognizes that the SCDWR is in the process of considering changes to its current standards, which may result in modifications with respect to how pumping, redundancy, and flood resiliency are evaluated. This would include how 50% pumping capacity is defined, how modeled failure of pumps is determined, and the maximum flooding associated with such a scenario. Wood Rodgers will continue to collaborate with SCDWR in identifying the design challenges associated with storm drain pump stations standards, to determine the most efficient and cost-effective means of achieving the intent of the standards. Wood Rodgers will work collaboratively with SCDWR to meet the final approved standards, in whatever form they take, at the time of implementation,

## 7.4 500-year Design Storm

The 500-year storm event will be evaluated at the Tentative Map level to ensure building pad elevation requirements are met. The 500-year storm event requirement will only be applicable to the internal watershed and onsite runoff. It will not be based on offsite watersheds including the West Drainage Canal and Sacramento River.

## 7.5 Basin Wide HEC-RAS Model

As discussed in Section 1.3, once the new Natomas Basin 2D HEC-RAS model is adopted, it will be utilized accordingly in subsequent study and modeling efforts.

## 7.6 Ownership, Operation & Maintenance of Facilities

It is anticipated that ownership, operation, and maintenance of Plan Area drainage facilities will be determined during Specific Plan implementation. Further discussion of the varies fundings sources is discussed in the project's Urban Services Plan.

# 8.0 Summary & Conclusions

## 8.1 Summary

The resultant floodplain elevation summary showed that the proposed project resulted in no impacts to the existing floodplain depths. The proposed Project is in compliance with the Sacramento County Floodplain Management Ordinance.

The Mitigated Project includes detention and pump stations to reduce runoff so that no impacts to peak water surface elevations are shown in the West Drainage Canal. Preliminary analysis of the RD 1000 XPSWMM model using input hydrographs generated from the Plan Area for the existing and proposed conditions shows no increase in all areas of the RD 1000 drainage system.

The maximum WSE at the upstream headwall of the dual 36-inch reinforced concrete pipe under I-80 accepting flows from the existing River Oaks development is lower than existing conditions in all 100-year modeling scenarios, with only one of the 100-year scenarios generating overflow and spilling into the Plan Area with climate change factors applied. Therefore, the proposed project will not have adverse impacts on the existing River Oaks development. Other culvert crossings under I-80 draining to the South Basin were analyzed and found to have no adverse impacts. Existing River View development was also analyzed and found to be hydraulically separate from the Plan Area, as it fully drains under the West Drainage Canal in the 100-year storm as originally designed.

Agricultural and Agricultural/Residential properties to the west of the plan area and areas along the I-80 corridor will be modeled at tentative map levels and improvement plans to verify the intent of having no adverse impacts once onsite grading and storm drainage facilities are more defined.

## 8.2 Conclusions

This Level 1 Master Drainage Study identifies the improvements required in the Plan Area to meet SCDWR and other applicable standards. Drainage improvements include a backbone trunk system including drainage channels and pipes, detention basins, and pump stations to discharge flows to the West Drainage Canal.

Based on the analysis performed with this Study, the proposed project:

- Will not deviate from existing drainage patterns;
- Will not cause adverse impacts to the West Drainage Canal or RD 1000 facilities;
- Will not cause adverse impacts to the existing River View #2 development;
- Will not cause adverse impacts to culverts crossing under I-80
- Will not cause adverse impacts to the existing River Oaks Development; and
- Will not cause increases to WSEs and floodplain extents for Remaining Agricultural Areas within the Plan Area and, therefore, is in compliance with Sacramento County Floodplain Management Ordinance.

The Study has also developed approaches to meet post-construction NPDES requirements following the guidelines in the Sacramento Stormwater Quality Manual.

# APPENDIX HYD-2

## UPPER WESTSIDE FLOOD INUNDATION PROPAGATION PROCEDURAL/TECHNICAL MEMORANDUM

**Department of Water Resources**
Matt Satow
Director

**Divisions**
Water Supply
Drainage
Administrative Services/Finance

## County of Sacramento

**Date: 07/01/2024**

**To: Emma Patten**
**Todd Smith**
County PER

**Subject:** Upper Westside Specific Plan (PLNP2018-00284) – County DWR Comments on the Flood Inundation Propagation Procedural Memorandum Dated 05/31/2024.

County DWR has no further comments on the subject procedural memorandum. Review by County DWR was limited to the overall content of the procedural memorandum and did not include technical review of the modeling used for the inundation analysis, emergency and evacuation procedures, or the criteria used to deem flooding as "not to be material from a public safety or flood damages perspective." A technical review of the flood inundation analysis was conducted by GEI and any comments from their review should be addressed.

Please feel free to call if you have any questions.



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Sacramento County Department of Water Resources
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Cc
**Michael Durkee, P.E.**
County DWR
**Chris Ferrari, P.E.**
GEI

MACKAY & SOMPS
ENGINEERS PLANNERS SURVEYORS

# UPPER WESTSIDE
# FLOOD INUNDATION PROPAGATION
## Procedural/Technical Memorandum




Prepared By:

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**MAY 31, 2024**

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MACKAY & SOMPS
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# PROCEDURAL/TECHNICAL MEMORANDUM




To: Nick Avdis
From: Ken Giberson
Cc: Todd Taylor – Sacramento County Planning Dept.
Date: May 31, 2024
Job No.: 27035.000
Subject: Upper Westside – Flood Inundation Propagation

---

## 1. INTRODUCTION

Sacramento County Planning and Environmental Review Department requested Upper Westside (Project) prepare a Procedural/Technical Memorandum (PM) and supporting maps that show the cumulative inundation propagation in the Natomas Basin (Basin) in the event of a Natomas Basin levee failure. **Exhibit 1** shows the location of Upper Westside within the Basin. Staff requested the Procedural/Technical Memorandum include the depth of potential flooding, timing of potential flooding and flow direction.

Specifically, on September 15, 2020, Staff requested the Applicant to provide, among other items, the following information to support Staff's analysis of the project:

> *"Technical memorandum and supporting maps that show the cumulative inundation propagation in the Natomas Basin in the event of Sacramento River failure or NEMDC levee failure. This should include the depth of potential flooding, timing of potential flooding, and flow direction. Cumulative development assumptions should include Sutter Point [sic], Grandpark, Metro Air Park, Sacramento International Airport, and City of Sacramento development."*

This PM is being submitted to Sacramento County Office of Planning and Environmental Review in response to this request.

The intent of these requests was to determine whether development of the Upper Westside Specific Plan would trigger a need to update the "2015 City/County of Sacramento Flood Evacuation Plan for the Natomas Study Area" (2015 City/County Evacuation Plan) or the County of Sacramento, Sacramento County Multi-jurisdictional

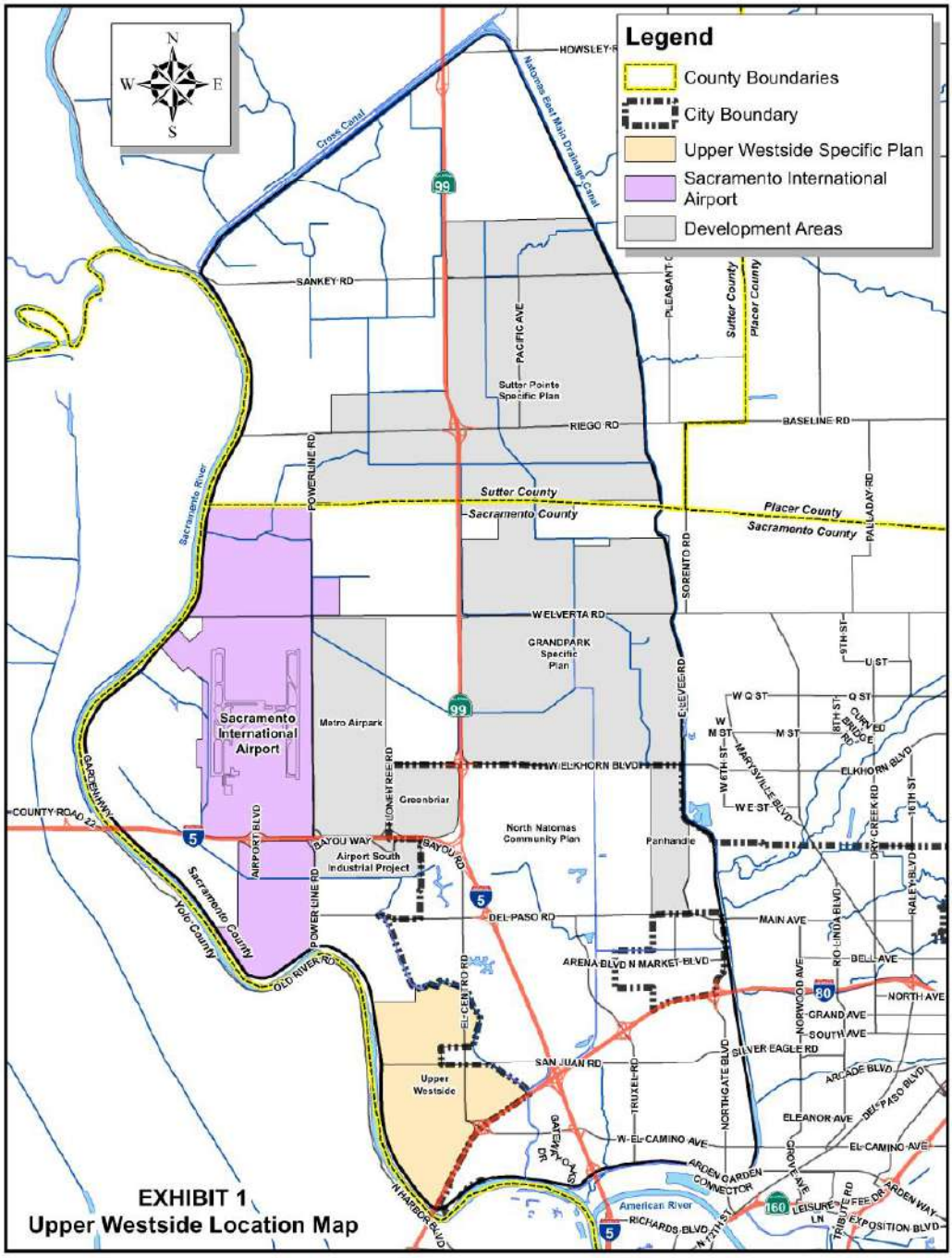



**Exhibit 1**
**Upper Westside Location Within Natomas Basin**

Local Hazard Mitigation Plan Updated in 2021 (2021 LHMP).[1] Any changes that may be needed in the 2015 City/County Evacuation Plan or the 2021 LHMP resulting from the development of Upper Westside will be identified in this PM.

Therefore, this PM was prepared in response to the Staff's request for technical information that would be needed to update the County's evacuation planning documents. These documents would need to be updated to reflect emergency response operational and/or tactical changes that may be needed over time as Upper Westside is developed.

Accordingly, this PM is a planning level study to assist County flood management emergency response professionals to plan for and evaluate the flooding affects within the Basin for Cumulative Plus Project Conditions (C+P). The cumulative conditions are more particularly described in Section 5 of this PM.

The analysis and modeling prepared to support this PM did not create the levee breach modeling that was used during the preparation of the 2015 City/County Evacuation Plan. Rather, the analysis and modeling prepared for this PM merely updated the 2015 modeling (e.g., updating the breach modeling using the current modeling software and correcting minor modeling errors) along with using the best available topographic mapping information. The 2015 modeling incorporated basic assumptions (e.g., levee breach formation assumptions) from an earlier prepared model of the Sacramento and American River systems that included predetermined river stage/flow assumptions.

Levees can fail in a number of ways. The most frequent and dangerous form of levee failure is a breach. A levee breach is when part of the levee actually breaks away, leaving a large opening for water to flood the land protected by the levee.

A levee breach can be a sudden or gradual failure that is caused either by overtopping from excessive flows and wave actions in the adjoining rivers and canals, or by a subsurface failure of the levee. Either mode of failure can quickly lead to incipient instability and rapid rupture of a levee.

Failure of a levee can result in catastrophic consequences within a relatively brief period of time after initiation of the breach – perhaps suddenly or within a small number of hours. In compliance with the requirements of the State of California's ULOP (Urban Level of

[1] The 2015 City/County Evacuation Plan includes a series of flood evacuation route maps which deal with potential levee breach scenarios. These maps are meant to assist emergency officials, first responders and the general public on how to evacuate from the Basin in the event of a flood emergency. Emergency officials, first responders and the general public should not assume that the evacuation routes shown on the maps will necessarily be the best way to evacuate from the community during a flood event. These evacuation routes could be affected by localized flooding, traffic accidents, and different flooding situations occurring at the same time. Emergency officials should monitor roadway conditions and advise the public through radio stations and other media if alternate routes should be taken. This caution applies equally to the various maps and exhibits presented in this PM.

Flood Protection) and ULDC (Urban Levee Design Criteria), SAFCA and the U.S. Army Corps of Engineers, though their joint Natomas Levee Improvement Project (NLIP), have designed and are continuing to strengthen the levee system surrounding the Basin to address the potential for levee failure from both overtopping and subsurface failure.

The design and construction of the levee system surrounding the Basin includes measures that are intended to prevent failure of the levee in the event of overtopping and subsurface failure. Notwithstanding the design and construction of this levee system to withstand these forces resulting in a levee breach, it is theoretically possible for a breach to occur.

Accordingly, this PM summarizes the results of rigorous technical analysis of the effects of flooding within the Basin should a levee breach actually occur in the levee system surrounding the Basin. Based on the above-mentioned analysis, with a few very minor exceptions, the analysis performed for this PM indicate that the development of Upper Westside will not have a material effect on either:

1. The time to inundation of 1-foot depth of flooding over critical roadway locations along the regional evacuation routes within the Basin during a catastrophic levee breach, or
2. The maximum depth of flooding within the Basin during a catastrophic flooding event.

The very minor exceptions noted in this Procedural Memorandum are neither individually nor cumulatively remarkable, and therefore not particularly notable. As they are de minimis in nature, they are deemed not material for the purposes of this PM.

Further, based on the analysis provided in this PM, the 2015 City/County Evacuation Plan will require only nominal changes resulting from development of Upper Westside, and the 2021 LHMP will not require any changes resulting from development of Upper Westside.

## 2. UPDATE OF 2015 GEI FLOOD MAPPING

This evaluation is based upon the 2015 GEI levee breach analyses of the Natomas Basin as a part of the 2015 City/County Evacuation Plan. The 2015 City/County Evacuation Plan identified seven (7) hypothetical locations around the Basin where levee failures might potentially occur. These locations are typified by significant differences in the water surface elevations in the adjoining river or stream during peak flood events and the elevation of the existing ground at the landside toe of the levee at that location. Under these conditions, the hydrostatic pressure on the levee is relatively high when compared with other locations around the levee system where the elevation of the ground at the landside toe of the levee is higher (e.g., along the levee on the east side of the Basin northerly of Del Paso Road).

It is these locations, where the hydrostatic pressures on the levees are relatively high, where levee failures are more likely to occur, and if they were to fail, they would likely result in the potential for catastrophic flooding of the Basin. These seven (7) locations were evaluated in the 2015 City/County Evacuation Plan for their potential to flood the Basin in the event of a levee breach.

The 2015 GEI levee breach analysis upon which the 2015 City/County Evacuation Plan was modeled utilized HEC-RAS Version 4.1.3 – which was then state-of-the-art flood plain modeling software. The 2015 modeling was updated for this PM in 2022 using the following newer state-of-the-art version of the HEC-RAS (Version 6.2) hydraulic modeling software utilizing Two-Dimensional (2D) terrain modeling techniques. This version of the updated modeling software allows for a more advanced and better analysis of the duration of time for the levee breach flood wave to propagate across terrain.[2]

While the previous levee breach analysis utilized modeling software that was state-of-the-art at the time, the newer version of the modeling software includes several enhanced modeling techniques that do a superior job of estimating overland flow rates and durations utilizing two-dimensional algorithms. This enhanced technology was not available in the earlier version of the software. Therefore, the engineering community widely uses the updated software because it produces more accurate and reliable results.

This updated analysis also improves and/or corrects several mapping and modeling deficiencies that existed in the previous modeling. As such, this analysis provides a current and more accurate estimate of the potential flooding conditions that could have occurred in 2015 and that could occur with implementation of the Upper Westside Specific Plan and the other reasonably foreseeable projects (i.e., under cumulative conditions) in comparison to earlier analyses.

## 3. NATOMAS BASIN FLOOD SETTING

The Basin is surrounded by 42± miles of flood control levees. This levee system protects the Basin from flooding from the Sacramento and American Rivers, the Natomas Cross Canal, and the North East Main Drainage Channel (NEMDC).

The Basin encompasses 55,000± acres of urban and agricultural land uses. The Basin is crossed by two (2) interstate freeways (I-80 and I-5), State Route 99, and several major arterials and throughfares. One of the Sacramento region's most important transportation assets, the Sacramento International Airport, is located within the Basin.

[2] This version of HEC-RAS utilizes the Shallow Water Equation to solve two-dimensional flow problems.

The exact location of future potential levee failures cannot be predicted with certainty. However, the location of potential failures could hypothetically include the Cross Canal Levee, the Sacramento River Levee, the American River Levee, and the NEMDC Levee.

In 2015, at the request of the City of Sacramento and the County of Sacramento, GEI Consultants, Inc., (GEI) performed levee breach (levee failure) analyses for seven (7) hypothetical locations along different reaches of the Natomas Basin Levee System that have the hydrostatic condition described above. These locations are shown on **Exhibit 2** as well as listed below:

1. **Breach 1**: Natomas Cross Canal at River Mile 1.35 (approximately 1.3± miles east of the confluence with the Sacramento River)
2. **Breach 2**: Sacramento River at River Mile 77.584 (approximately 0.8± miles north of the Riego Road/Garden Highway Intersection)
3. **Breach 3**: Sacramento River at River Mile 74.0 (approximately 0.8± miles south of the Elkhorn Blvd./Garden Highway Intersection)
4. **Breach 4**: Sacramento River at River Mile 66.924 (approximately 0.1± miles east of the Power Line Road/Garden Highway Intersection)
5. **Breach 5:** Sacramento River at River Mile 64.104 (approximately 0.5± miles north of the Sacramento Weir)
6. **Breach 6:** American River at I-5 Bridge (approximately 0.2± miles east of the confluence with the Sacramento River)
7. **Breach 7:** NEMDC at I-80 Bridge (approximately 0.2± miles south of the I-80 Bridge)

In the event of a levee failure, flood waters will enter the Basin and flow to the lowest points within the Basin. Over time, as these flood waters continue to fill the Basin, evacuations will likely occur to allow people in the most vulnerable locations to move to high ground and/or leave the Basin by one of many evacuation routes. With regard to evacuations, the most critical measure of safety is the duration of time for the flood waters to fill the lowest locations along the evacuation routes.[3]

In addition to a potential levee failure, the Basin is susceptible to flooding from the “Sankey Gap.” The Sankey Gap is a low point in the Basin’s east levee where Sankey Road crosses

[3] When considering the rapidity of flooding, the concept of “duration of time” is sometimes incorrectly referred to as “velocity”. For example, when someone asks, “How fast does the flooding occur?”, they are concerned about the duration of time until flooding occurs, and not necessarily the velocity at which the flood waters travel across the ground.

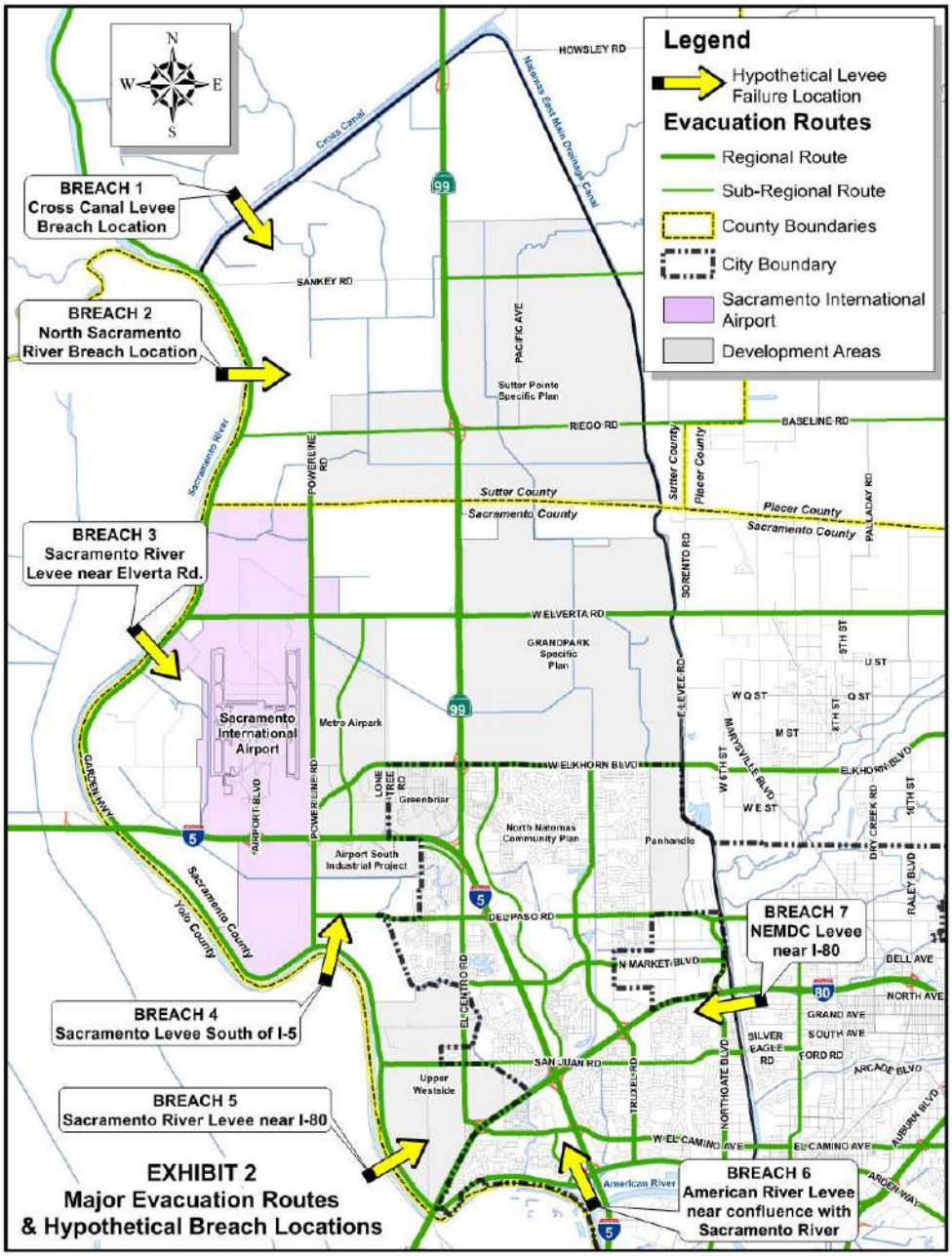



**Exhibit 2**
**Major Evacuation Routes & Hypothetical Levee Breach Locations**

the levee.[4] During periods of high flows in the Sacramento River, the runoff from eastern Sutter County and western Placer County back up in the Natomas Cross Canal and NEMDC (a.k.a., Steelhead Creek).

In the absence of future flood protection improvements along the Sacramento River upstream of the Natomas Cross Canal (e.g., widening of the Fremont Wier), the peak water surface elevations in the Sacramento River will create high stages in the Natomas Cross Canal and Steelhead Creek during peak flood events, and as a result, flood waters may spill through the Sankey Gap and enter the Basin.

The levee system protecting the Natomas Basin is being strengthened and improved by the Sacramento Area Flood Control Agency (SAFCA) to meet 200-year levels of flood protection.[5] SAFCA has a stated goal to improve the overall level of flood protection for the greater Sacramento metropolitan area, including the Basin, beyond the 200-year levels, with a longer-term goal of achieving 500-year level of flood protection for the region.

In summary, SAFCA has a stated goal to get the region to the highest level of flood protection possible. Of course, in order for SAFCA to meet the goal of 500-year level of flood protection, formal approval of additional flood protection improvements by the SAFCA Board of Directors will be required.

In improving the levee system, SAFCA and its partners are required to comply with local, State and Federal design standards and requirements that ensure the levee system can withstand a wide range of design events. Included in these design standards is a requirement that the levees do not experience a catastrophic failure when overtopped by flood events that exceed their nominal design capability. In essence, these design standards and requirements result in levee systems, that once certified, are unlikely to fail even if overtopped.[6]

In conjunction with this anti-catastrophic design standard, SAFCA has developed and implemented several levee operation and maintenance programs and associated long-term financing vehicles that are designed to prevent flooding of the Basin. These programs and financing vehicles provide for the long-term operation and maintenance of the levee system and the ability to meet these types of standards as they evolve over time.

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[4] This low point is a legacy feature left over from the earliest days of reclamation of the Basin. The “gap” protected upstream lands within eastern Sutter County and western Placer County from additional flooding than would have otherwise occurred after construction of the levee system around the Basin in the early decades of the twentieth century but for the creation of a “gap” in the levee.

[5] SAFCA has several local, State, and Federal partners that are working together to protect the Sacramento region from flooding.

[6] Overtopping of a levee, while a serious event in itself, results in significantly less flood water volumes entering the Basin when compared to a structural failure and washout of a levee as analyzed in this PM.

Nonetheless, it is theoretically possible that the levee system could experience a catastrophic failure. However, the design standards and requirements described above, along with (1) the continuing efforts of SAFCA to reach its long-term goal to get the region to the highest level of flood protection possible, and (2) the long-term operation and maintenance programs being used by SAFCA, effectively reduce the probability of a catastrophic levee failure for the Basin to an extremely low level.

## 4. EVACUATION ROUTES

The principle of evacuation is to move citizens from a place of relative danger to a place of relative safety via a route that does not pose significant danger. There are ten (10) major roadways within the Basin that can be considered regional evacuation routes in the event of a flood. There are several other sub-regional evacuation routes that are available to the driving public during a flooding event.

Several of these roadways have more than one low point that could potentially pose a significant barrier to the driving public if a regional evacuation route were flooded.

In total, there are eighteen (18) critical locations along the ten (10) regional evacuation routes where flooding of these evacuation routes should be considered to pose an evacuation limitation for the driving public if flooding were more than one (1) foot in depth.[7] These critical locations are shown graphically on **Exhibit 3**.

These eighteen (18) critical locations are summarized as follows:

1. Del Paso Road
    a. Del Paso Road approximately 0.1± miles east of Natomas Road
2. El Camino Avenue
    a. El Camino Avenue approximately 0.1± miles east of Truxel Road
3. Elkhorn Boulevard
    a. Elkhorn Boulevard approximately 1.0± miles west of Natomas Road
    b. Elkhorn Boulevard West approximately 0.8± miles east of Power Line Road
4. Elverta Road
    a. Elverta Road approximately 1.8± miles east of State Route 99
    b. Elverta Road West approximately 0.5± miles east of Power Line Road

[7] This standard was established in the 2015 GEI levee breach analysis for the Natomas Basin as a part of the City/County of Sacramento Flood Emergency Evacuation Plan for the Natomas Study Area (dated December 2015).

5. Interstate 5 (I-5)
    a. I-5 Central approximately 0.6± miles south of Del Paso Road
    b. I-5 Junction approximately 1.2± miles east of Power Line Road
    c. I-5 West approximately 0.6± miles west of Airport Boulevard
6. Interstate 80 (I-80)
    a. I-80 Central approximately 0.8± miles west of Interstate 5 (I-5)
    b. I-80 East approximately 0.4± miles east of Truxel Road
    c. I-80 West approximately 1.0± miles east of the Sacramento River Bridge
7. Natomas Road
    a. Natomas Road approximately 0.4± miles south of Elkhorn Boulevard
    b. Power Line Road approximately 0.5± miles south of Elverta Road
8. San Juan Road
    a. San Juan Road approximately 0.5± miles east of Truxel Road
9. State Route 99 (SR-99)
    a. SR-99 approximately 1.0± miles north of Elverta Road
    b. SR-99 North approximately 0.1± miles south of Sankey Road
    c. SR-99 South approximately 0.7± miles south of Elkhorn Boulevard
10. Power Line Road
    a. Power Line Road approximately 0.2± miles south of Elverta Road

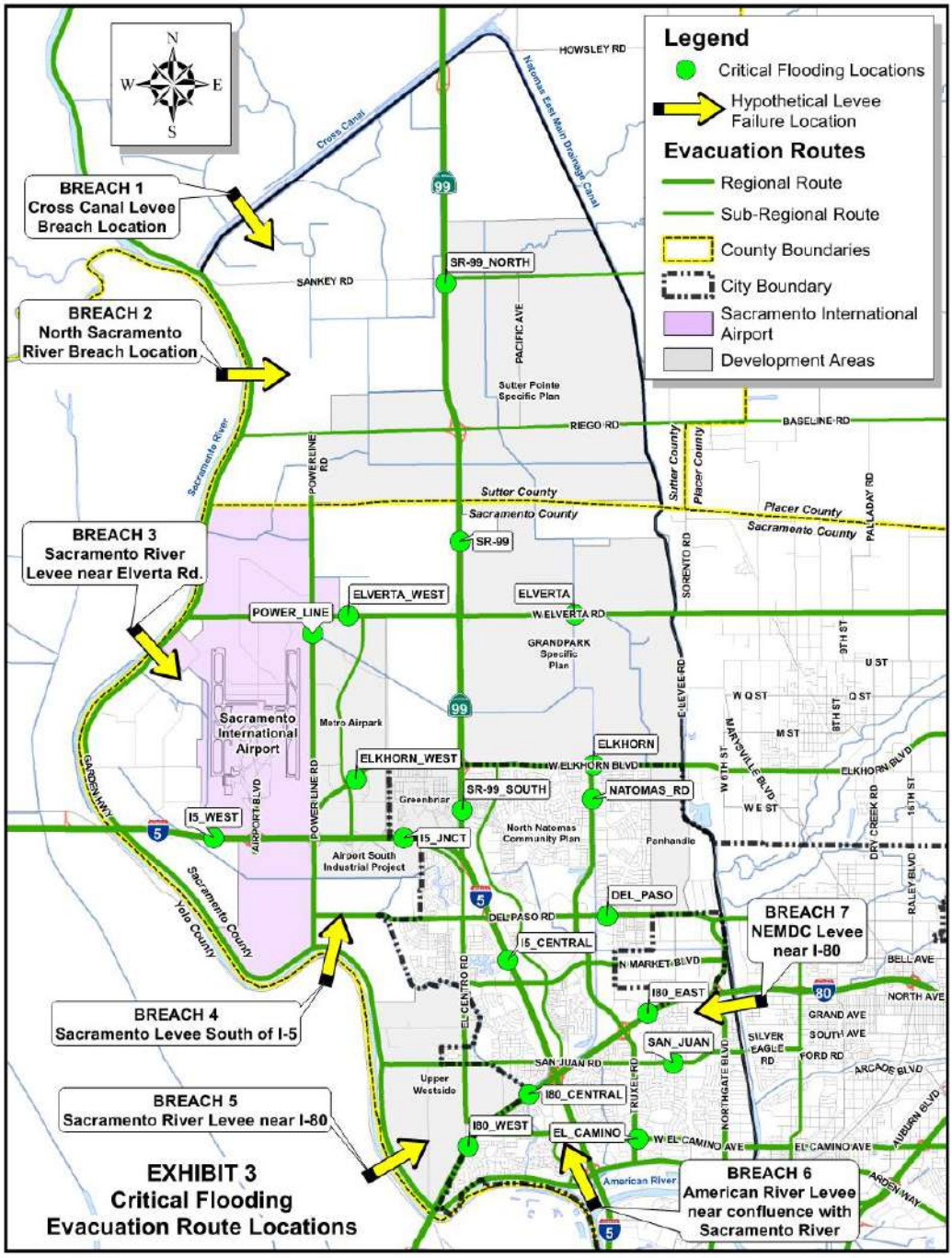



**Exhibit 3**
**Critical Flooding Evacuation Route Locations**

## 5. METHODOLOGY

The 2015 levee breach HEC-RAS hydraulic models and analysis were obtained from GEI by Civil Engineering Solutions, Inc. (CESI). The 2015 levee breach modeling evaluated levee breaches at the seven (7) theoretical locations described above and shown on Exhibit 2. CESI updated these models as described below to better estimate the projected rate of inundation and the maximum depth of flooding within the Basin post development of Upper Westside.[8] CESI coordinated its modeling effort with GEI to ensure the updated modeling was performed correctly and that the resulting output of the updated modeling yielded comparable results to the 2015 GEI models.[9]

The 2015 levee breach model was updated as follows:

1. **Updated HEC-RAS Software**. CESI updated the 2015 GEI flood modeling to HEC-RAS Version 6.2 (One-Dimensional (1D)) modeling from HEC-RAS Version 4.1.3 (1D) modeling. GEI used HEC-RAS Version 4.1.3 (1D) in the preparation of the 2015 mapping effort. Once the conversion was complete, CESI checked for error messages. The newer version of the software detected several errors in the geometry file that were not evident in the previous version of the software (e.g., a Htab parameter error in the geometric files in the HEC-RAS model noted a point where the starting elevation of a water surface is set lower than the invert of a channel). CESI corrected the errors by making modifications in the geometry file.
2. **Verification**. Prior to making any adjustments to the model to reflect the best available topographic and development information, CESI ran the updated HEC-RAS Version 6.2 1D models for each breach scenario to determine if it produced results that were generally consistent with the 2015 GEI models. In each case, CESI found the results from the HEC-RAS Version 6.2 (1D) modeling was similar to the published HEC-RAS Version 4.1.3 (1D) modeling results of the 2015 GEI models for both durations in time to 1-foot depth of inundation at the critical locations along regional evacuation routes and for the maximum depth of flooding

[8] The results of the CESI modeling were reported in CESI's Technical Memorandum No. 0040 which are included in Appendix B of this PM.

[9] The GEI models were based upon river modeling of the Sacramento and American Rivers prepared by SAFCA and/or the California State Department of Water Resources (or by consultants working for one of both of these agencies). In 2015, GEI further developed these HEC-RAS 1D models for the Natomas Basin Levee Breach analysis. That analysis resulted in the flood maps contained in the 2015 City/County Evacuation Plan. For the 2015 analysis, the City & County of Sacramento determined the locations of the seven (7) perimeter levee breach locations. The 2015 GEI models do not include allowances for the effects of climate change. Nonetheless, the rate of flood inundation propagation of the Basin during a climate change influenced catastrophic levee breach would not measurably differ from the results shown in this PM.

within the Basin. [10] This comparison of the time to inundation of 1-foot depth of flooding over the critical roadway locations and the maximum depth of flooding within the Basin verified that the updated model was sufficiently accurate to provide dependable and reliable results during the subsequent model runs.

Upon completion of this effort, CESI consulted with GEI wherein GEI and CESI mutually agreed that the updated modeling provided comparable results to the 2015 GEI modeling when utilizing similar assumption sets. In essence, this consultation process provided a form of peer review of the updated modeling effort.

3. **Updated Terrain Modeling**. CESI updated the terrain modeling to 2-Dimensional terrain modeling (2D Modeling) from the 1D terrain modeling (1D Modeling) used in the 2015 modeling effort. The HEC-RAS Version 6.2 2D modeling algorithms are superior to HEC-RAS Version 4.1.3 1D modeling algorithms when evaluating flood storage volumes and duration of time for flooding to occur. The HEC-RAS Version 6.2 is recognized by the engineering community for its superior capabilities to analyze flooding using 2D terrain surfaces more accurately as compared to HEC-RAS Version 4.1.3 that only utilized 1D terrain models.

   Since no terrain model was available from the previous modeling effort, CESI produced a current existing conditions topographic model that was used to produce a current digital terrain model for all 2D modeling analyses. It should be noted that Staff from the County Department of Water Resources requested the updated terrain model include an assumption of a fully developed grading plan for Metro Air Park for the existing conditions terrain model. This was added to all models.

4. **Breach Depth Correction**. The updated software detected errors not evident in the previous modeling relating to the depth of the breach at some locations. The previous model included adjacent ground elevations at some breach locations where the specified minimum elevation of the breach was below the adjacent ground elevations within the Basin at the landside toe of the levee (e.g., inaccurate spot elevations representing channel elevations near the levee). Specifically, this situation was observed for Breach 6, and to a lesser degree for Breach 3.

   In these cases, the lower ground elevations resulted in more excessive breach depths and formation size than were reasonable given the adjacent levee toe elevations. CESI noticed that HEC-RAS Version 6.2 automatically made the necessary corrections thereby eliminating the prediction of greater flood volumes surging through the breach than could be reasonably anticipated. Also, this

[10] The durations of time to 1- foot depth of flooding reported in this PM represents the times at the respective data points that were reported throughout the duration of the modeling period.

correction affected the timing and ability of flood waters to move through the breach, and therefore throughout the Basin.

These corrections allowed for a better estimate of flood water volumes entering the Basin. When these changes were made, CESI found that the updated models projected a lower rate of flow being conveyed through the affected breaches (i.e., through Breach 6 and to a lesser degree through Breach 3), and into the Basin. CESI found that this change resulted in a lower total volume of flood water entering the Basin (and the aerial extent of flooding).[11] Additionally, the smaller breach sizes resulted in a longer duration of time until 1-foot depth of flooding occurred at the critical locations along the evacuation routes.

5. **In-Situ Storage Correction**. The updated HEC-RAS Version 6.2 software utilizes 2D Modeling to estimate overland flow storage volumes and durations of time while transmitting the flows to downstream conveyance facilities and storage areas. The previous model did not have this capability. Typically, this change increases the accuracy of the modeling effort and results in better estimations of duration of flooding until critical flood levels are achieved (e.g., at critical locations along regional evacuation routes). This correction in the models was an automatic result of CESI's decision to convert the modeling from HEC-RAS Version 4.1.3 (1D) to HEC-RAS Version 6.2 (2D).

## 6. LEVEE BREACH & RIVER STAGE ASSUMPTIONS

The 2015 GEI modeling included a number of preset levee breach and river stage assumptions. A review of these preset assumptions provides insight into the level of accuracy and precision that should rightfully be implied when reviewing and interpreting the modeling results presented in this PM.

### 1. Levee Breach Assumptions

The 2015 GEI modeling contained preset assumptions regarding the mode of levee breach failures that might be expected to occur on the levee system protecting the Basin. California DWR originally developed these theoretical assumptions from generalizations based on historical levee breaches, These

[11] The elevation of natural ground on the inland side of a breach has a significant effect on the rapidity and total volume of flow passing through the breach. While a scour hole at the breach location can occur, for the purposes of this modeling exercise, scour was not assumed to occur. This assumption is consistent with the assumption used in the 2015 breach analysis.

assumptions, which relate to the size, shape, width, and timing of formation of levee breaches, were not changed in the modeling performed for this PM.

However, in all probability, if one of the Basin's levees were ever breached, the actual size, shape, width, and timing of formation will likely deviate from the theoretical assumptions included in the models – perhaps unpredictably. That is, in the unlikely event of a levee breach, the rapidity of failure and the resulting rate of inundation propagation will likely vary from the results projected by the modeling prepared to support this PM.[12]

This is important from a flood evacuation planning perspective. The durations of time to 1-foot depth of flooding at the eighteen (18) critical locations along the regional evacuation routes predicted in this PM may seem readily predictable. However, given the inherent uncertainties in the predictability of the variability and mode of levee failures, these durations of time should be considered a guide rather than a certitude from an evacuation planning perspective.

**2. River Stage Assumptions**

Similar to the levee breach assumptions mentioned above, the 2015 GEI model included preset assumptions regarding the flood flows and stages (the water level in the river) of the surrounding rivers and canals, and the timing of a breach occurrence. These assumptions were not changed in the modeling performed for this PM.

The stage of the river directly affects the rate of flow through a levee breach, and the resulting rapidity of flooding and the maximum depth of flooding behind the levee. Since the stage of the river varies over time during a flood event, the timing of a breach vis-à-vis the river stage at the moment of breach occurrence will determine the rate and depth of flooding behind the levee.

Accordingly, like the levee breach assumptions, in all probability, the actual timing of levee failure will deviate from the theoretical assumptions included in the models – perhaps unpredictably. That is, in the unlikely event of a levee breach, the rapidity of failure and the resulting rate of inundation propagation will likely vary from the results projected by the modeling prepared to support this PM.

[12] Typically, when a levee breaches, the breach opens relatively slowly at first. Then, as the breach widens and deepens, flood flows from the breach will radically increase within a brief time period after initiation of the breach event. This phenomenon, breach initiation to full breach conditions, can occur within a matter of a few hours.

Again, this is important from a flood evacuation planning perspective. The actual durations of time to 1-foot depth of flooding at the eighteen (18) critical locations along the regional evacuation routes identified in this PM will likely deviate from those values reported due to the uncertainties associated with river stages at the time of breach occurrence. The uncertainty of the stage of the surrounding rivers and canals surrounding the Basin's levees needs to be taken into consideration. The durations of time reported in this PM should be used as a guide rather than a certitude from an evacuation planning perspective.

## 7. FLOOD MODELING

### A. Existing Conditions

Substantial urbanization exists with the southern and southeastern portions of Basin. These existing urbanized areas are generally described as follows:

#### 1. City of Sacramento

a. **I-80/I-5 Northeast Quadrant** – Generally bounded by Elkhorn Blvd. on the north, the NEMDC on the east, I-80 on the south, and the I-5/SR-99 corridor on the west.

b. **I-80/I-5 Southeast Quadrant** – Generally bounded by I-80 on the north, the NEMDC on the east, the American River on the south, and the I-5/SR-99 corridor on the west.

c. **I-80/I-5 Southwest Quadrant -** Generally bounded by I-80 on the north, the I-5/SR-99 corridor on the east, the American River on the south, and the Sacramento River on the west.

d. **I-80/I-5 Northwest Quadrant** – Generally bounded by Arena Blvd. on the north, the I-5/SR-99 corridor on the east, I-80 on the south, and El Centro Road on the west.

e. **I-5/SR-99 Southwest Quadrant** – Generally bounded by I-5 on the north, the I-5/SR-99 corridor on the east, Arena Blvd. on the south, and Fisherman's Lake on the west.

f. **I-5/SR-99 Northwest Quadrant** – Generally bounded by Elkhorn Blvd. on the north, the I-5/SR-99 corridor on the east, I-5 on the south, and Metro Air Park on the west.

2. **Sacramento County**

    a. **Sacramento International Airport** – Generally bounded by Pritchard Lake on the north, Power Line Road on the east, I-5 on the south, and the Teal Bend agricultural area on the west.

    b. **Metro Air Park** – Generally bounded by Elverta Road on the north, Lone Tree Rad on the east, I-5 on the south, and Power Line Road and the Sacramento International Airport on the west

    c. **Teal Bend Golf Club** – Generally located on the east side of the Garden Highway southerly of Reservoir Road and westerly of the Sacramento International Airport.

    d. **Garden Highway River Frontage** – Generally consisting of rural residential estate properties along the east and west side of the Garden Highway as it parallels the Sacramento River south of the Sacramento/Sutter County line to I-80.

3. **Sutter County**

    a. **Pacific Avenue Industrial Area** – Generally bounded by Pacific Avenue on the west, and between Sankey Road on the north, agricultural lands on the east, and Riego Road on the south.

    b. **Garden Highway River Frontage** – Generally consisting of rural residential estate properties along the east and west side of the Garden Highway as it parallels the Sacramento River north of the Sacramento/Sutter County line to the Natomas Cross Canal.

The above-described urbanized areas, plus the assumption of full buildout of Metro Air Park, constitute the "existing conditions" assumption for the purposes of this PM.

**Cumulative Conditions**

There are several other Natomas Basin development projects that are reasonably foreseeable to occur in the future. These future projects, when combined with existing conditions represent the cumulative scenario for purposes of this PM. The Upper Westside land use plan is shown in **Exhibit 4**.

In addition to Upper Westside, the reasonably foreseeable projects that make up the cumulative scenario are as follows:

1. Grandpark (north of Elkhorn Blvd, east of SR-99, south of the Sacramento/Sutter County line, and west of the NEMDC)
2. Northlake (Greenbriar) (Northwest quadrant of I-5/SR-99 Interchange)

3. Panhandle (South of Elkhorn Blvd. at NEMDC)
4. Sacramento International Airport (Runway Expansion)
5. SAFCA "Preferred Alternative Plan" for Storage of Sankey Gap Spills"[13]
6. Sutter Pointe (Sutter County just north of Sacramento County line)
7. Airport South Industrial Project (South of I-5 opposite Metro Air Park and Greenbriar)

Except for the Airport South Industrial Project, the preliminary grading plans reflecting developed conditions for each of these future projects were obtained and added to the existing conditions terrain model utilized in the updated HEC-RAS model to create a cumulative conditions terrain model for the C+P analysis. The Airport South Industrial Project is a relatively new land use entitlement application pending review by the City of Sacramento.

At this time there is no readily available engineering information for the Airport South Industrial Project. For the purposes of this PM, it has been assumed that developed conditions grading of this project will closely resemble the existing terrain on the project site. Based on this assumption, the Airport South Industrial Project will have neither a substantive effect on the results of the flood inundation and propagation modeling nor on the depth of flooding results reported in this PM.

However, the Airport South Industrial Project may be located within a local floodplain and may require significant grading to allow for future development. As such grading of the site may impact the flood inundation propagation and depth of flooding beyond that analyzed in this Procedural Memorandum.

It is important to note that the developed conditions grading for the cumulative conditions analysis represented finish grade surface only and did not include any fences or structures which will be built within the cumulative conditions. These future condition items cannot be included in the current modeling as their locations and makeup are still unknown.

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[13] SAFCA does not intend to close the "Sankey Gap" until the Fremont Weir is widened sometime in the future. Extension of the weir will result in lower stages in the Sacramento River during major flooding events which in turn will lower the depth of flooding in the Natomas Cross Canal and for areas upstream of the Sankey Gap. Rather, SAFCA Staff reports that SAFCA is currently focusing on implementing the "Preferred Alternative Plan" as described in the May 22, 2018 "Sankey Road Gap Closure Project Basis of Design Report" (personal conversation with Gary Bardini, Director of Planning at SAFCA on July 21, 2022). This project will store the flood flows that pass through the "Sankey Gap", enter the Natomas Basin and be stored in detention basins to be located interior to the Natomas Basin. These flood waters will flow into two (2) large detention basins (one (1) located on the north side of Sankey Road at the east levee of the Basin, and another located west of SR-99 south of Sankey Road). These two (2) basins will be connected by an open channel and culvert system. Each basin will be surrounded by earthen embankments to contain the flood waters. These detention basins are planned to be located within the interior flood plain of the Natomas Basin. Their embankments will therefore usurp a portion of the storage capacity of the interior flood plain.

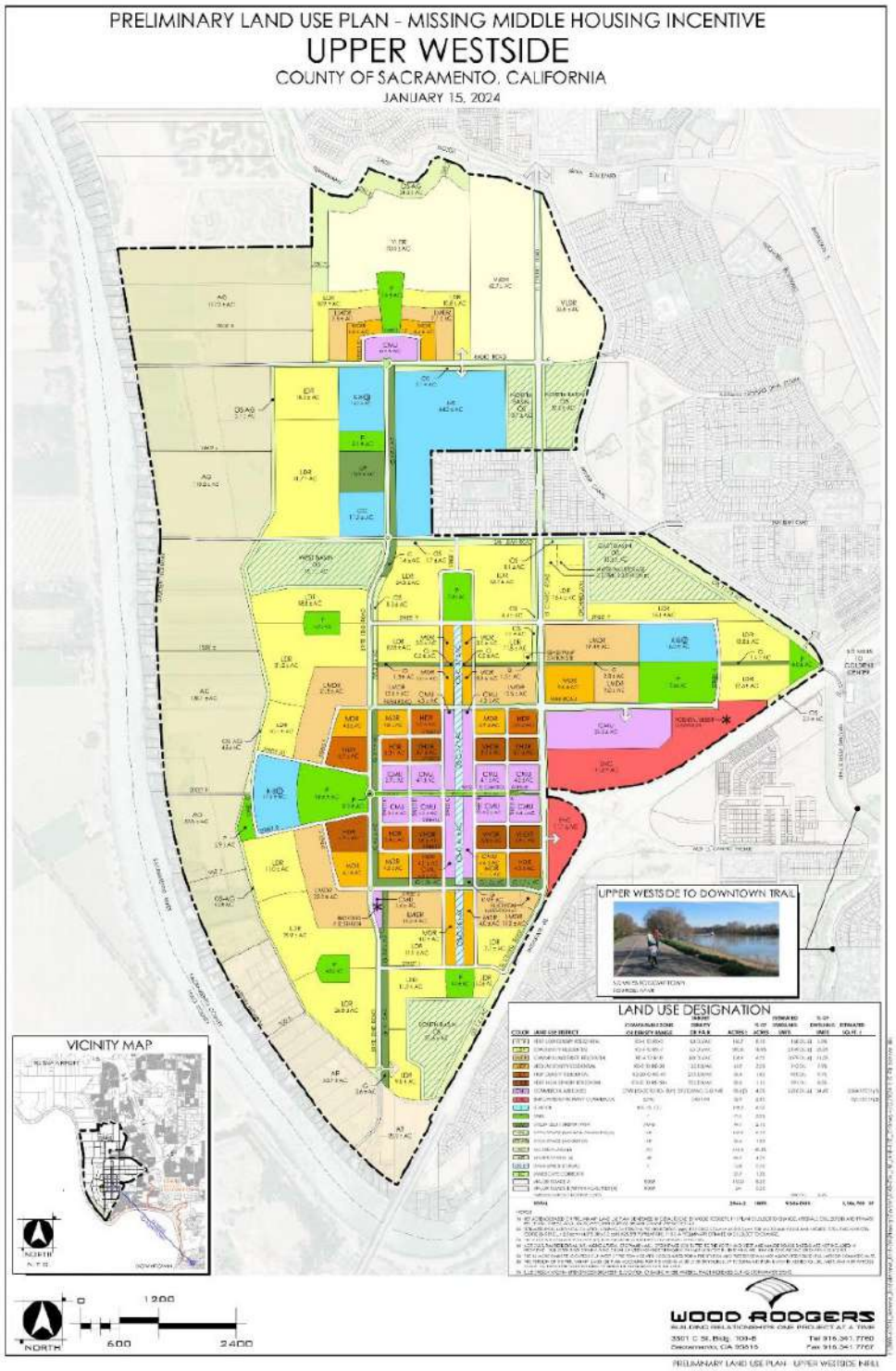



**Exhibit 4**
**Upper Westside Land Use Plan**

Additionally, adjustment for resistance to flood flows that may occur post development from these fences and structures (increases in Manning's "n" friction values) were not included in the analysis performed for this analysis.

Accordingly, the results reported in this PM are somewhat conservative in nature. That is to say that the durations in time to 1-foot depth of flooding at the critical locations along the regional evacuation routes in the Basin may be marginally shorter in duration than may actually occur during a flooding event as a result of flood flows being retarded by future fences and structures.

Except for updating the terrain model to simulate cumulative conditions for all of the above-described future projects (excluding the Airport South Industrial Project), the C+P modeling exercise utilized the same assumptions as the existing conditions modeling.

When Upper Westside is added to the above-described cumulative scenario, the resulting combined scenario represents the Cumulative Conditions Plus Project scenario, the C+P Scenario.

**Cumulative Conditions + Project (C+P) Flood Modeling**

In terms of model runs, three (3) separate model runs each were performed for the seven (7) levee breach locations. For each breach location, the eighteen (18) roadway locations listed above were evaluated in each modeling run for the duration of time until a flooding depth of one (1) foot was reached.

The three (3) modeling runs are briefly described below:

1. **Existing Conditions (1D Analysis)**. After adjustments to the model were complete, CESI updated and ran the models to compare the results of the updated model run as a 1D model to those found in the 2015 1D model runs to determine the time to inundation of 1-foot depth of flooding over the critical roadway locations under existing conditions. This comparison allowed for verification that the updated model provided comparable results to the prior modeling notwithstanding the use of the updated HEC-RAS Software (Version 6.2 v Version 4.1.3).
2. **Existing Conditions (2D Analysis)**. CESI then ran the updated models as 2D models to determine the time to inundation of 1-foot depth of flooding over the critical roadway locations under existing conditions. CESI used these modeling results to establish the baseline that was used for comparison to the C+P modeling analysis.
3. **Cumulative Plus Project Conditions (2D Analysis)**. CESI then ran the updated 2D model to determine the time to inundation of 1-foot depth of flooding over the critical roadway locations under C+P Conditions. CESI used these modeling results

to estimate the effects of developing Upper Westside along with the other reasonably foreseeable projects within the Basin in the "Cumulative Plus Project" Conditions (C+P).

The projected changes in hours until critical depths occurred along the regional evacuation routes were then calculated by CESI, comparing Cumulative Plus Project Conditions (C+P) to Existing Conditions (EC). The differences, plus or minus, were measured in terms of the number of hours of change in time until a 1-foot depth of flooding over the critical roadway locations under C+P Conditions was reached.

## 8. LEVEL OF CONSEQUENCE

There does not appear to be a set of objective standards for the definition of material effects as it relates to flooding. A survey of local public agencies in the greater Sacramento region did not reveal the existence of these types of objective standards.

Such standards, if they exist at all, will likely vary widely depending upon local conditions and the specifics of the flooding event. To establish an objective standard, consideration should include:

- Substantial technical analysis,
- Careful and objective evaluation of the effects that flooding may have:
    - In the Basin,
    - On the safety of the general public and,
    - On surrounding properties within the Basin.
- The exercise of substantial professional judgement and experience.

Upon review of the above considerations, we developed a working definition of flooding effects that are deemed not to be material for the purposes of this PM.

In the case of critical locations along regional evacuation routes that may be susceptible to rapid inundation, alternative local evacuation routes will be essential for the safe evacuation of the public from these local areas. Because these local areas will not contain a sizable number of people, these alternative local evacuation routes will not require large capacity roadways to safely accommodate their evacuation needs. Based on our experience and professional judgment, it is reasonable that a minimum of six (6) alternative local evacuation routes should be sufficient to facilitate a safe and orderly evacuation from areas subject to rapid evacuation.

For purposes of illustration, and without limitation, the following flooding effects were deemed not to be material from a public safety or flood damages perspective:

1. A reduction in the duration of time after a catastrophic levee breach occurs until a particular evacuation route is no longer safe for the general public to travel when at least six (6) alternative local evacuation routes from the same general area are available and those alternative routes offer adequate time for the safe evacuation of the affected area,
2. An increase in the depth or rapidity of catastrophic flooding when that effect does not impose substantial additional flood hazards on the general public, public or private properties, or environmental resources in the area,
3. An increase in the depth or rapidity of catastrophic flooding that is not great enough in magnitude to be noticeable or merit considering (e.g., a “de minimis” increase in the depth of flooding), and
4. Development of future growth areas within the Basin where balanced on-site earthwork can be reasonably anticipated to occur and, as a result, have negligible or de minimis consequences on the duration of time until evacuation routes are adversely affected and/or on the depth or rapidity of flooding during a catastrophic levee breach scenario.

Any flood effects that exceed the above-described level of consequences were deemed material and are reported as such in this PM.

## 9. EVACUATION ROUTE FLOOD MODELING RESULTS

### Cumulative + Project Conditions Results

The results of the C+P modeling runs described above are summarized in **Tables 1 through 7**. Again, it should be noted that all adverse changes of less than 1-hour change in time to a 1-foot depth of flooding at the critical locations along the evacuation routes are less than the accuracy of the model. Accordingly, only changes in time to the critical depth of flooding greater than one (1) hour were deemed a material change.

A review of **Tables 1 through 7** reveals those evacuation route locations where the time until flooding to critical depth (one (1) foot depth of flooding) is affected for each breach scenario under C+P Conditions. **Table 8** is a summary of the locations where the duration in time is materially changed under C+P Conditions.

## 10. ANALYSIS OF EVACUATION ROUTE FLOOD MODELING RESULTS

Analysis of the modeling results has been grouped into two (2) categories: General Observations and Specific Observations. These observations are described below:

**a. General Observations**

Generally, the C+P evacuation flood modeling results from the conversion of HEC-RAS Version 4.1.3 to Version 6.2 indicate there are nominal changes in the average duration of time until a 1-foot depth of flooding occurs at the critical evacuation route locations under all seven (7) levee breach scenarios on a basin-wide basis. These changes are summarized as follows:

| **Modeling Scenario** | **Average Change** |
|---|---|
| Existing Conditions (EC) | +8 Hours |
| Cumulative + Project Conditions (C+P) | +3 Hours |

While the magnitude of these changes varies by location and levee breach scenario, the magnitude of these changes generally indicates that the public has the same amount of time, or more, to evacuate as originally projected in the 2015 GEI modeling effort.

The movement of citizens from a place of relative danger to a place of relative safety can be realized by traveling various evacuation routes. Since there are no locations within the Basin that cannot be evacuated by more than one (1) evacuation route, the flooding of an individual location is not deemed to be crucial for the safe evacuation of citizens to a place of relative safety. Accordingly, while some of the locations on the evacuation routes may flood relatively quickly, there are alternative routes that offer sufficient time for an orderly evacuation to occur.

**b. Specific Observations**

There are a number of instances where the duration of time to 1-foot depth of flooding at the critical locations along the regional evacuation routes is reduced from the times indicated in the 2015 GEI modeling.[14] The most notable of those are discussed below:

[14] The change in modeling software, from HEC-RAS Version 4.1.3 to Version 6.2, resulted in a greater level of accuracy in terms of the duration of time until a 1-foot depth of flooding over the critical evacuation routes occurs. In particular, newer versions of HEC-RAS utilize the Shallow Water Equation to solve two-dimensional flow problems across broad and shallow flood storage areas such as across the farm fields and rice checks that cover so much of the Basin. These notable changes are reasonable when one considers the fact that the lag time due to in-situ storage of flood flows across farmland is included in the newer versions of HEC-RAS, which the earlier version of the software did not calculate.

1. **Immaterial Reductions in Duration of Time.**

   Seemingly material changes in the duration of time to 1-foot depth of flooding under Cumulative Plus Project (C+P) Conditions were observed for several of the levee breach scenarios. These changes are summarized in **Table 8** for C+P Conditions.

   While measurable, the majority of these changes are not deemed material because of the amount of time remaining that is projected to be available to the public to evacuate. The movement of citizens from a place of relative danger to a place of relative safety can be realized by traveling various evacuation routes.

   Since there are no locations within the Basin that cannot be evacuated by more than one (1) route, and often by several different routes, the flooding of an individual location is not deemed to be crucial for the safe evacuation of citizens to a place of relative safety. Accordingly, while some of the locations on the evacuation routes may flood relatively quickly, there are alternative routes that offer sufficient time for an orderly evacuation to occur.

2. **Rapid Inundation of Regional Evacuation Routes.**

   Existing Conditions

   The 2015 GEI 1D modeling identified several critical locations where rapid inundation of the evacuation routes within the Basin were projected to occur in the event of a levee breach. The duration of time to 1-foot depth of flooding at these critical locations of less than twelve (12) hours duration after occurrence of a breach are of particular importance.

   The rapid durations of time at these locations should not be interpreted literally. Rather, these brief time frames should be considered in the context of the limitations of the modeling given the theoretical assumption sets relating to levee breach formation and river stages contained in the 2015 GEI modeling.

   Good evacuation planning dictates that the identified “rapid duration” locations should be closed to public traffic prior to or contemporaneously with the occurrence of a levee breach. Because of the uncertainties in the modeling, this planning principle is true whether the estimated duration of time to 1-foot depth of flooding is one (1) hour or ten (10) hours.

   From a practicable perspective, the logistics associated with the closing of a roadway (including the response time to make the decision to close a

roadway, and the amount of time required by first responders to sign, barricade, and close an evacuation route to public traffic) can take several hours to accomplish. This fact, in and of itself, indicates that evacuation routes subject to rapid inundation should be closed as soon as practical after a levee breach occurs.

Proposed Conditions

Generally, the updated 2D modeling prepared for this PM identified the same locations where rapid inundation of the evacuation routes were projected to occur in the 2015 GEI 1D modeling. These rapid inundation locations for Existing Conditions and under C+P Conditions in Tables 1 through 7 (under the Updated 2D Model columns). It should be noted that the rapid inundation locations are projected to occur in relatively the same time frames under Existing Conditions (2D) and C+P Conditions (2D) modeling. That is to say, the development of Upper Westside does not adversely affect the rapidity of flooding of these critical locations.

Associated with four (4) of the levee breach locations, there are a total of nine (9) locations that are prone to rapid inundation during a levee breach. They are summarized in the table below.

Logically, the public will want to evacuate away from a levee breach instead of trying to use evacuation routes that lead towards a breach. Further, it is reasonable to assume that first responders will direct the public away from areas of concern and towards areas of relative safety.

However, when one or more locations along the regional evacuation routes identified above (e.g., El Camino Avenue, I-5, or I-80) are unsafe for travel by the general public due to rapid inundation, alternative evacuation routes to move people from areas of concern and toward areas of safety need to be identified. **Exhibit 5** depicts four (4) areas of concern where it is highly likely that rapid inundation is projected to occur during the first twelve (12) hours after a levee breach. breach – see the dashed colored lines surrounding areas where rapid inundation is likely to occur.

| **Breach No.** | **Breach Description** | **Critical Locations** |
|---|---|---|
| 1 | Natomas Cross Canal Levee | None |
| 2 | North Sacramento River Levee | None |
| 3 | Sacramento River Levee Near Elverta Road | Elkhorn West<br>I-5 West<br>Powerline |
| 4 | Sacramento River Levee South of I-5 | Elkhorn West<br>I-5 Junction<br>I-5 West |
| 5 | Sacramento River Levee Near I-80 | I-80 Central<br>I-80 West |
| 6 | American River Near Confluence with Sacramento River | None |
| 7 | NEMDC Levee Near I-80 | El Camino Avenue<br>I-80 East<br>San Juan Avenue |

Each of these four (4) areas of concern are associated with a nearby hypothetical levee breach location. (i.e., one area of concern each near Breach Nos. 3, 4, 5, and 7). Depending upon the location of an actual breach, the affected roadways should be closed to the traveling public prior to or immediately following the occurrence of a levee breach.

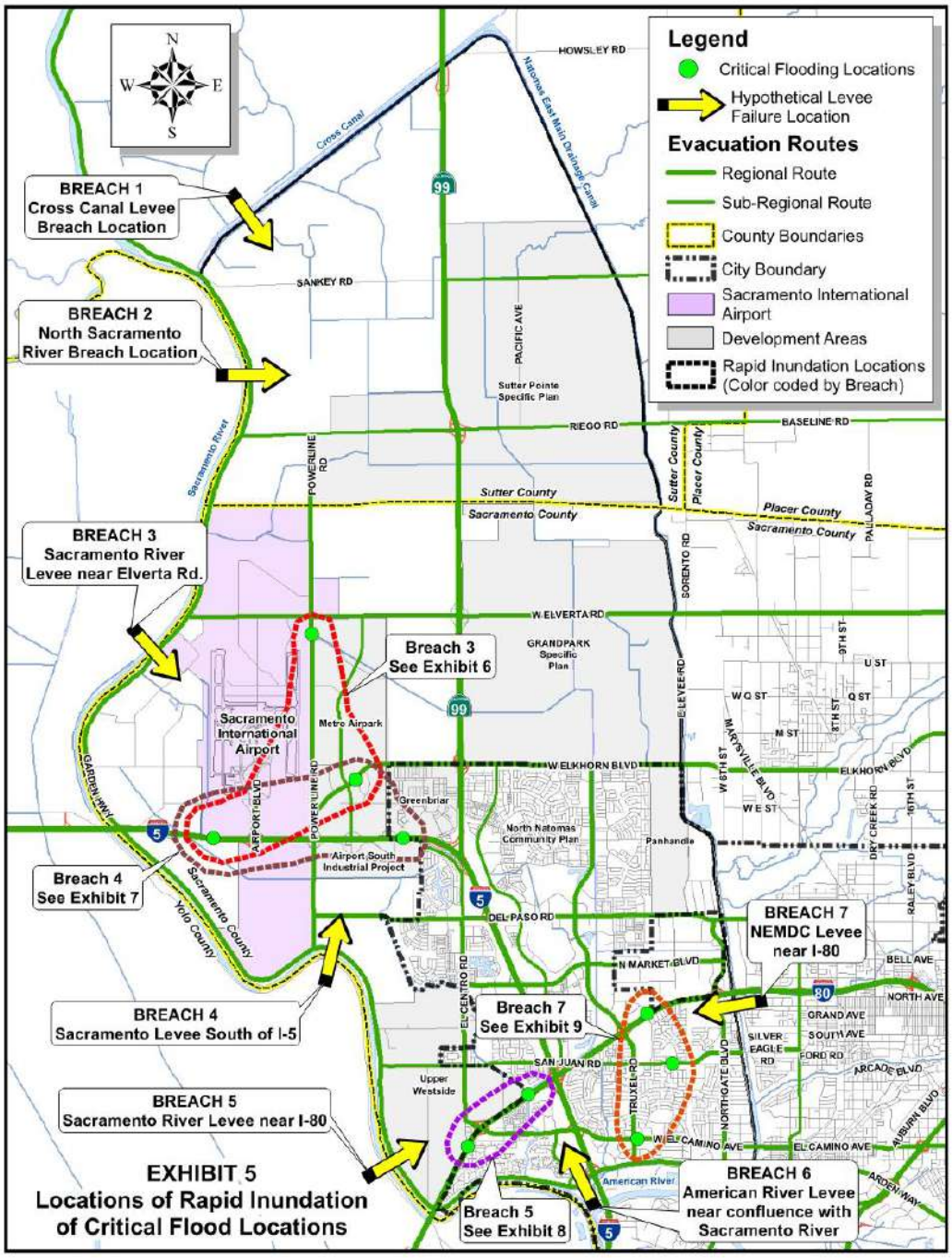



**Exhibit 5**
**Locations of Rapid Inundation of Critical Flood Locations**

**Exhibits 6, 7, 8 and 9** each depict in greater detail the four (4) areas of concern for rapid inundation of regional evacuation routes during a levee breach in the vicinity of Breach 3, Breach 4, Breach 5, and Breach 7, respectively. In total, there are nine (9) locations in these four (4) areas of concern that are subject to rapid inundation. These exhibits show alternative local evacuation routes that are available for evacuation during the first few hours after a breach occurrence.

In each of the four (4) areas of concern, there are at least nine (9) alternative routes that are available for evacuation during the early hours of a catastrophic flood resulting from the respective levee breach locations. Accordingly, safe evacuation of the public from areas of rapid flooding can still occur using the alternative routes identified in Exhibits 6, 7, 8, and 9.

Additionally, during periods of high river stages, the entities responsible for flood watch patrols should be able to identify seeps and sand boils on the land side of the levees and the loss of freeboard on the water side of the levees that are typically precursors to potential levee failures. Once these precursors are spotted, the flood watch patrol officials should notify the appropriate public safety and evacuation entities who should then initiate pre-planned flood evacuation procedures, including the closure of roadways, including roadways that may be in threat of rapid inundation during a catastrophic levee failure, prior to or immediately after the occurrence of a levee breach.

Finally, the identification of those critical locations along regional evacuation routes that are prone to early inundation should provide evacuation planners with a clearer picture of which of the regional evacuation routes are not prone to early inundation. This finding should allow evacuation planners to prioritize their roadway closures plans to allow for early evacuations from the Basin regardless of the location of a levee breach.

Therefore, notwithstanding the rapid inundation of these four (4) critical flooding locations during the first twelve (12) hours post-occurrence of their respective levee breaches, the alternative evacuation routes presented in Exhibits 6 through 9 show that the public can evacuate from these critical flooding locations by a minimum of nine (9) different evacuation routes. In our professional opinion, the existence of such a large number of alternative evacuation routes indicates that early evacuation of these areas can safely occur notwithstanding the rapid inundation of the critical locations.

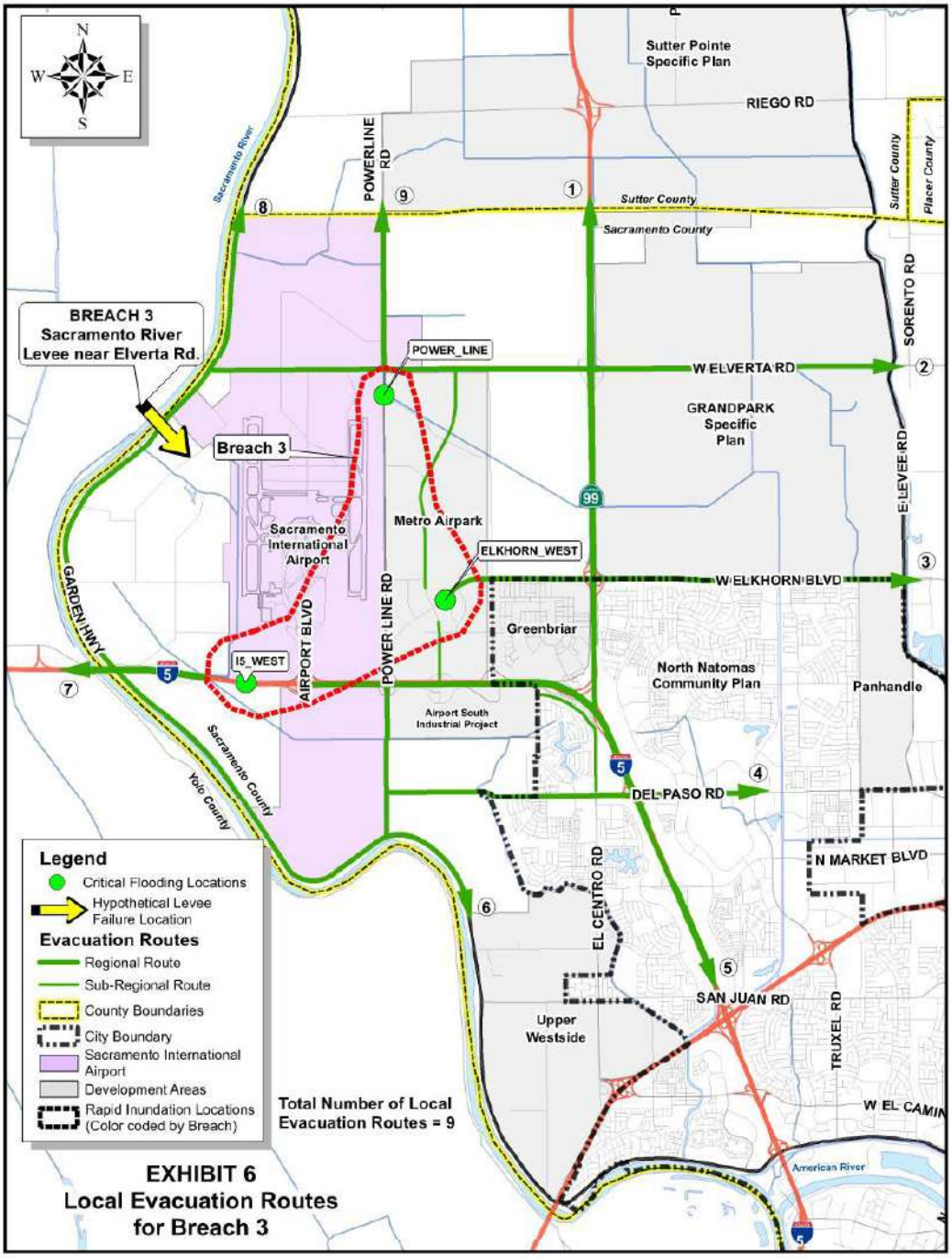



**Exhibit 6**
**Local Evacuation Routes for Breach 3**

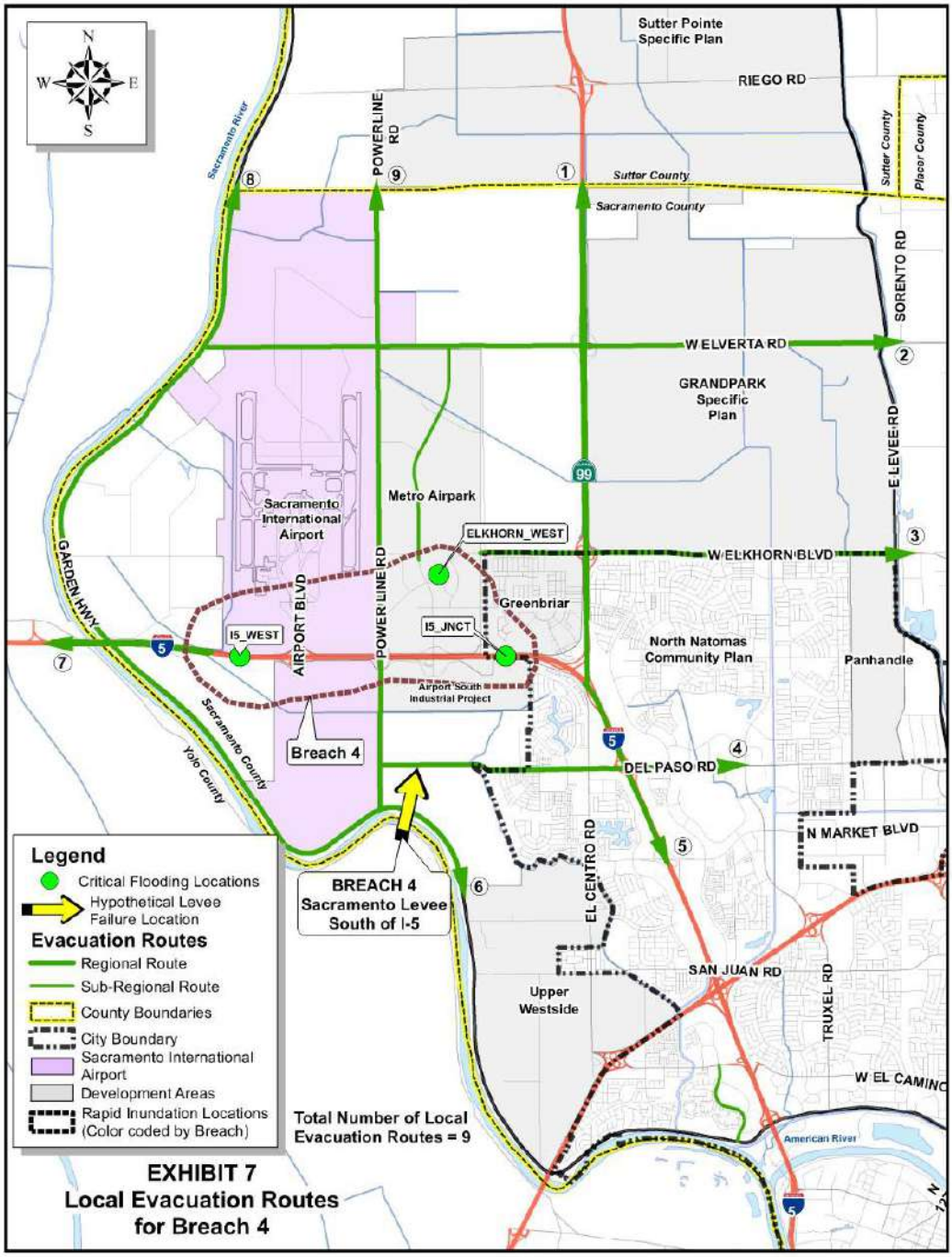



**Exhibit 7**
**Local Evacuation Routes for Breach 4**

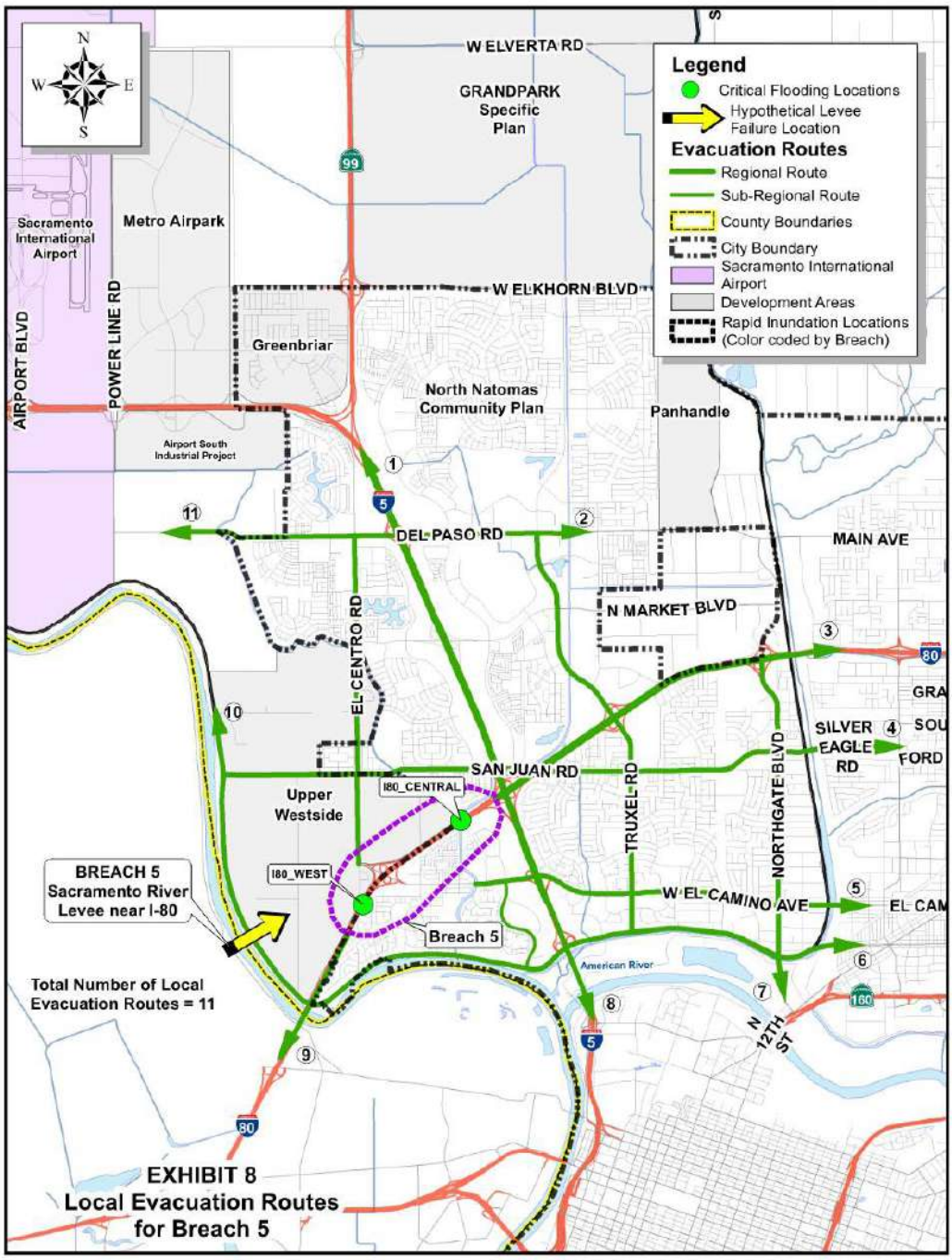



**Exhibit 8**
**Local Evacuation Routes for Breach 5**

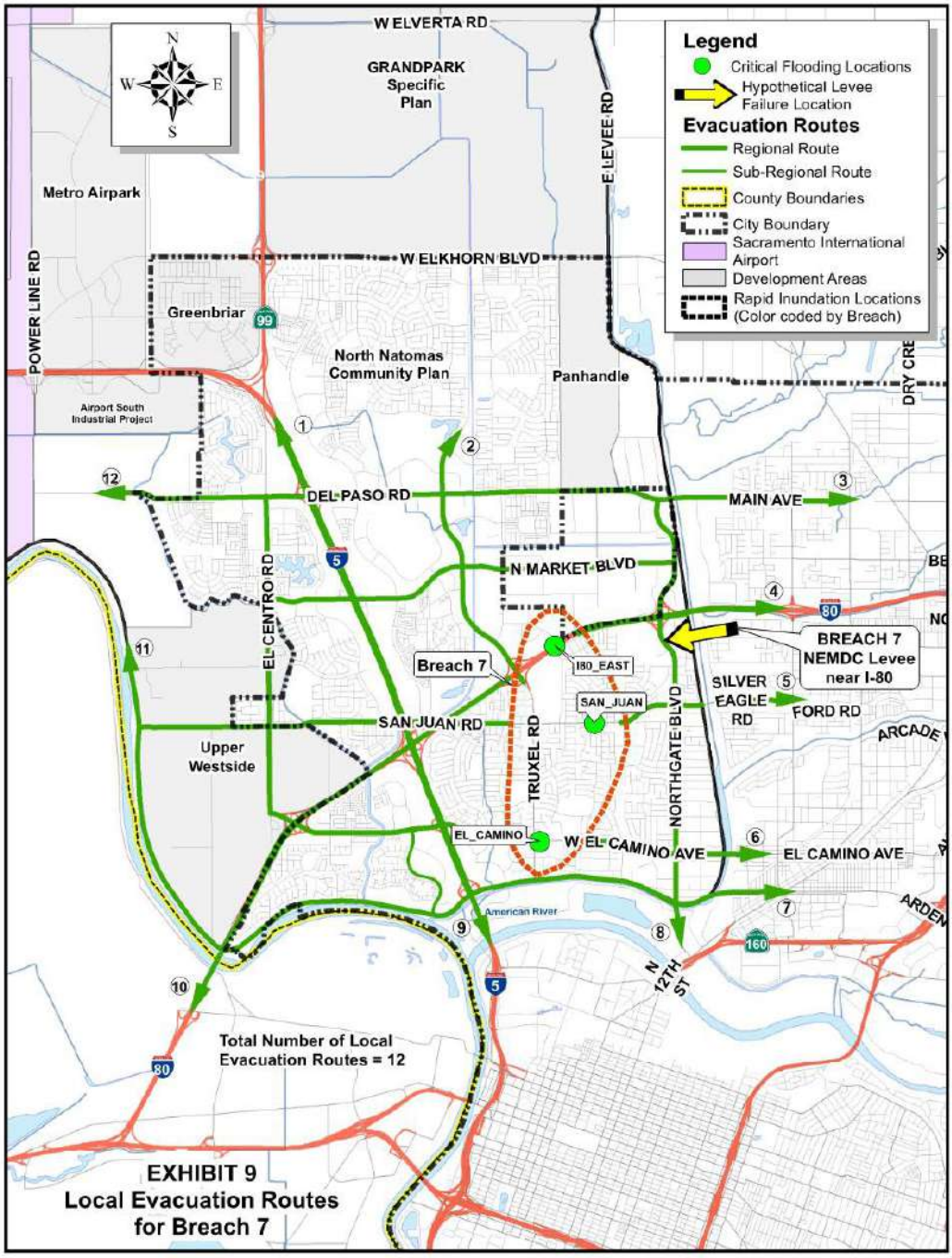



**Exhibit 9**
**Local Evacuation Routes for Breach 7**

### 3. Numerically Large Reductions in Duration of Time

The modeling revealed a small number of instances under C+P Conditions where numerically large reductions in the duration of time to 1-foot depth of flooding were observed. While numerically large, these reductions of time were not deemed material from an evacuation perspective. These instances and the reasoning for them being immaterial are explained below:

A. Cumulative Plus Project Conditions

In five (5) cases, the total duration of time to 1-foot depth of flooding of a regional evacuation route under C+P Conditions were found to have decreased by a large number of hours when compared to existing conditions:

| Breach | Location | Reduction | Remaining Time |
|---|---|---|---|
| 1 | SR-99 | -31 Hours | 62 Hours |
| 1 | SR-99 North | -59 Hours | 39 Hours |
| 2 | Elkhorn West | -16 Hours | 36 Hours |
| 2 | Elverta West | -19 Hours | 14 Hours |
| 7 | Power Line | -13 Hours | 123 Hours |

Similarly, in these limited number of cases, there either remains adequate time to evacuate and/or several other alternative evacuation routes are available for the public to utilize to reach a location of relative safety. Accordingly, these decreases in evacuation time do not appear to be material from a safety perspective.

## 11. MAXIMUM DEPTH OF FLOODING MODEL RESULTS

### Methodology

The 2015 GEI modeling also evaluated the maximum depth of flooding within the Basin that would likely result from a levee breach at each of the seven (7) levee breach locations under existing conditions. Based on this analysis, a series of “maximum flood depth maps” were prepared for the 2015 City/County Evacuation Plan.

The 2015 mapping effort depicted the aerial extent of maximum flooding in 4-foot increments projected to occur within seven (7) days post levee breach. This mapping was prepared to a level of accuracy that was deemed appropriate by the City and County for flood evacuation planning.

The updated levee breach modeling performed for this PM provided sufficient data to allow updating of those 2015 maximum flood depth maps. For purposes of evaluating the resulting material changes related to development of Upper Westside under cumulative conditions, the 2015 maps were updated utilizing the new modeling results.

Similar to the evacuation route analysis described above, analysis of the maximum depth of flooding was performed for the following scenarios:

1. Existing Conditions (1D Analysis).
2. Existing Conditions (2D Analysis).
3. Cumulative Plus Project Conditions (2D Analysis).

The results of these analyses were then plotted in aerial view over the HEC-RAS 6.2 Terrain Model prepared by CESI for Existing Conditions and for Cumulative Plus Project Conditions. The results of this exercise were then compared side-by-side to provide a visual comparison of the maximum flooding depths projected to occur under Existing Conditions and C+P Conditions as a result of the seven (7) different levee breach scenarios. The resulting series of maximum depth of flooding maps for Existing Conditions (1D), Existing Conditions (2D), and Cumulative Plus Project Conditions (2D), all utilizing the latest HEC-RAS software, are included in **Appendix A**.

**Maximum Depth of Flooding**

By visual inspection of the maximum flood depth maps in **Appendix A**, it is evident that for all breach locations (Breaches 1-7), the results of the updated mapping effort for C+P Conditions are similar to the updated 2D Existing Conditions (EC) maximum depth of flooding maps.

The following observations are self-evident after visually inspecting the updated maximum depth of flooding maps.

1. A comparison of the results from the 1D and 2D modeling for C+P scenarios indicate a high degree of consistency between the 2015 depth of flooding maps and the updated depth of flooding maps.
2. The Sankey Gap spill path is not apparent in the Existing Conditions 1D Analysis.
3. The estimated maximum depth of flooding resulting from the new 2D Analysis is less than that based on the 1D Analysis.
4. The aerial extent of the maximum depths of flooding from the new 2D Analysis is less than that based on the previous 1D Analysis. This is especially evident for Breach 6, and to a lesser degree for Breach 3.

5. Grading within the reasonably foreseeable projects under C+P Conditions shows some nominal differences in the maximum depths of flooding. However, the lower depths occur where embankments are proposed, and the greater depths occur at the locations where detention basins are proposed. These differences were not deemed material.

A comparison of Maximum Flooding Water Surface Elevations for Upper Westside under C+P Conditions for each breach scenario is shown in **Table 10**. The point of reference for this comparison is the north-south mid-point within the Upper Westside Project.

Therefore, the differences in maximum water surface elevations between the Existing Conditions (2D) analysis and the Cumulative Plus Project Conditions (2D) analysis are deemed nominal and not material from a flooding perspective. The maximum depth of flooding under Existing Conditions 2D as compared with the Existing Conditions Plus Upper Westside 2D would be nearly identical to the water surface elevations and changes thereto shown in Table 17 (the C+P results).

This conclusion can be easily reached when one considers that, for all intents and purposes, rough grading of all urban and non-urban sites within the Natomas Basin is accomplished on a “net-zero” basis. That is to say, rough grading of nearly all sites within the Natomas basin have been and will continue to be the result of “balanced” on-site

grading plans – with little or no import or export of dirt from or into the Basin.[15]

Generally, the Basin will fill to a single-pool elevation under each breach scenario. The maximum depth of flooding under each scenario, the single-pool elevation, is a function of the water surface elevation in the river at the time equilibrium is reached with the water surface elevation within the Basin.

Accordingly, flood storage volumes and their aerial distribution within the Natomas Basin have and will remain relatively unchanged over time. While localized, minor changes in

[15] SAFCA has imported fill material and may continue to import fill material as a part of the levee improvement project to protect the Natomas Basin from the threat of external flooding. The volumes of import material used to strengthen the levee system and to create the future detention basin to capture Sankey Gap spills (the SAFCA “Preferred Alternative Plan for Storage of Sankey Gap Spills”) are relatively minor and should be considered de minimis when compared to the overall flood storage volume within the Natomas Basin. Accordingly, the volume of fill material imported into the Natomas Basin for flood protection purposes is not deemed material during a catastrophic flooding event.

the aerial extent of catastrophic flooding may occur on a project-by-project basis, the distribution of flooding on a basin-wide basis will not vary measurably over time.[16]

## 12. CITY/COUNTY EVACUATION PLANS

Sacramento County Office of Emergency Services [17]

The Sacramento County Office of Emergency Services (SacOES) coordinates the overall Sacramento Countywide response to large scale incidents and disasters. SacOES is responsible for alerting and notifying appropriate agencies when disaster strikes; coordinating all agencies that respond, ensuring resources are available and mobilized in times of disaster; developing plans and procedures in response to and recovery from disasters; and developing and providing preparedness materials for the public.

SacOES staffs the Operational Area Emergency Operations Center (EOC), a central facility responsible for carrying out the principles of emergency preparedness and emergency management, or disaster management functions at a strategic level in an emergency situation and ensuring the continuity of operation in the County. The EOC is responsible for the strategic overview, or "big picture," of the disaster, and does not normally directly control field assets, instead making operational decisions and leaving tactical decisions to lower commands. These commands include various County departments, cities, schools and special districts, business and industry, volunteer organizations, individuals, and state and federal government agencies.

Emergency plans and associated functional annexes are developed and maintained by SacOES. These plans address extraordinary emergency situations associated with human-caused disasters, natural disasters, technological incidents and/or emergencies, and national security incidents and/or emergencies affecting or within Sacramento County. Responding agencies may include public and non-government organizations.

In the event of an emergency that requires citizens to evacuate to a safe area, SacOES has developed a set of agreed-upon strategies and responses already in place to ensure the evacuation process is managed as smoothly and effectively as possible. This set of agreed-upon strategies and responses also accounts for the many people with disabilities, the elderly, and others with access and functional needs who may need additional support in an evacuation.

The tactical commands for flood related emergencies within the Sacramento County portions of the Basin are the City of Sacramento, Reclamation District No. 1000 (RD 1000),

[16] The maximum depth of flooding may be different than those shown in the PM when the effects of climate change are considered.

[17] Much of the text of this section of the PM was obtained from the SacOES website on September 9, 2022.

and the County Departments of Water Resources (County DWR) and Transportation (County DOT). The County of Sutter is responsible for the development of tactical commands for flood related emergencies in the Sutter County portion of the Basin. These tactical commands are responsible for the development of operational evacuation plans in their respective portions of the Basin. These operational evacuation plans provide a framework to guide a local government response during times of emergency.[18]

Based on a review of the SacOES emergency response plans relating to flooding and the analysis contained in this PM, the development of Upper Westside does not trigger the need for any modifications to the various SacOES emergency planning documents mentioned in this PM. Similarly, based on the same document review and the analysis contained in this PM, the development of Upper Westside does not require any modifications to the operational evacuation plans of the various tactical commands mentioned above.

2015 City/County Evacuation Plan

Based on a review of the 2015 City/County Evacuation Plan and the analysis contained in this PM, only minor changes are required to modify the 2015 City/County Evacuation Plan to address the effects of developing Upper Westside. These changes will be required to reflect the current estimated durations of time until the critical locations along the regional evacuation routes studied in this PM are inundated to a 1-foot depth within 1-hour after a catastrophic levee breach.[19]

2021 Local Hazard Mitigation Plan

SacOES partnered with the Cities of Sacramento, Citrus Heights, Elk Grove, Folsom, Galt, Isleton, Rancho Cordova, and several special districts to update their countywide 2016 Local Hazard Mitigation Plan (2016 LHMP). The 2016 LHMP was approved by FEMA. FEMA requires a LHMP to be updated every five (5) years to incorporate any changes in local conditions and requirements.

While natural hazards such as flooding cannot be prevented, a LHMP forms the foundation for a community's long-term strategy to reduce disaster losses. Communities with a FEMA-

[18] It is recommended that these operational evacuation plans identify the roadways that are prone to rapid inundation in the event of a levee breach. This should allow evacuation planners to identify alternative local evacuation routes and to prioritize their roadway closure plans to allow for early evacuations from the Basin regardless of the location of a levee breach. To hasten the roadway closure response time, it is recommended these plans include pre-event stockpiling of roadway closure materials (e.g., barricades, traffic control and detour signs, traffic cones, flares, and warning lights) at strategic locations near those areas prone to rapid inundation.

[19] These changes are highlighted in the Technical Memorandum included in Appendix C of this PM.

approved LHMP are eligible for FEMA pre- and post-disaster grant funding and for lower costs of flood insurance to residents through the National Flood Insurance Program's (NFIP) Community Rating System (CRS).

The 2021 Local Hazard Mitigation Plan (2021 LHMP) served to update the 2016 FEMA approved 2016 LHMP. The purpose of hazard mitigation is to reduce or eliminate long-term risk to people and property from hazards. Sacramento County, along with 31 incorporated communities and special districts within the County, prepared the 2021 LHMP in order to make the County and its residents less vulnerable to future hazard events, including flood events. Based on a review of the 2021 LHMP and the analysis contained in this PM, the development of Upper Westside does not require any modifications to the 2021 LHMP.

## 13. SUPPLEMENTAL MODELING ANALYSIS

### A. GEI Peer Review

During the County's review of an earlier draft of this Procedural Memorandum, the County retained GEI Consultants to perform a peer review of the flood modeling portions of the technical analyses contained therein. Specifically, the County asked GEI to review the modeling changes described in Appendices C & D – the 2022 levee breach analyses prepared by CESI – to independently determine whether the 2015 City/County Evacuation Plan and the 2021 LHMP needed to be updated as a result of the development of Grandpark and Upper Westside.

The comments received from GEI's peer review were mostly confirmational and advisory in nature with regards to the modeling changes that were prepared by CESI with one minor exception. The exception related to the difference between the assumption sets for breach length and scour pit formation in GEI's 2015 modeling effort and CESI's 2022 modeling effort. GEI suggested that it would be interesting to determine what differences in modeling results would occur if the two sets of analyses used the same breach and scour pit assumptions.

Even though GEI did not identify any meaningful issues with the 2022 modeling effort, as their findings indicated the 2022 modeling effort was technically adequate, the difference in breach length and scour pit formation assumption sets were deemed to be interesting enough to warrant further investigation.

Accordingly, in response to the comment regarding breach lengths and scour pits formation, the applicants directed CESI to perform a supplemental analysis using the updated 2022 modeling work with the 2015 breach and scour pit assumption set to

facilitate identification of material differences in modeling results between 2015 and the 2022 modeling effort, if any.

**B. Supplemental Analysis Results**

The results of this supplemental analyses are presented in Appendix E (CESI Technical Memorandum 0040A). The general finding of the supplemental analysis brings about consistency in levee breach assumptions when using the improved modeling software. This modeling effort demonstrated slightly greater elapsed times to one foot of flooding at a majority of critical locations along the evacuation routes identified earlier in this Procedural Memorandum. In general, the 2024 supplemental analysis found that the resulting timing for flood inundation propagation from each of the seven breach locations were relatively consistent with those found in the 2015 flood mapping analysis.

Specifically, the key observations from this supplemental analysis are listed below:

1. The 2015 assumption set for breach length and scour pit formation allowed the levee breaches and scour pits to form to the full depth and height in all seven simulated locations regardless of the landside toe elevations. However, this change in the modeling assumption did not increase the amount of flow significantly to the interior of the basin.
2. The landside elevations that the breaches could flow to as an exit from the breach weir location did contribute to some higher flow rates into the Natomas Basin in a few of the analyses.
3. However, the addition of a full depth scour pit delayed some flow delivery and reduced overall peak flows. This is likely due to the fact that during the breach formation, the scour pit operated at a water surface elevation below the exterior river water surface elevation as there are head losses for the flow passing through the breach. The lower water surface elevation of the scour pit delivering water to the landside terrain therefore had less potential energy to drive the flood waters to spill over the terrain. Also, because the scour pit flood elevation is above the terrain elevations, the head to drive flood waters through which the breach operates was less when the near submergence.
4. The changes in breach length and scour pit formation assumptions generally resulted in less flooding depths and longer flood timings for all seven breach locations studied. This suggests that for total flow and timing, the importance of the breach formation depths was not as significant as the elevations of the

landside terrain the flood waters eventually must pass over after passing through the breach and scour pit.

5. Finally, the changes in timings in the two 2D models (Existing Conditions and Cumulative Conditions) stayed similar to the previous analysis and was not sensitive to the issues raised in the GEI Comments.

## C. Additional Findings

There were several additional findings from the supplemental analysis that are worth noting:

1. Breach 6

   Based on the results of the supplement analysis contained in TM 0040A, Breach 6 is another place where rapid inundation is possible. The three locations where rapid inundation is possible for Breach 6 are (a) Elkhorn, (b) I-80 Central, and (c) I-80 West.

   Two of these three locations were previously identified as rapid inundation locations: (b) I-80 Central, and (c) I-80 West. These two locations are subject to rapid inundation and should be treated as such in any emergency planning activities.

   However, while the Elkhorn location was identified as a possible rapid inundation location, inspection of the developed conditions topographic mapping used in the supplemental analysis reveals that the roadway in this vicinity was incorrectly mapped at its existing elevation in the cumulative analysis. In reality, the conceptual rough grading plan for this roadway is shown to be raised to elevation 21.5 feet – well above the developed conditions 200-year flood plain – and significantly above the elevation that will be subject to rapid inundation. Accordingly, this location can be eliminated from the list of rapid inundation locations.

   The table on Page 27 is hereby amended to show Breach 6 (American River Near Confluence with Sacramento River) with two critical locations: (1) I-80 Central, and (2) I-80 West. A new table of critical locations along major evacuation routes where rapid inundation is projected to occur is presented below:

| Breach No. | Breach Description | Critical Locations |
|---|---|---|
| 1 | Natomas Cross Canal Levee | None |
| 2 | North Sacramento River Levee | None |
| 3 | Sacramento River Levee Near Elverta Road | Elkhorn West<br>I-5 West<br>Powerline |
| 4 | Sacramento River Levee South of I-5 | Elkhorn West<br>I-5 Junction<br>I-5 West |
| 5 | Sacramento River Levee Near I-80 | I-80 Central<br>I-80 West |
| 6 | American River Near Confluence with Sacramento River | I-80 Central<br>I-80 West |
| 7 | NEMDC Levee Near I-80 | El Camino Avenue<br>I-80 East<br>San Juan Avenue |

Further, Exhibit 10 shows the location of the two rapid inundation locations associated with Breach 6 and hereby replaces Exhibit 5 above for the purposes of the 2024 analyses. Finally, Exhibit 11 shows the two locations of rapid inundation for Breach 6. Exhibits 10 and 11 are shown below.

2. Immaterial Reduction in Duration of Time

   Similar to the results of the 2022 analyses, the results of the 2024 analyses revealed several locations where insignificant reductions in duration of time to 1-foot depth of flooding at critical locations along evacuation routes occur. For the same reasons as explained earlier in this Procedural Memorandum, these reductions were deemed immaterial in the supplemental analysis.

3. Numerically Large Reductions in Duration of Time

   Again, similarly to the results of the 2022 analyses, the results of the 2024 analyses revealed several locations where numerically large reductions in duration of time to 1-foot depth of flooding at critical locations along evacuation routes occur. For the same reasons as explained earlier in this Procedural Memorandum, these large reductions were deemed immaterial in the supplemental analysis.

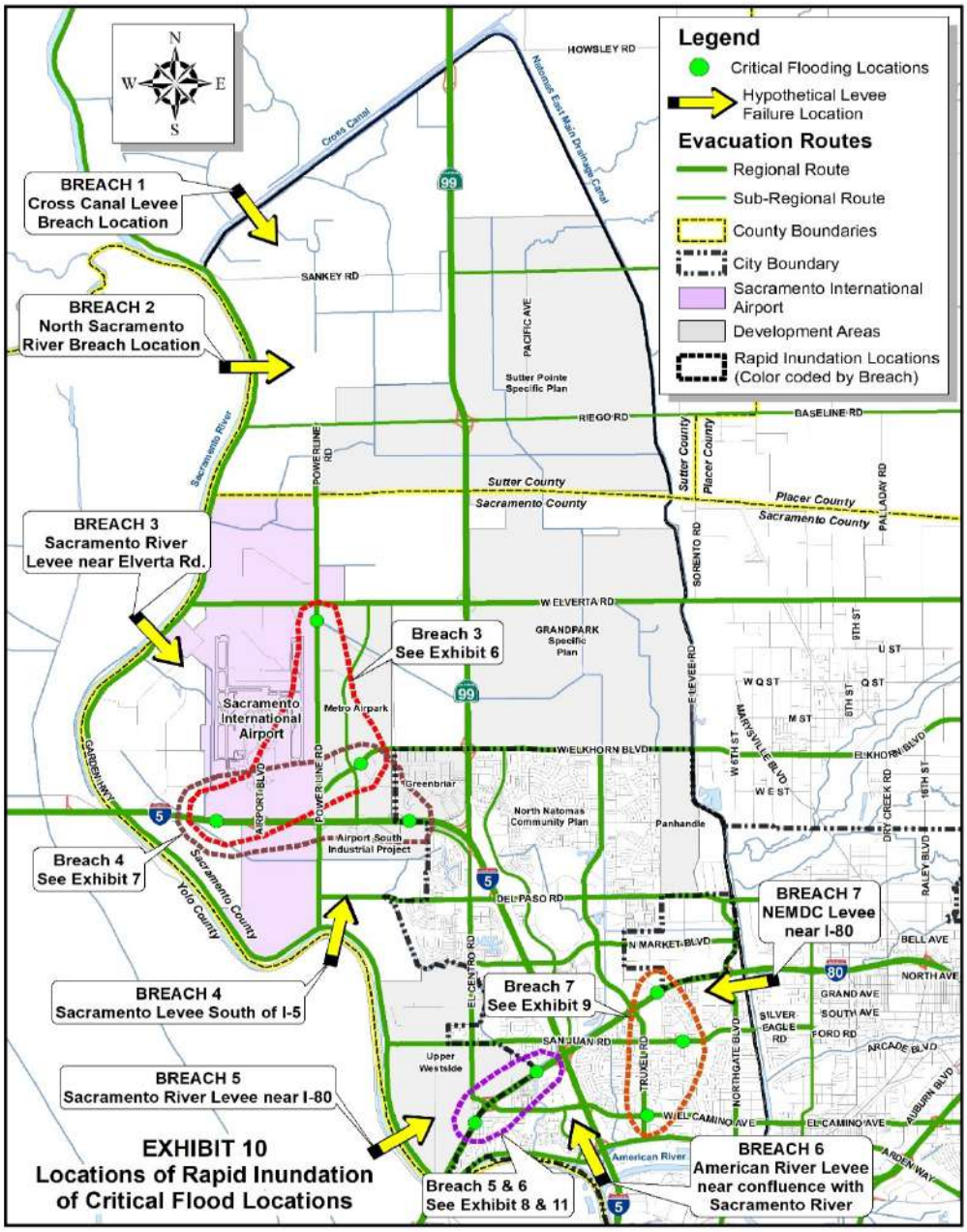



**Exhibit 10**
**Locations of Rapid Inundation of Regional Evacuation Routes**

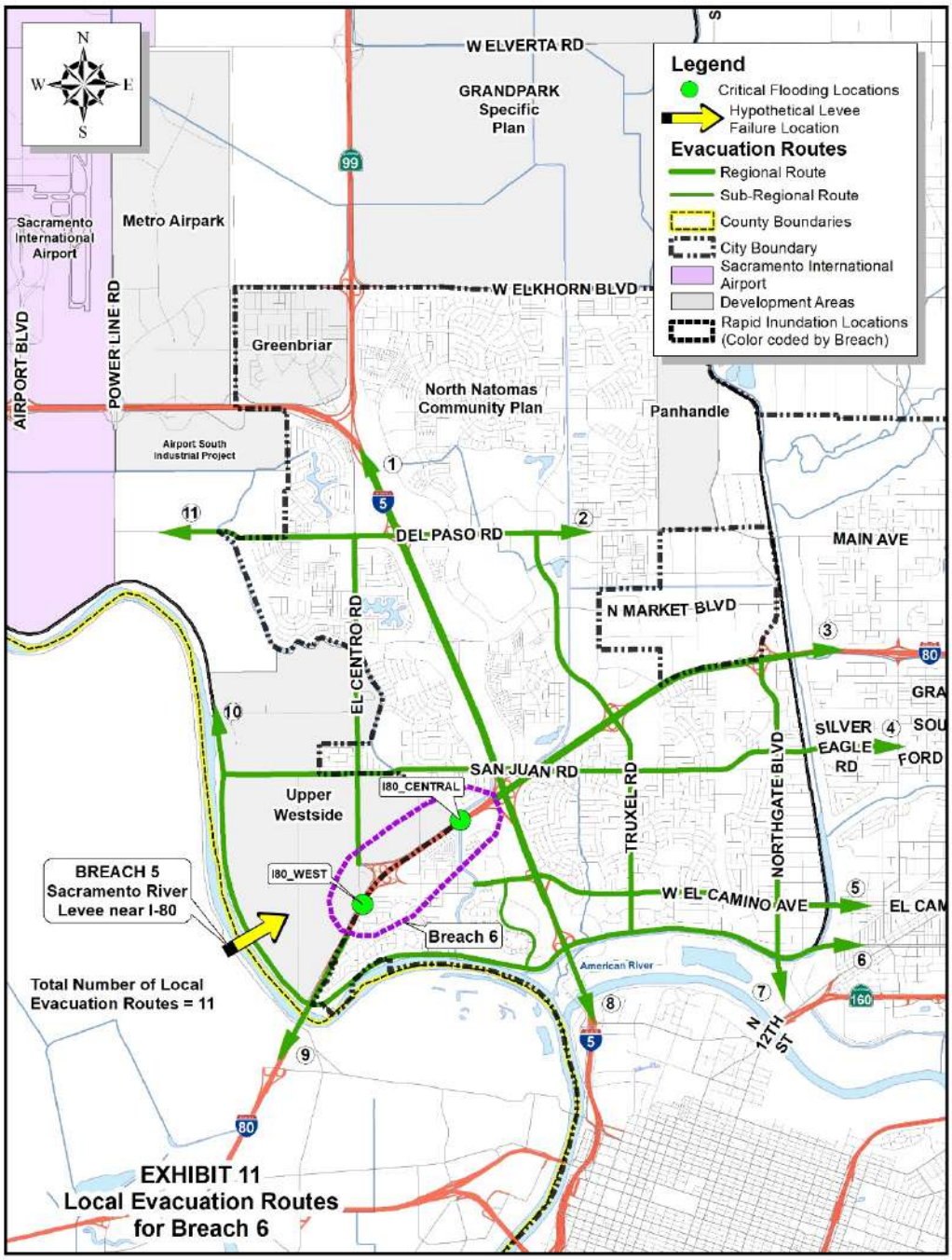



**Exhibit 11**
**Local Evacuation Routes for Breach 6**

4. Time to 1-Foot Depth of Flooding

   Inspection of the results of the supplemental analysis contained in Appendix C reveals that the duration of time to 1-foot of flooding depth at the critical locations along the major evacuation routes has generally increased. In addition to the decrease volumes of flow passing through the theoretical breach locations as a result of the use of the 2015 breach formation assumptions, the decrease in the durations of time to 1-foot of flooding depth is a result of the way the newer version of the HEC-RAS software calculates the overland flow time.

   The 2015 version of the HEC-RAS software used a “basin” approach that did not include overland flow durations. In reality, water does not instantaneously flow from one location to another as was calculated in the 2015 version of HEC--RAS. Rather, it takes time for flows spilling through a breach to reach distant locations with the Natomas Basin. It is primarily for this reason that the duration of time to 1-foot of flooding depth at the critical locations generally increases at the critical locations along the major evacuation routes.

5. Maximum Depth of Flooding

   The table below indicates the maximum flooding water surface elevations under Existing and under Cumulative Plus Project Conditions (C+P) for each of the seven breach locations. Generally, the supplemental analysis revealed that the maximum water surface elevation of flooding within the Natomas Basin is projected to be lower than that shown on the 2015 City/County Evacuation Plan.

   The reasoning behind this finding is principally the result of two differences between the modeling performed in 2015 and 2024:

   a. Lower rates and volumes of flood waters entering the Natomas Basin as revealed by the 2024 modeling, and

   b. The longer period of time required to reach stabilized levels of flooding with the external rivers and streams. As more time passes, the external rivers and streams are experiencing a falling of flood stages.

Notes:

| Supplemental Analysis<br>Maximum Flooding Water Surface Elevations<br>(Existing and C+P Conditions) | | | | | | |
|---|---|---|---|---|---|---|
| **Breach Scenario** | **GEI 1D Existing** | **UWS Existing** | **UWS Cumulative** | **Grandpark Existing** | **Grandpark Cumulative** | **Approximate WSE Change** |
| 1 Natomas Cross Canal | 37.56’ | 31.66’ | 31.66’ | 31.66’ | 31.66’ | <6.0 Feet> |
| 2 Sac. River North | 31.80’ | 23.81’ | 23.84’ | 23.81’ | 23.84’ | <8.0 Feet> |
| 3 Sac River North (Central) | 29.19’ | 24.95’ | 24.96’ | 24.95’ | 24.96’ | <4.2 Feet> |
| 4 Sac River Central | 32.28’ | 29.60’ | 29.61’ | 29.60’ | 29.61’ | <2.7 Feet> |
| 5 Sac River South | 26.29’ | 20.64’ | 20.91’ | 20.61’ | 20.91’ | <5.4 Feet> |
| 6 American River | 27.06’ | 18.21’ | 18.38’ | 18.21’ | 18.38’ | <8.7 Feet> |
| 7 NEMDC | 23.16’ | 23.29’ | 23.31’ | 23.29’ | 23.31’ | +0.1 Feet |

1. All elevations are based on the North American Vertical Datum of 1988 (NAVD 88). Horizontal Datum is CA State Plane Zone II Projection.
2. The Approximate Water Surface Elevation (WSE) Change reflects differences between the results of the GEI 1D Existing Conditions modeling performed in 2015 and the Cumulative Conditions modeling completed in 2024 supplemental analysis by CESI.
3. This table supersedes Table 17 mentioned above for the results of the supplemental analysis.

### D. Summary

In summary, with the exception of longer durations of time to 1-feet depth of flooding and a lower depth of maximum flooding, a review of Technical Memorandum 0040A (Appendix C) indicates that the findings of this supplemental analysis are generally consistent with both the 2015 City/County Evacuation Plan, and the analysis and findings of the 2022 modeling results presented earlier in this Procedural Memorandum. The longer durations of time and the lower maximum depths of flooding are positive findings that resulted from the use of the newer version of HEC-RAS flood modeling software and better topographic mapping.

Therefore, it is evident that neither the 2015 City/County Evacuation Plan nor the 2021 LHMP will require any changes as a result of the development of Upper Westside. That is, the supplemental analysis did not result in a finding that flooding in the Natomas Basin as a result of a catastrophic levee breach is projected to be an adverse impact from the development of Upper Westside.

## 14. REGIONAL FLOOD PROTECTION IMPROVEMENTS AND CLIMATE CHANGE[20]

There have been several changed conditions in the regional flood protection system since the City/County Evacuation Plan was prepared in 2015. The following narrative provides a layperson's explanation of these changed conditions that are intended to help the reader understand the conservative nature of the analysis contained in this Procedural Memorandum.

There are eight (8) principal changes in circumstances that one can logically reason that the analysis used to prepare the 2015 City/County Evacuation Plan and the analyses presented in this Procedural Memoranda is conservative in nature. These changes in circumstances are as follows:

1. **Improved Natomas Basin Levees**. The 2015 levee breach analysis was prepared based on the assumption that the condition of the levees in the modeling reflected the physical state of the levees as they existed in 2015. Since that time, many of the most critically weak levees have been improved (e.g., slurry walls, raising of the top heights, sub-excavated out sand lenses, reconstructed the levees as engineered structures, and/or buttressed). Accordingly, the 2015 modeling assumed weak levees that were susceptible to rapid failure, wide and deep breaches, and large volumes of water entering the Natomas Basin.

[20] The text for this section of the PM was developed from the content of a personal conservation between Ken Giberson (MacKay & Somps) and Chris Ferrari (GEI Consultants) on August 10, 2023.

Neither the 2024 analysis nor the supplemental analyses prepared for this Procedural Memorandum reflected the ongoing improvements to the Natomas Basin. These improvements, both those completed to date and those projected to be completed in the next few years, has, and will continue to significantly strengthen these levees over the levels that existed in 2015 when the City/County flood mapping exercise was completed. Today's levees are now much stronger and less susceptible to rapid failure and very wide levee breaches than they were in 2015.

Because of these improvements, significantly lower volumes of water could enter the Natomas Basin than suspected in 2015. Additionally, longer durations of time for the flood waters to reach the critical depth flooding threshold of one foot of depth at critical locations along the major evacuation routes with the Natomas Basin are reasonably anticipated to occur. Therefore, intuitively, it can be concluded that evacuation times would be longer than those predicted in this Procedural Memorandum.

2. **Better Weather Forecasting**. Today's weather forecasting models are highly accurate in their ability to provide advanced weather forecasts 7-10 days in advance of a storm event; much more advanced and accurate than the models that were available in 2015. These weather forecasting tools provide valuable information to the operators of the valley's reservoirs and rivers to aid in long-term flood forecasting – as much as 10-15 days advanced warning.

3. **Better River Flow Forecasting**. Current river forecasting models are much better today than existed in 2015. Additionally, these models have been calibrated to a degree of accuracy that they closely mimic real time river flows such as occurred during the storms of the winter of 2022/2023. Therefore, together with the better weather forecasting tools, today's river forecasting models provide more reliable flood forecasts.

4. **Better Operation of Reservoirs and Rivers**. These modern weather and flood forecasting tools allow the operators of the valley's reservoirs and streams to anticipate reservoir inflows and water levels a week or more in advance of the occurrence of major storms. This allows more time for the operators to plan for the impending flood flows and to release stored water in the reservoirs far in advance of a major storm event. This allows the reservoir system to create more flood storage

and the river system to convey those initial release flows to safely flow through the river system and out to the ocean. [21]

5. **Improved Bypass Facilities**. Currently underway are various efforts to widen local weirs and bypasses to convey a larger portion of the flood flows than historically possible. These weirs and bypass improvements will lessen the flows and water surface elevations in the Sacramento and American Rivers and lessen the pressure on the levee system protecting the Natomas Basin.

   There are efforts underway at this time with the construction work to widen the Sacramento Weir and Bypass, and the planning work that should lead to the widening of the Fremont Weir and the Yolo Bypass. The net effect of these improvements would be to lower the maximum stage in the Sacramento and American Rivers along the length of the Natomas Basin by about 1-foot.

   This lowering in river stages will reduce the pressures on the Natomas Levee system and reduce the potential for a levee breach. With lower stages in the river, not as much water will flow through a breach if it were to occur, and the time to critical depth of flooding of evacuation routes within the basin will increase.

6. **Additional Storage at and Upstream of Folsom Dam**. SAFCA and its flood protection partners have provided and are planning to provide additional storage in the American River watershed over time. These storage projects include:

   a. The recent construction of the auxiliary spillway which allows early and greater lowering of storage levels in the reservoir in anticipation of receiving peak inflows from the American River watershed during peak storm events,

   b. The on-going effort to increase in the height of Folsom Dam,

   c. The reoperation of Folsom Lake to create more storage for winter-time storm events (see Item 4 above), and

   d. The possibility of creating more flood storage farther up in the Folsom Reservoir watershed.

   These improvements will increase the level of flood protection for the Natomas Basin through lowering the maximum river stage in the Sacramento and American Rivers

[21] Advanced reservoir operations forecasting is referred to as Forecast Informed Reservoir Operations (FIRO). FIRO is a reservoir operations strategy that better informs decisions to retain or release water stored in the reservoir by integrating additional flexibility in operation policies and rules with enhanced monitoring and improvement weather and runoff forecasts. Source: American Meteorological Society; 2020).

during major flood events. This will help to reduce the pressure on the Natomas Bain levee system and decrease the potential for, and the severity of, flooding within the basin during a levee breach, thereby increasing the time to critical depth of flooding and increasing the evacuation time within the basin.

7. **Prior Lack of Evacuation Planning**. The 2015 modeling effort focused on time to critical depth of flooding of evacuation routes, not on emergency planning in the event of a levee breach. While some discussion about emergency planning occurred in 2015, it was not a major emphasis of the 2015 City/County Evacuation Plan.

   Additionally, the lack of definitive plans for evacuation of the Natomas Basin have not been prepared by the responsible emergency agencies and first responders. The suggestion in the Memoranda that emergency response agencies and first responders should formerly plan for immediate response to the threat of a levee breach (e.g., first responders focusing on the areas of early and rapid flooding, the pre-staging of evacuation route management[22]) will increase the safety of the general public during a flooding event.

8. **Effects of Climate Change**. Regional flood protection experts believe that current climate change modeling suggests that the resulting increase of peak flows in the river system from climate change will result in about a 1-foot increase in the maximum stage of the Sacramento River near the Natomas Basin. This, however, does not consider the reductions in the maximum river stage because of the current and future flood control and management improvements discussed above (e.g., improved levees, increased bypass capacities, storm and river forecasting leading to improved operations of reservoirs and river flows, etc.).

   When these two sets of factors are considered together, one can reasonably conclude that the effects of climate change, in and of itself, will not significantly increase the likelihood of levee breach occurrences of the Natomas Basin levee system. To a large degree, and perhaps totally, the effects of climate change will be offset by the benefits that will result from weather and river forecasting, reservoir system reoperations (FIRO), and the construction of additional flood control improvements (e.g., Natomas Basin levee, Folsom Dam improvements, and flood bypass improvements).

[22] For example, portable road barricades, warning lights and signs, and detour signs could be stored at staging areas near the critical locations along regional evacuation routes.

## 13. FINDINGS & CONCLUSIONS

A major finding of the analysis presented in this PM is that the improved modeling capabilities of the newer versions of HEC-RAS resulted in a more accurate analysis of the effects of catastrophic flooding that might occur within the Basin in the event of a levee breach. The use of newer HEC-RAS modeling software allowed for the development of a more accurate representation of the projected effects of a catastrophic levee breach in terms of flood evacuation planning and in terms of the maximum depth of flooding during a catastrophic levee breach.

Under C+P Conditions, the duration of time to 1-foot depth of flooding at critical locations along the regional evacuation routes within the Basin were generally found to be longer than projected in the 2015 GEI analysis under existing conditions.

Another major finding of this PM is that the development of Upper Westside will not have a material effect on the existing rate of flood inundation propagation or the maximum depth of flooding within the Basin in the hypothetical event of a levee breach. This finding applies to C+P Conditions.

The 2022 modeling effort identified nine (9) locations where rapid inundation of a regional evacuation route is projected to occur under one (1) or more of the hypothetical levee breach scenarios. For example, under the Breach No. 3 scenario, there are three (3) locations where rapid inundation is projected to occur. Breach No. 4 has three (3) locations, Breach No. 5 has two (2) locations, and Breach No. 7 has three (3) locations. Breach Nos. 3 and 4 both affect two (2) common locations out of the three (3) locations mentioned above.

In addition to the same nine (9) locations where rapid inundation of regional evacuation routes were identified in the 2022 flood modeling, the 2024 supplemental analysis revealed that Breach 6 has the same type of rapid inundation effects as mentioned above for Breach 5. Both Breach 5 and 6 affect two (2) common locations: (I-80 Central and I-80 West).

Due to the modeling limitations explained earlier in this PM, any rapid inundation time frames under twelve (12) hours are deemed to occur “immediately”, or nearly so after a levee breach. Rapid inundation of these critical locations is projected to occur in the same relative time frames under Existing Conditions and C+P Conditions regardless of the levee breach assumption set used in the flood modeling analysis. That is to say, the development of Upper Westside does not adversely affect the rapidity of flooding of these critical locations.

Depending upon the location of an actual breach, the affected roadways should be closed to the traveling public prior to or immediately following the occurrence of a levee breach in their respective locations. The affected roadways most prone to rapid inundation are located in the vicinity of Breach Nos. 3, 4, 5, 6, and 7, respectively.

Further, the identification of the roadways that are prone to rapid inundation in the event of a levee breach provides evacuation planners with a clear picture of which evacuation routes are not prone to rapid inundation. This finding should allow evacuation planners to prioritize their roadway closure plans to allow for early evacuations from the Basin regardless of the location of a levee breach, including the use of alternative local routes (as necessary). Accordingly, it is concluded that post development of Upper Westside, there will be adequate time to allow movement of citizens to a place of relative safety via a route that does not pose significant danger. Further, it is concluded that the maximum depth of flooding within the Basin in the event of a levee breach is not materially changed from existing conditions under C+P Conditions.

Further, using the 2022 breach assumption set it is concluded that the maximum depth of flooding within the Basin in the event of a levee breach is not materially changed from existing conditions under both E and C+P Conditions. However, when using the 2015 breach assumption set it is concluded that the maximum depth of flooding within the Basin is significantly reduced under C+P Conditions as compared to the depths of flooding determined in the 2015 flood modeling effort that supported the 2015 City/County Evacuation Plan. This difference indicates that the depth of flooding from a levee breach is somewhat variable, and it will depend on the location, the length of the levee breach, and the depth of scour pits that are really formed during an actual levee breach scenario.

Finally, based on the findings of the analysis presented in this PM, it is evident that the development of Upper Westside will not require any changes to the SacOES plans and the 2021 LHMP. A few minor changes in the 2015 City/County Evacuation Plan may be advisable to reflect the different durations of time until the critical locations along the regional evacuation routes studied in this PM are inundated to a 1-foot depth within 1-hour after a catastrophic levee breach.

## 14. LIMITATIONS

This PM, prepared in support of the Upper Westside project, was prepared to the best of our knowledge and judgement to satisfy our understanding of its intended purposes. It was prepared in a manner consistent with that level of care and skill ordinarily exercised by other members of MacKay & Somps' profession practicing in the same locality, under similar conditions, and on the date the services are provided. The conclusions, opinions, and recommendations contained within this PM are based on our professional judgement and experience in the general geographic area in which the project is located. Some data may have been prepared using information from outside sources that have varying degrees of reliability.

The use or misuse of this information contained in this PM, other than for its intended purposes, as noted, is at the sole risk of the party using the information. MacKay & Somps

makes no other representations, guarantees, or warranties, express or implied, regarding its instruments of professional services, communications (oral or written), estimates or reports, and/or opinions contained herein.

This report presents the results of an engineering analysis relating to the duration of time to 1-foot depth of flooding at critical locations along regional evacuation routes and the maximum depth of flooding within the Basin in the event of a catastrophic breach of the levee system protecting the Basin. It is possible that conditions could vary between the location, mode, and rapidity of an actual levee breach as compared to the assumptions contained in this PM. Accordingly, the effect that these changes may result in the need for different evacuation responses than those described in this PM.

This report is based on upon technical analysis by CESI wherein CESI updated the 2015 GEI modeling that was used for the 2015 City/County Evacuation Plan. With the exception of the changes described in this PM, the assumption sets contained in the 2015 GEI models were not changed. The idealized analytical models developed for this PM are based on considerable engineering and hydraulic judgement and experience, and they are intended to be reasonable representations of the conditions and anticipated performance of the levee breach scenarios envisioned herein.

This is particularly true as it relates to the assumption sets contained in the 2015 GEI models as they relate to assumptions on the modes of levee failures and the stages and timing of river flows in the rivers and streams in the vicinity of the Basin. Any errors contained in the 2015 GEI models are the responsibility of others.

If changes occur in these assumption sets, the findings and recommendations contained in this PM should be reviewed and MacKay & Somps should be provided an opportunity to provide additional recommendations and/or to modify the recommendations contained herein, as appropriate. The conclusions and recommendations contained in this report are solely professional opinions and they are subject to potential revision from changes in available data and applicable regulatory criteria. No warranty is expressed or implied.

## 15. REFERENCES

The analysis upon which this Procedural/Technical Memorandum is based, and upon which the reported findings and conclusions are reached, is predicated upon the following:

1. *Bardini, Gary, Director of Planning, Sacramento Area Flood Control Agency (SAFCA – Personal Conversation, July 21, 2022.)*
2. *City/County of Sacramento Flood Emergency Evacuation Plan – Natomas Study Area* (December 2015).

3. County of Sacramento, *2016 Sacramento Countywide Local Hazard Mitigation Plan Update*, prepared by Foster Morrison Consulting, LLC, December 2016.
4. County of Sacramento, *2021 Sacramento County Multi-jurisdictional Local Hazard Mitigation Plan Update*, September 2021.
5. County of Sacramento, Email Correspondence from Todd Smith, Principal Planner (now the County's Planning Director), to Mike Motroni, et.al, at Wood Rodgers, Inc., dated September 15, 2020, requesting submittal of a Flood Inundation Propagation Procedural/Technical Memorandum.
6. County of Sacramento, Office of Emergency Services (SacOES), *Evacuation Functional Annex*, August 2021.
7. County of Sacramento, Office of Emergency Services (SacOES), *Evacuation Operations Plan – Version 1.0*, April 2017,
8. County of Sacramento, Office of Emergency Services (SacOES), *Operational Area Plan*, March 2019.
9. County of Sacramento, Office of Emergency Services (SacOES), *Sacramento County Recovery Plan*, December 2020.
10. Ferrari, Chris, Project Engineer, GEI Consultants – Personal Communication, June 14, 2022, and August 10, 2022.
11. Flynn-Nevins, Mary Jo, Chief of Emergency Services, Sacramento County Office of Emergency Services (SacOES) – Personal Conversation, September 9, 2022.
12. Plummer, Thomas, Principal, Civil Engineering Solutions, Inc. (CESI) – Personal Communications, various dates.
13. "Sankey Road Gap Closure Project Basis of Design Report," SAFCA (May 22, 2018).
14. "Technical Memorandum No. 0040, Grandpark Flood Control and Storm Drainage Master Plan – Levee Breach Analysis – Cumulative Analysis", Civil Engineering Solutions, Inc., (CESI), November 7, 2022. See **Appendix B**.
15. "Technical Memorandum No. 0040A, Grandpark Flood Control and Storm Drainage Master Plan – Levee Breach Analysis – Cumulative Analysis", Civil Engineering Solutions, Inc., (CESI), May 3, 2024. See **Appendix C**.

**Table 1**

**Effects at Critical Evacuation Route Locations (C+P Conditions)**
**Breach Location 1: Natomas Cross Canal Levee**

| Evacuation Route Critical Location | Time to 1-Foot Depth Using Previous 1D Model (Existing Conditions) In Hours | Time to 1-Foot Depth Using Updated 2D Model (Existing Conditions) In Hours | Time to 1-Foot Depth Using Updated 2D Model (Cumulative + Project (C+P) Conditions) In Hours | Improvement (Decreased Delay) in Time to 1-Foot Depth of Flooding In Hours |
|---|---|---|---|---|
| Del Paso Road | 22 | 39 | 50 | +11 Hours |
| El Camino Ave. | 36 | 52 | 63 | +11 Hours |
| Elkhorn | 38 | 39 | 50 | +11 Hours |
| Elkhorn West | 73 | 96 | 104 | +8 Hours |
| Elverta | 47 | 42 | 49 | +7 Hours |
| Elverta West | 106 | 116 | 111 | -5 Hours |
| I-5 Central | 106 | 125 | 128 | +3 Hours |
| I-5 Junction | 79 | 79 | 111 | +32 Hours |
| I-5 West | 73 | 96 | 104 | +8 Hours |
| I-80 Central | 58 | 73 | 74 | +1 Hour |
| I-80 East | 31 | 46 | 63 | +17 Hours |
| I-80 West | 63 | 80 | 79 | -1 Hour |
| Natomas Road | 28 | 36 | 47 | +11 Hours |
| Power Line | 92 | 116 | 124 | +8 Hours |
| San Juan Ave. | 36 | 52 | 62 | +10 Hours |
| SR-99 | 89 | 93 | 62 | -31 Hours |
| SR-99 North | 98 | 98 | 39 | -59 Hours |
| SR-99 South | 135 | 145 | 147 | +2 Hours |
| Averages | 67 | 79 | 82 | +3 Hours |

**Note**: The locations where the duration in time under E+P Conditions was found to be equal to or greater than under Existing Conditions are highlighted in light green. The locations where the duration in time was found to be less than under Existing Conditions are shown in light yellow highlighting**.** A decrease in time to 1-foot depth of flooding, in hours, of negative 1 hour (i.e., "-1 hour") is considered "no change" in duration of time due to rounding estimates and/or the inherent accuracy of the modeling software. Hours may not add due to rounding.

**Table 2**

**Effects at Critical Evacuation Route Locations (C+P Conditions)**
**Breach Location 2: North Sacramento River Levee**

| Evacuation Route Critical Location | Time to 1-Foot Depth Using Previous 1D Model (Existing Conditions) In Hours | Time to 1-Foot Depth Using Updated 2D Model (Existing Conditions) In Hours | Time to 1-Foot Depth Using Updated 2D Model (Cumulative + Project (C+P) Conditions) In Hours | Improvement (Increased delay) in Time to 1-Foot Depth of Flooding In Hours |
|---|---|---|---|---|
| Del Paso Road | 14 | 22 | 26 | +4 Hours |
| El Camino Ave. | 22 | 29 | 33 | +4 Hours |
| Elkhorn | 20 | 20 | 24 | +4 Hours |
| Elkhorn West | 45 | 52 | 36 | -16 Hours |
| Elverta | 25 | 18 | 21 | +3 Hours |
| Elverta West | 43 | 33 | 14 | -19 Hours |
| I-5 Central | 53 | 56 | 57 | +1 Hour |
| I-5 Junction | 47 | 55 | 58 | +3 Hours |
| I-5 West | 44 | 52 | 55 | +3 Hours |
| I-80 Central | 34 | 39 | 38 | -1 Hour |
| I-80 East | 18 | 25 | 32 | +7 Hours |
| I-80 West | 32 | 39 | 40 | +1 Hour |
| Natomas Road | 17 | 20 | 24 | +4 Hours |
| Power Line | 55 | 53 | 65 | +12 Hours |
| San Juan Ave. | 22 | 28 | 32 | +4 Hours |
| SR-99 | 35 | 22 | 19 | -3 Hours |
| SR-99 North | 12 | 15 | 14 | -1 Hour |
| SR-99 South | 87 | 88 | 88 | 0 Hours |
| Averages | 35 | 37 | 38 | +1 Hour |

**Note**: The locations where the duration in time under E+P Conditions was found to be equal to or greater than under Existing Conditions are highlighted in light green. The locations where the duration in time was found to be less than under Existing Conditions are shown in light yellow highlighting**.** A decrease in time to 1-foot depth of flooding, in hours, of negative 1 hour (i.e., “-1 hour”) is considered “no change” in duration of time due to rounding estimates and/or the inherent accuracy of the modeling software. Hours may not add due to rounding.

**Table 3**

**Effects at Critical Evacuation Route Locations (C+P Conditions)**
**Breach Location 3: Sacramento River Levee Near Elverta Road**

| Evacuation Route Critical Location | Time to 1-Foot Depth Using Previous 1D Model (Existing Conditions) In Hours | Time to 1-Foot Depth Using Updated 2D Model (Existing Conditions) In Hours | Time to 1-Foot Depth Using Updated 2D Model (Cumulative + Project (C+P) Conditions) In Hours | Improvement (Increased Delay) in Time to 1-Foot Depth of Flooding In Hours |
|---|---|---|---|---|
| Del Paso Road | 33 | 37 | 37 | 0 Hours |
| El Camino Ave. | 30 | 36 | 36 | 0 Hours |
| Elkhorn | 43 | 48 | 46 | -2 Hours |
| Elkhorn West | 4 | 9 | 9 | 0 Hours |
| Elverta | 47 | 53 | 61 | +8 Hours |
| Elverta West | 79 | 82 | 81 | -1 Hour |
| I-5 Central | 67 | 48 | 46 | -2 Hours |
| I-5 Junction | 10 | 13 | 13 | 0 Hours |
| I-5 West | 9 | 7 | 6 | -1 Hour |
| I-80 Central | 17 | 24 | 25 | +1 Hour |
| I-80 East | 40 | 40 | 37 | **-3 Hours** |
| I-80 West | 23 | 28 | 27 | -1 Hour |
| Natomas Road | 38 | 44 | 44 | 0 Hours |
| Power Line | 17 | 6 | 5 | -1 Hour |
| San Juan Ave. | 30 | 36 | 36 | 0 Hours |
| SR-99 | 66 | 71 | 73 | +2 Hours |
| SR-99 North | 75 | 80 | 84 | +4 Hours |
| SR-99 South | 129 | 127 | 125 | -2 Hours |
| Averages | 42 | 44 | 44 | 0 Hours |

**Note**: The locations where the duration in time under E+P Conditions was found to be equal to or greater than under Existing Conditions are highlighted in light green. The locations where the duration in time was found to be less than under Existing Conditions are shown in light yellow highlighting**.** A decrease in time to 1-foot depth of flooding, in hours, of negative 1 hour (i.e., "-1 hour") is considered "no change" in duration of time due to rounding estimates and/or the inherent accuracy of the modeling software. Hours may not add due to rounding.

**Table 4**

**Effects at Critical Evacuation Route Locations (C+P Conditions)**
**Breach Location 4: Sacramento River Levee South of I-5**

| Evacuation Route Critical Location | Time to 1-Foot Depth Using Previous 1D Model (Existing Conditions) In Hours | Time to 1-Foot Depth Using Updated 2D Model (Existing Conditions) In Hours | Time to 1-Foot Depth Using Updated 2D Model (Cumulative + Project (C+P) Conditions) In Hours | Improvement (Increased Delay) in Time to 1-Foot Depth of Flooding In Hours |
|---|---|---|---|---|
| Del Paso Road | 38 | 38 | 37 | -1 Hour |
| El Camino Ave. | 33 | 37 | 37 | 0 Hours |
| Elkhorn | 47 | 51 | 49 | -2 Hours |
| Elkhorn West | 9 | 8 | 8 | 0 Hours |
| Elverta | 52 | 56 | 65 | +9 Hours |
| Elverta West | 80 | 78 | 77 | -1 Hour |
| I-5 Central | 69 | 55 | 53 | -2 Hours |
| I-5 Junction | 9 | 8 | 8 | 0 Hours |
| I-5 West | 6 | 6 | 6 | 0 Hours |
| I-80 Central | 18 | 23 | 24 | +1 Hour |
| I-80 East | 44 | 42 | 39 | -3 Hours |
| I-80 West | 24 | 28 | 26 | -2 Hours |
| Natomas Road | 42 | 46 | 47 | +1 Hour |
| Power Line | 21 | 19 | 19 | 0 Hours |
| San Juan Ave. | 33 | 37 | 37 | 0 Hours |
| SR-99 | 70 | 75 | 78 | +3 Hours |
| SR-99 North | 78 | 83 | 85 | +2 Hours |
| SR-99 South | 101 | 99 | 97 | -2 Hours |
| Averages | 43 | 44 | 44 | 0 Hours |

**Note**: The locations where the duration in time under E+P Conditions was found to be equal to or greater than under Existing Conditions are highlighted in light green. The locations where the duration in time was found to be less than under Existing Conditions are shown in light yellow highlighting**.** A decrease in time to 1-foot depth of flooding, in hours, of negative 1 hour (i.e., "-1 hour") is considered "no change" in duration of time due to rounding estimates and/or the inherent accuracy of the modeling software. Hours may not add due to rounding.

**Table 5**

**Effects at Critical Evacuation Route Locations (C+P Conditions)**
**Breach Location 5: Sacramento River Levee Near I-80**

| Evacuation Route Critical Location | Time to 1-Foot Depth Using Previous 1D Model (Existing Conditions) In Hours | Time to 1-Foot Depth Using Updated 2D Model (Existing Conditions) In Hours | Time to 1-Foot Depth Using Updated 2D Model (Cumulative + Project (C+P) Conditions) In Hours | Improvement (Increased Delay) in Time to 1-Foot Depth of Flooding In Hours |
|---|---|---|---|---|
| Del Paso Road | 21 | 19 | 18 | -1 Hour |
| El Camino Ave. | 19 | 18 | 16 | -2 Hours |
| Elkhorn | 39 | 36 | 30 | -6 Hours |
| Elkhorn West | 57 | 25 | 26 | +1 Hour |
| Elverta | 50 | 46 | 60 | +14 Hours |
| Elverta West | 112 | 110 | 113 | +3 Hours |
| I-5 Central | 100 | 96 | 90 | -6 Hours |
| I-5 Junction | 27 | 30 | 34 | +4 Hours |
| I-5 West | 19 | 23 | 25 | +2 Hours |
| I-80 Central | 9 | 8 | 6 | -2 Hours |
| I-80 East | 21 | 19 | 18 | -1 Hour |
| I-80 West | 9 | 6 | 3 | -3 Hours |
| Natomas Road | 30 | 29 | 27 | -2 Hours |
| Power Line | 46 | 51 | 55 | +4 Hours |
| San Juan Ave. | 19 | 18 | 16 | -2 Hours |
| SR-99 | 84 | 83 | 83 | 0 Hours |
| SR-99 North | 22 | 98 | 102 | +4 Hours |
| SR-99 South | 99 | 99 | 97 | -2 Hours |
| Averages | 44 | 45 | 46 | +1 Hour |

**Note**: The locations where the duration in time under E+P Conditions was found to be equal to or greater than under Existing Conditions are highlighted in light green. The locations where the duration in time was found to be less than under Existing Conditions are shown in light yellow highlighting**.** A decrease in time to 1-foot depth of flooding, in hours, of negative 1 hour (i.e., "-1 hour") is considered "no change" in duration of time due to rounding estimates and/or the inherent accuracy of the modeling software. Hours may not add due to rounding.

**Table 6**

**Effects at Critical Evacuation Route Locations (C+P Conditions)**
**Breach Location 6: American River Levee Near Confluence with Sacramento River**

| Evacuation Route Critical Location | Time to 1-Foot Depth Using Previous 1D Model (Existing Conditions) In Hours | Time to 1-Foot Depth Using Updated 2D Model (Existing Conditions) In Hours | Time to 1-Foot Depth Using Updated 2D Model (Cumulative + Project (C+P) Conditions) In Hours | Improvement (Increased Delay) in Time to 1-Foot Depth of Flooding In Hours |
|---|---|---|---|---|
| Del Paso Road | 10 | 76 | 118 | +42 Hours |
| El Camino Ave. | 4 | 31 | 32 | +1 Hour |
| Elkhorn | 21 | No Flooding | No Flooding | No Flooding |
| Elkhorn West | 14 | No Flooding | No Flooding | No Flooding |
| Elverta | 29 | No Flooding | No Flooding | No Flooding |
| Elverta West | 65 | No Flooding | No Flooding | No Flooding |
| I-5 Central | 57 | No Flooding | No Flooding | No Flooding |
| I-5 Junction | 17 | No Flooding | No Flooding | No Flooding |
| I-5 West | 11 | No Flooding | No Flooding | No Flooding |
| I-80 Central | 137 | 143 | 156 | +13 Hours |
| I-80 East | 6 | 40 | 42 | +2 Hours |
| I-80 West | 141 | 148 | 162 | +14 Hours |
| Natomas Road | 16 | No Flooding | No Flooding | No Flooding |
| Power Line | 31 | No Flooding | No Flooding | No Flooding |
| San Juan Ave. | 4 | 30 | 31 | +1 Hour |
| SR-99 | 53 | No Flooding | No Flooding | No Flooding |
| SR-99 North | 61 | No Flooding | No Flooding | No Flooding |
| SR-99 South | 133 | No Flooding | No Flooding | No Flooding |
| Averages | 45 | 78 | 90 | +12 Hours |

**Note**: A decrease in time to 1-foot depth of flooding, in hours, of negative 1 hour (i.e., "-1 hour") is considered "no change" in duration of time due to rounding estimates and/or the inherent accuracy of the modeling software. Hours may not add due to rounding.

**Table 7**

**Effects at Critical Evacuation Route Locations (C+P Conditions)**
**Breach Location 7: NEMDC Levee Near I-80**

| Evacuation Route Critical Location | Time to 1-Foot Depth Using Previous 1D Model (Existing Conditions) In Hours | Time to 1-Foot Depth Using Updated 2D Model (Existing Conditions) In Hours | Time to 1-Foot Depth Using Updated 2D Model (Cumulative + Project (C+P) Conditions) In Hours | Improvement (Increased Delay) in Time to 1-Foot Depth of Flooding In Hours |
|---|---|---|---|---|
| Del Paso Road | 14 | 15 | 15 | 0 Hours |
| El Camino Ave. | 5 | 6 | 6 | 0 Hours |
| Elkhorn | 29 | 30 | 25 | -5 Hours |
| Elkhorn West | 80 | 84 | 76 | -8 Hours |
| Elverta | 56 | 57 | 159 | +102 Hours |
| Elverta West | No Flooding | No Flooding | No Flooding | No Flooding |
| I-5 Central | No Flooding | No Flooding | No Flooding | No Flooding |
| I-5 Junction | 88 | 93 | 90 | -3 Hours |
| I-5 West | 82 | 86 | 80 | -6 Hours |
| I-80 Central | 26 | 37 | 30 | -7 Hours |
| I-80 East | 6 | 2 | 3 | +1 Hour |
| I-80 West | 27 | 48 | 39 | -9 Hours |
| Natomas Road | 20 | 22 | 22 | 0 Hours |
| Power Line | 140 | 136 | 123 | -13 Hours |
| San Juan Ave. | 4 | 4 | 3 | -1 Hour |
| SR-99 | No Flooding | No Flooding | No Flooding | No Flooding |
| SR-99 North | No Flooding | No Flooding | No Flooding | No Flooding |
| SR-99 South | No Flooding | No Flooding | No Flooding | No Flooding |
| Averages | 44 | 48 | 52 | +4 Hours |

**Note**: The locations where the duration in time under E+P Conditions was found to be equal to or greater than under Existing Conditions are highlighted in light green. The locations where the duration in time was found to be less than under Existing Conditions are shown in light yellow highlighting**.** A decrease in time to 1-foot depth of flooding, in hours, of negative 1 hour (i.e., “-1 hour”) is considered “no change” in duration of time due to rounding estimates and/or the inherent accuracy of the modeling software. Hours may not add due to rounding.

**Table 8**

**Reduction in Duration of Time Until Critical Flooding Depth Occurs (Cumulative Plus Project vs. Existing Conditions)**

| Breach Location (Table No.) | Critical Evacuation Route Location | Reduction in Time (Hours) | Remaining Evacuation Time (Hours) | Comment (See Note 1) |
|---|---|---|---|---|
| 1 (Table 1) | Elverta West | -5 Hours | 111 Hours | Adequate Evacuation Time |
| | SR-99 | -31 Hours | 62 Hours | Adequate Evacuation Time |
| | SR-99 North | -59 Hours | 39 Hours | Adequate Evacuation Time |
| 2 (Table 2) | Elkhorn West | -16 Hours | 36 Hours | Adequate Evacuation Time |
| | Elverta West | -19 Hours | 14 Hours | Adequate Evacuation Time |
| | SR-99 | -3 Hours | 19 Hours | Adequate Evacuation Time |
| 3 (Table 113) | Elkhorn | -2 Hours | 46 Hours | Adequate Evacuation Time |
| | I-5 Central | -2 Hours | 46 Hours | Adequate Evacuation Time |
| | I-80 East | -3 Hours | 37 Hours | Adequate Evacuation Time |
| | SR-99 South | -2 Hours | 125 Hours | Adequate Evacuation Time |
| 4 (Table 4) | Elkhorn | -2 Hours | 49 Hours | Adequate Evacuation Time |
| | I-5 Central | -2 Hours | 53 Hours | Adequate Evacuation Time |
| | I-80 East | -3 Hours | 39 Hours | Adequate Evacuation Time |
| | I-80 West | -2 Hours | 26 Hours | Adequate Evacuation Time |
| | SR-99 South | -2 Hours | 97 Hours | Adequate Evacuation Time |
| 5 (Table 5) | El Camino Ave. | -2 Hours | 16 Hours | Adequate Evacuation Time |
| | Elkhorn | -6 Hours | 30 Hours | Adequate Evacuation Time |
| | I-5 Central | -6 Hours | 90 Hours | Adequate Evacuation Time |
| | I-80 Central | -2 Hours | 6 Hours | Rapid Inundation (See Note 2) |
| | I-80 West | -3 Hours | 3 Hours | Rapid Inundation (See Note 2) |
| | Natomas Road | -2 Hours | 27 Hours | Adequate Evacuation Time |
| | San Juan Ave. | -2 Hours | 16 Hours | Adequate Evacuation Time |
| | SR-99 South | -2 Hours | 97 Hours | Adequate Evacuation Time |

| Breach Location (Table No.) | Critical Evacuation Route Location | Reduction in Time (Hours) | Remaining Evacuation Time (Hours) | Comment (See Note 1) |
|---|---|---|---|---|
| 6 (Table 6) | None | N/A | N/A | N/A |
| 7 (Table 7) | Elkhorn | -5 Hours | 25 Hours | Adequate Evacuation Time |
| | Elkhorn West | -8 Hours | 76 Hours | Adequate Evacuation Time |
| | I-5 Junction | -3 Hours | 90 Hours | Adequate Evacuation Time |
| | I-5 West | -6 Hours | 80 Hours | Adequate Evacuation Time |
| | I-80 Central | -7 Hours | 30 Hours | Adequate Evacuation Time |
| | I-80 West | -9 Hours | 39 Hours | Adequate Evacuation Time |
| | Power Line | -13 Hours | 123 Hours | Adequate Evacuation Time |

Note:

1. The findings in the Comment column denoted “Adequate Evacuation Time” indicate that the remaining evacuation time (in hours) is significantly greater than a reasonable evacuation time allowance in the event of a levee breach. Additionally, this finding also recognizes that for each location shown there are numerous additional alternative evacuation routes available to the driving public during a flood emergency.
2. While this location is subject to rapid inundation, there are several alternative evacuation routes available to the driving public to relocate from areas of relative danger to areas of relative safety.

**Table 9**

**Upper Westside Maximum Flooding Water Surface Elevations**

**Under C+P Conditions**

| Breach Location | Existing Conditions (2D) | Cumulative Plus Project Conditions (2D) | Difference in Flooding Elevations | Comment |
|---|---|---|---|---|
| 1 | 36.85 Feet | 36.76 Feet | -0.09 Feet | Slight Decrease In Flooding |
| 2 | 31.77 Feet | 31.78 Feet | +0.01 Feet | Slight Increase In Flooding |
| 3 | 29.22 Feet | 29.23 Feet | +0.01 Feet | Slight Increase In Flooding |
| 4 | 32.23 Feet | 32.24 Feet | +0.01 Feet | Slight Increase In Flooding |
| 5 | 25.15 Feet | 25.14 Feet | -0.01 Feet | Slight Decrease In Flooding |
| 6 | 16.15 Feet | 15.82 Feet | -0.33 Feet | Slight Decrease In Flooding |
| 7 | 23.23 Feet | 23.28 Feet | +0.05 Feet | Slight Increase In Flooding |

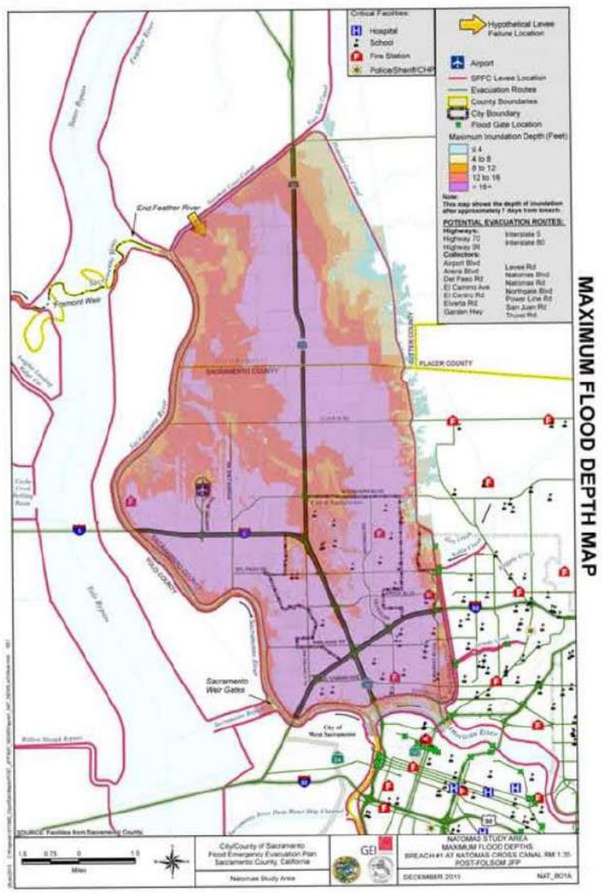
Note: All elevations shown are related to the NAVD 88 Datum. These differences in flooding depth are within the inherent accuracy of the model. Therefore, they are not considered material for the purposes of this PM.

# APPENDIX A

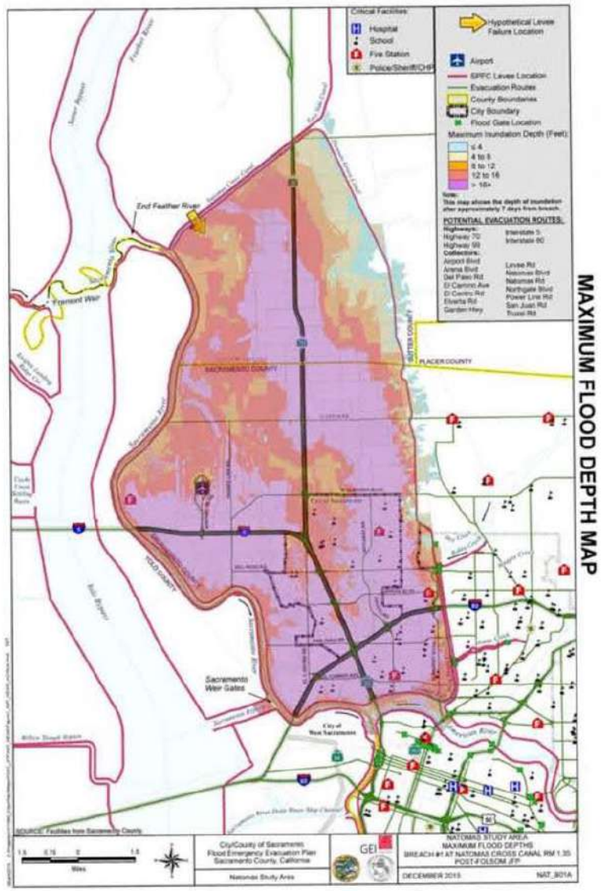
## Maximum Depth of Flooding Exhibits

## Under Cumulative + Project Conditions (C+P)

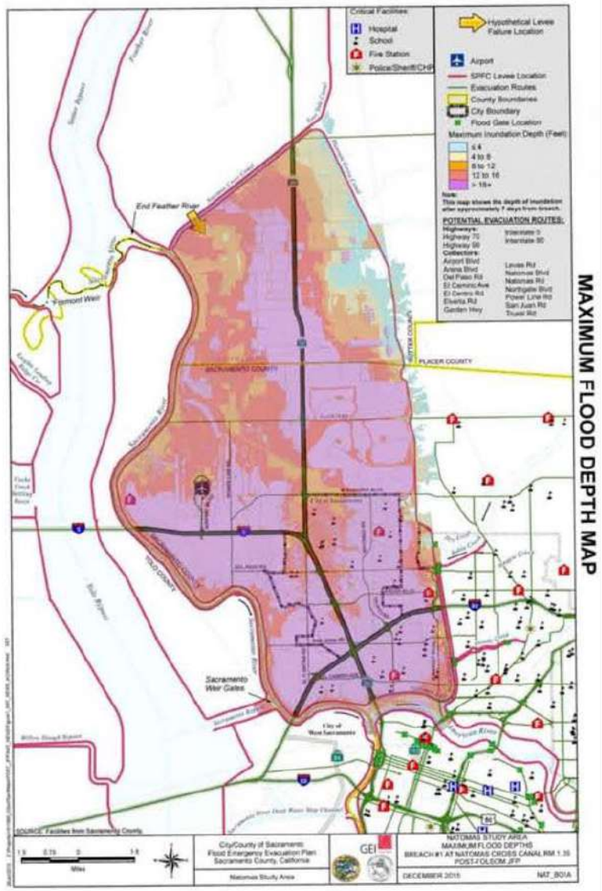
## BREACH 1 AT NATOMAS CROSS CANAL
## CUMULATIVE PLUS PROJECT ANALYSIS




GRANDPARK ANALYSIS - BREACH 1-
1D GEI EXISTING ALTERNATIVE

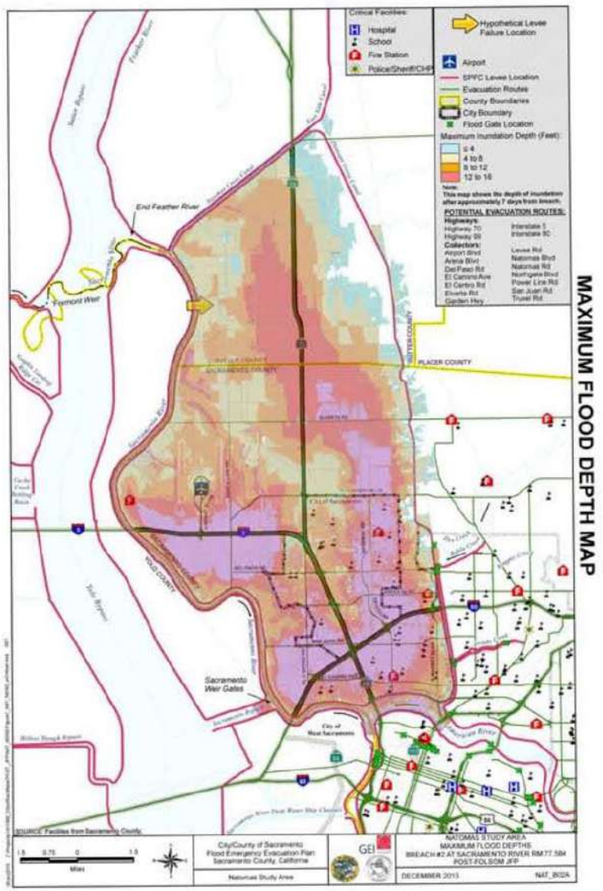



GRANDPARK ANALYSIS - BREACH 1-
2D EXISTING ALTERNATIVE

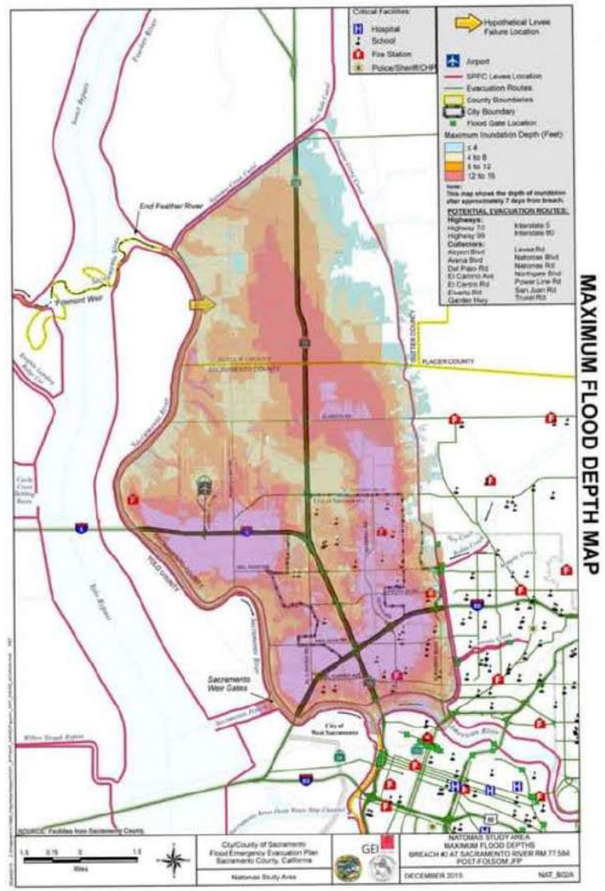



GRANDPARK ANALYSIS - BREACH 1-
2D CUMULATIVE ALTERNATIVE

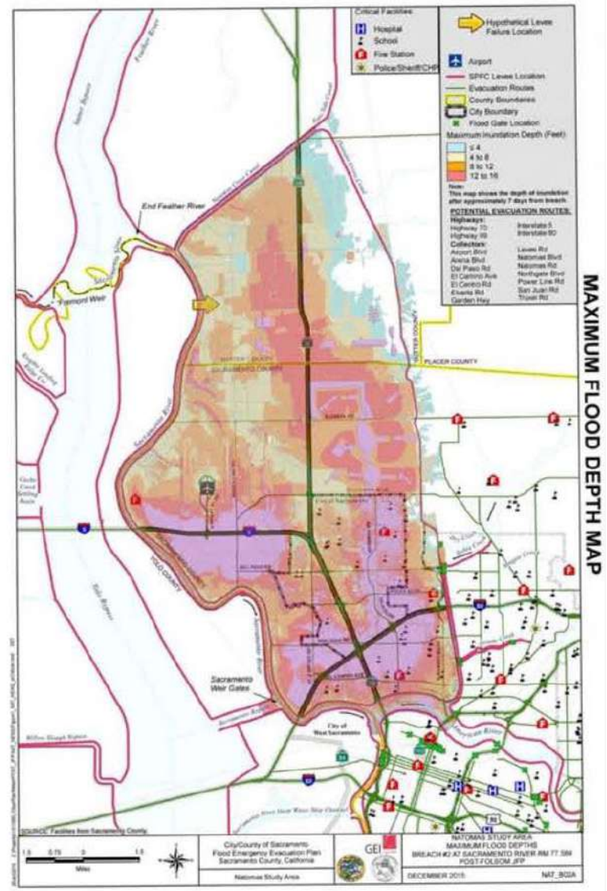
## BREACH 2 AT NORTH SACRAMENTO RIVER BREACH
## CUMULATIVE PLUS PROJECT ANALYSIS




GRANDPARK ANALYSIS - BREACH 2-
1D GEI EXISTING ALTERNATIVE

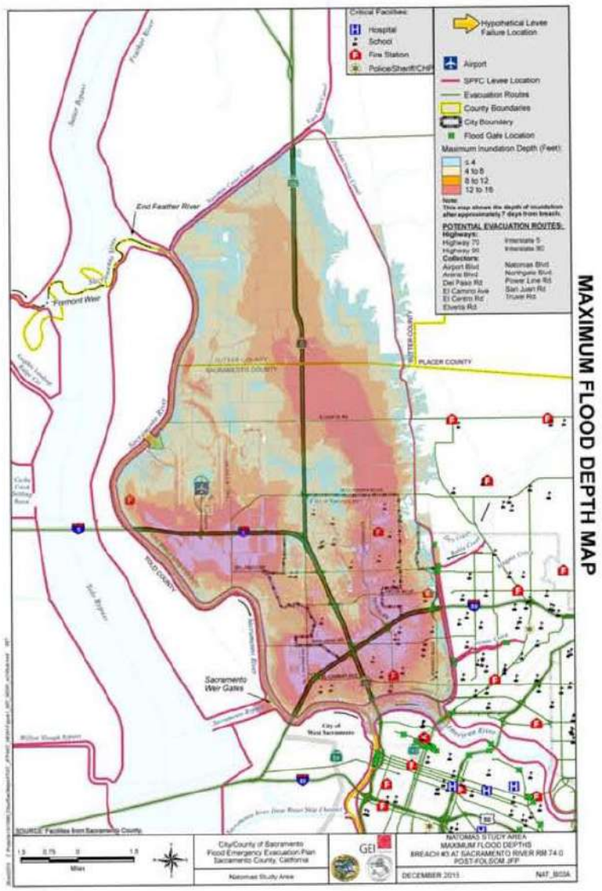



GRANDPARK ANALYSIS - BREACH 2-
2D EXISTING ALTERNATIVE

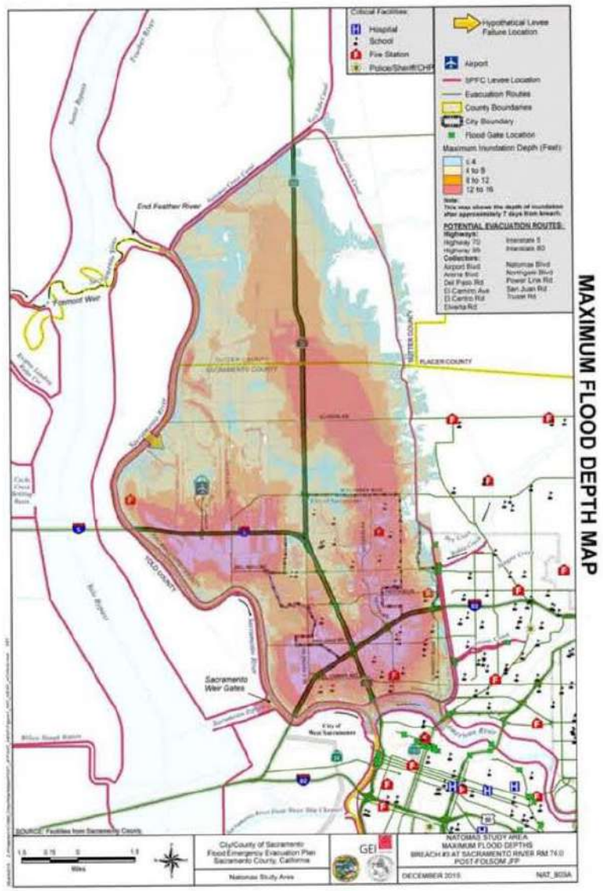



GRANDPARK ANALYSIS - BREACH 2-
2D CUMULATIVE ALTERNATIVE

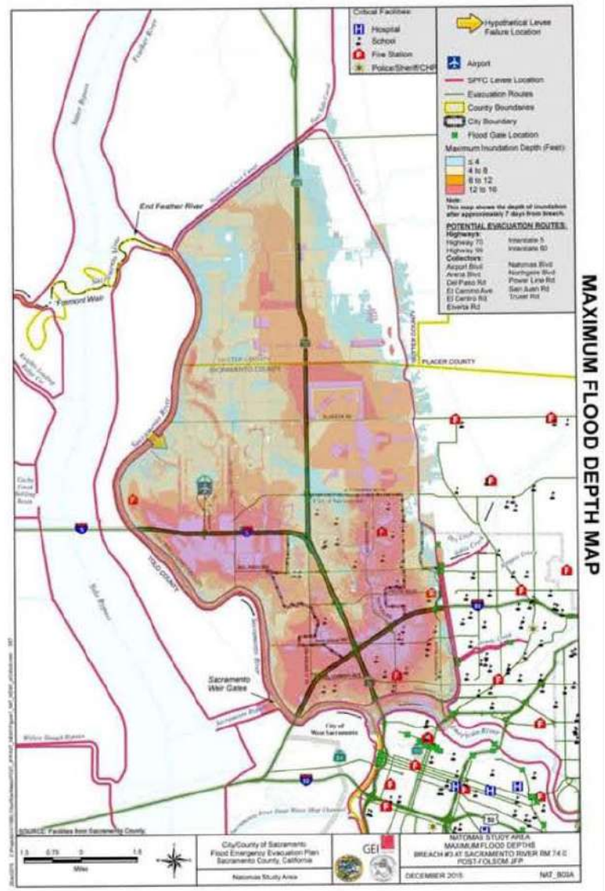
# BREACH 3 AT SACRAMENTO RIVER LEVEE NEAR ELVERTA ROAD
# CUMULATIVE PLUS PROJECT ANALYSIS




GRANDPARK ANALYSIS - BREACH 3-
1D GEI EXISTING ALTERNATIVE

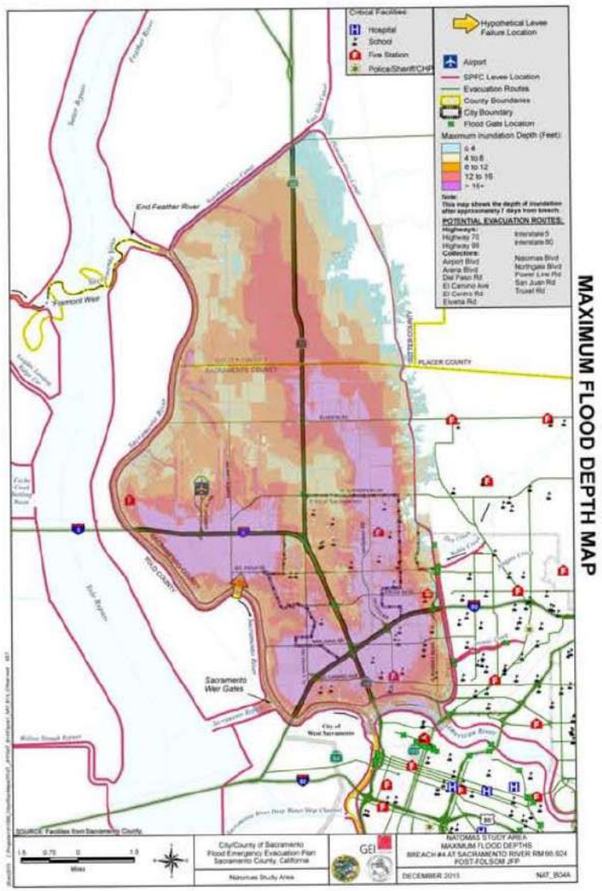



GRANDPARK ANALYSIS - BREACH 3-
2D EXISTING ALTERNATIVE

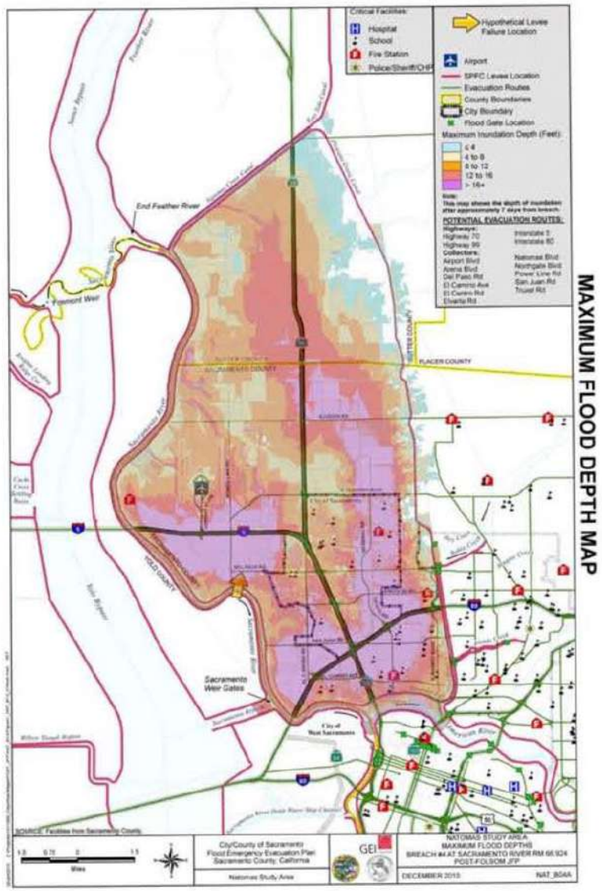



GRANDPARK ANALYSIS - BREACH 3-
2D CUMULATIVE ALTERNATIVE

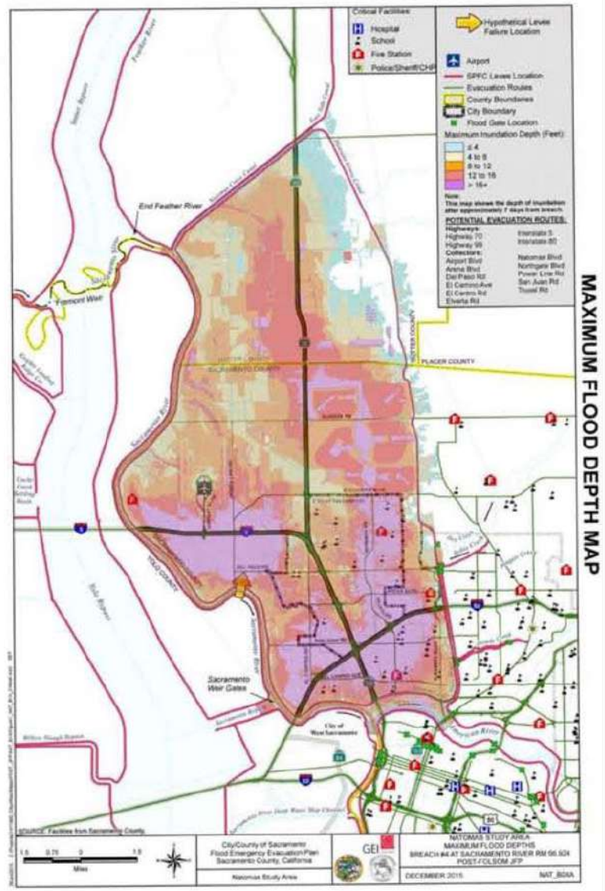
# BREACH 4 AT SACRAMENTO RIVER LEVEE SOUTH OF I-5
# CUMULATIVE PLUS PROJECT ANALYSIS




GRANDPARK ANALYSIS - BREACH 4-
1D GEI EXISTING ALTERNATIVE

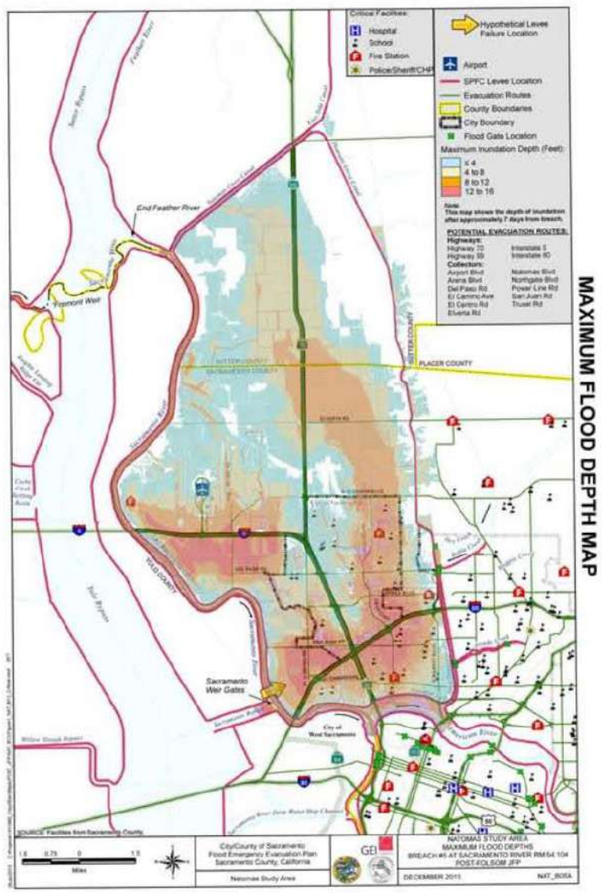



GRANDPARK ANALYSIS - BREACH 4-
2D EXISTING ALTERNATIVE

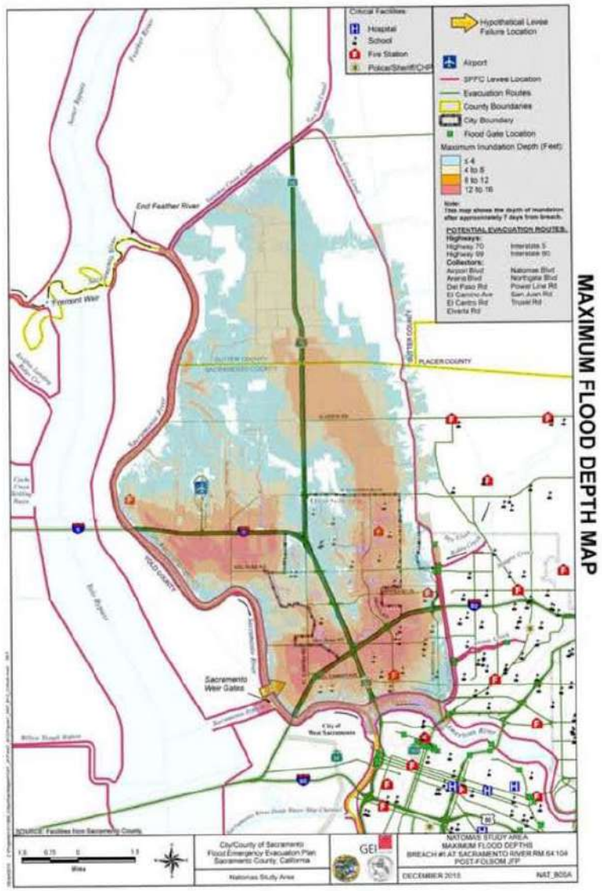



GRANDPARK ANALYSIS - BREACH 4-
2D CUMULATIVE ALTERNATIVE

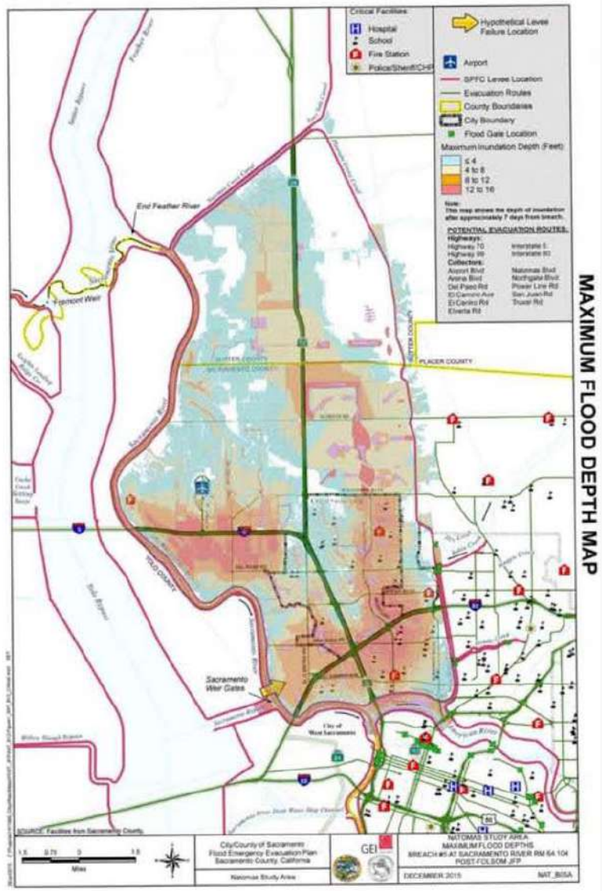
## BREACH 5 AT SACRAMENTO RIVER LEVEE NEAR I-80
## CUMULATIVE PLUS PROJECT ANALYSIS




GRANDPARK ANALYSIS - BREACH 5-
1D GEI EXISTING ALTERNATIVE

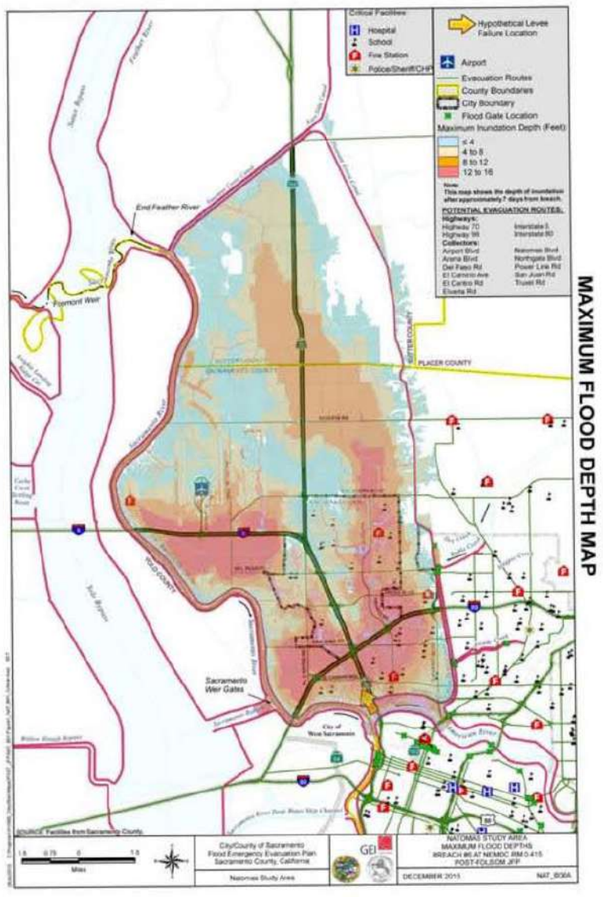



GRANDPARK ANALYSIS - BREACH 5-
2D EXISTING ALTERNATIVE

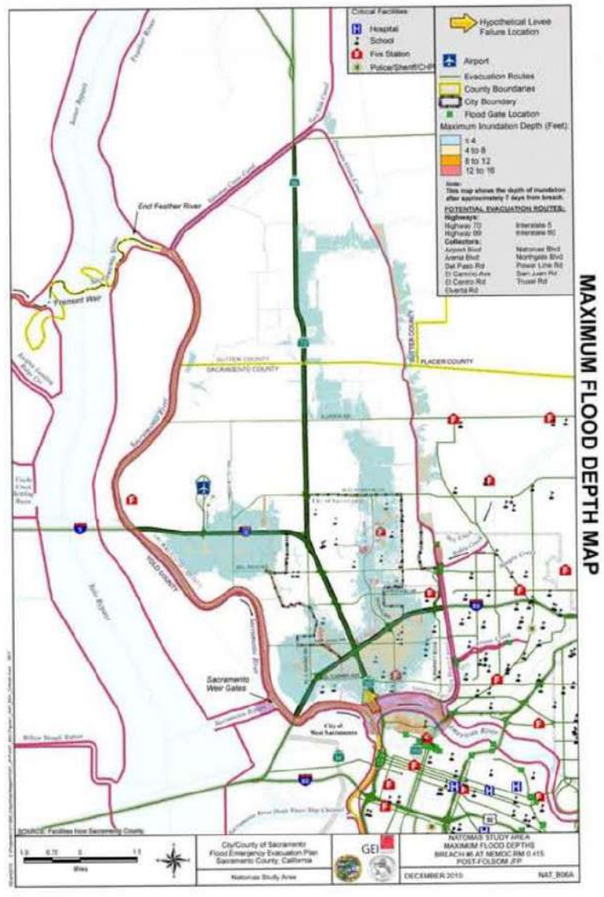



GRANDPARK ANALYSIS - BREACH 5-
2D CUMULATIVE ALTERNATIVE

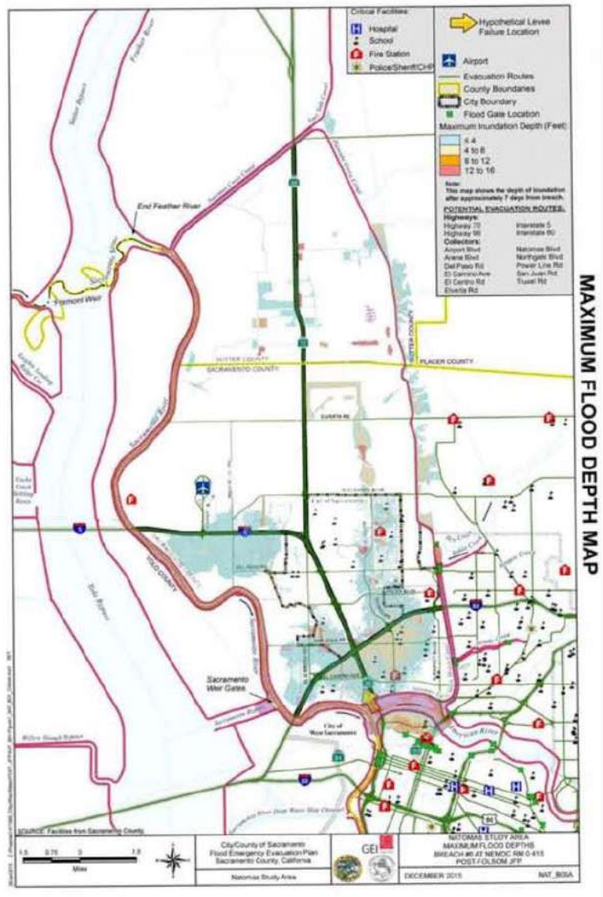
## BREACH 6 AT AMERICAN RIVER LEVEE NEAR CONFLUENCE WITH SACRAMENTO RIVER
## CUMULATIVE PLUS PROJECT ANALYSIS




GRANDPARK ANALYSIS - BREACH 6-
1D GEI EXISTING ALTERNATIVE



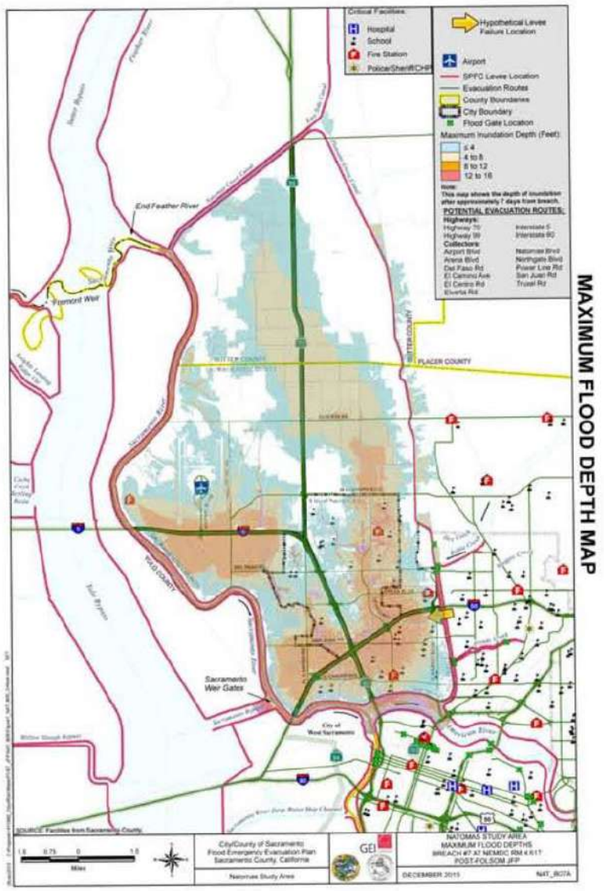

GRANDPARK ANALYSIS - BREACH 6-
2D EXISTING ALTERNATIVE



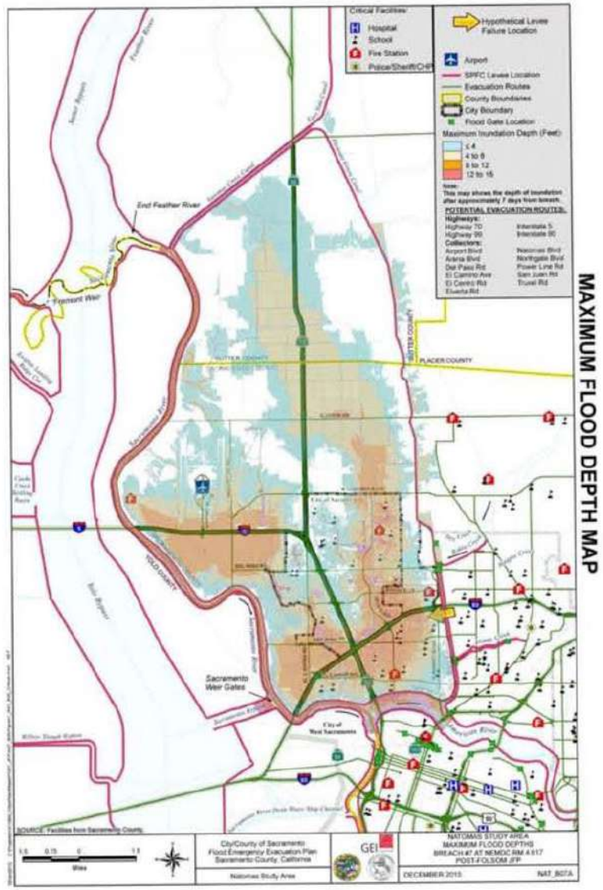

GRANDPARK ANALYSIS - BREACH 6-
2D CUMULATIVE ALTERNATIVE

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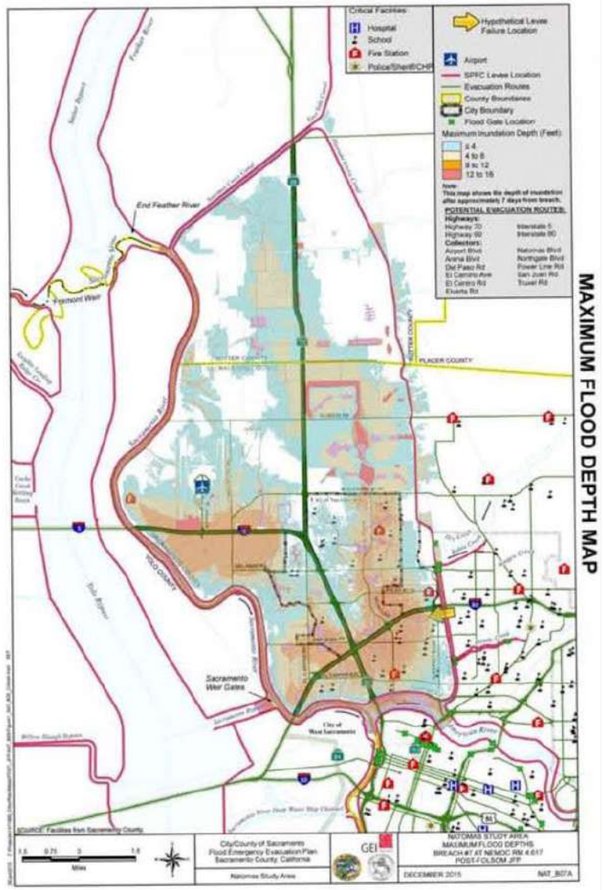
## BREACH 7 AT NEMDC LEVEE NEAR I-80
## CUMULATIVE PLUS PROJECT ANALYSIS




GRANDPARK ANALYSIS - BREACH 7-
1D GEI EXISTING ALTERNATIVE




GRANDPARK ANALYSIS - BREACH 7-
2D EXISTING ALTERNATIVE




GRANDPARK ANALYSIS - BREACH 7-
2D CUMULATIVE ALTERNATIVE

# APPENDIX B

## CESI Technical Memorandum No. 0040

## Levee Breach Analysis – Cumulative Plus Project Analysis

MACKAY & SOMPS ENGINEERS PLANNERS SURVEYORS

CIVIL ENGINEERING SOLUTIONS, INC.

**TECHNICAL MEMORANDUM No. 0040**

**GRANDPARK**
**Flood Control & Storm Drainage Master Plan**
**Sacramento County, California**

**To:** **Todd Smith, Sacramento County**

**Mike Johnson, County DWR**

**From:** **Thomas S. Plummer P.E., CFM**

**Date:** **October 31, 2022**

**Subject:** **LEVEE BREACH ANALYSIS – CUMULATIVE ANALYSIS**

---

REGISTERED PROFESSIONAL ENGINEER
THOMAS S. PLUMMER
No. C49582
EXP. 9/30/24
STATE OF CALIFORNIA

Sacramento DWR:

By: _____

Date: _____

☐ Acknowledged

☐ Approved

☐ Other: _____

## ELEVATION DATUM

All Elevations shown in this TM are in NAVD 88 Vertical Datum.

## USE OF "SACRAMENTO-COMBINED" HEC-RAS MODEL FROM GEI

GEI provided CESI the 2015 HEC-RAS One-Dimensional (1D) modeling that the existing Natomas Basin Levee Breach analysis was performed with for the seven (7) perimeter levee breach locations previously chosen by the City and County of Sacramento for the GEI analysis in 2015. The updated modeling is run for the same total duration of analysis as the original GEI model. This modeling was used for this analysis except for changes described below.

The results of the previous Breach Analysis are posted at the following link:

https://waterresources.saccounty.net/stormready/Pages/Natomas-Area-Flood-Map.aspx

The results presented in this Technical Memorandum focus on two analyses:

1. Time to Fill to 1-foot of depth at Evacuation Route locations, and
2. Maximum Depth of Inundation measured in the modeling.

The previous Breach Analysis Maps were published by the County at the link above to present the results of the GEI modeling.

The original model was performed in HEC-RAS version 4.1.3. In consultation with Chris Ferrari of GEI Consultants, CESI updated the 2015 modeling. Specifically, CESI updated the model to HEC-RAS 6.2 and further modified the model as described below. This required modification for errors in the geometry file detected by the current version of HEC-RAS that were not evident in the previous version. Typically, these errors occurred where HTAB table definitions started below the invert of a channel, or storage area starting elevations below the lowest elevation in the storage area.

Version 6.2 of HEC-RAS generates a warning at some breach locations that the specified minimum elevation of the breach is below the adjacent ground elevations. When this occurs, HEC-RAS Version 6.2 will limit the breach weir formation elevation to the adjacent lowest ground elevation.

The original model analyzed flood distribution within the basin by including a set of storage areas connected by weirs and culverts. This method discounts the impact of local ground features and the time it takes for flood waters to cross the storage areas, as HEC-RAS views a storage area as equally distributing the inflow to the entirety of the storage area instantaneously.

CESI decided for the current analysis, it would be better to analyze the breach flooding over Two Dimensional (2D) surfaces using the Version 6.2 capabilities of HEC-RAS. Digital terrain models

(topographic models) of the Natomas Basin were not provided by GEI when the original model was transferred to CESI.

Accordingly, CESI generated a cumulative conditions topographic model for the Natomas Basin and utilized HEC-RAS Version 6.2 to generate a digital terrain model surface for the existing conditions. CESI then developed digital terrain models based on the current land use plans and drainage plan documents (where available – See TM 0039) and then added these terrain models for the reasonably foreseeable development projects for the Cumulative Conditions modeling.[1]

The following development areas were included in the Cumulative Conditions:

- GRANDPARK (Conceptual Grading Plan – April 20, 2022).[2]
- SUTTER POINTE (Appendix E Drainage Master Plan and Appendix B Land Use and Development Code).
- SAFCA "Sankey Road Gap Closure Project Basis of Design Report".
- GREENBRIAR (used land use plan and documentation from the January 5, 2017, Environmental Checklist (online version)).
- PANHANDLE (Preliminary Grading Plan by MacKay & Somps).
- UPPER WESTSIDE (land use plan from Staff Presentation February 2022).
- SACRAMENTO INTERNATIONAL AIRPORT (Master Plan January 2017), including Airport South Industrial project (using the layout included in the Airport Master Plan)

It should be noted that the ultimate buildout of Metro Airpark is included in the Existing Conditions terrain models.

It's important to note that the grading input for all of the projects added in the Cumulative conditions models is for the finished grade surfaces only and does not include any structures which will be built.

[1] For this analysis, a version 6.05 terrain surface was created for the Cumulative development scenario. The 6.04 and 6.05 Terrains were based on 2 feet by 2 feet pixel size, and, at locations where the terrain did not include hydraulic reinforced data (invert data at bridge and culvert crossings, this data was added by interpolating a section from upstream grades to downstream grades in the LiDAR data set).

[2] The 2022 Grandpark Conceptual Grading Plan was used in this analysis. This conceptual grading plan is an update of the conceptual grading plan used in TM 0007 (Grandpark Land Use Plan 08F) as it reflects the elimination of the "Lennar" parcels as a development site and instead leaves this property as an undeveloped open space parcel. Additionally, the 2022 Conceptual Grading Plan reconfigured the Grand Parkway from a water feature intensive open space plan into a more natural floodplain with a central drainage channel and overbank flood storage areas without significant water features. Lastly, the 2022 Conceptual Grading Plan redistributed the required flood storage volumes within the Grand Parkway in order to (1) meet County design standards relating to avoiding water surface level impacts to upstream and downstream properties, (2) achieve a condition where post development peak flow rates do not exceed predevelopment levels upstream and downstream of Grandpark, and (3) achieve an equitable allocation of flood storage volumes between the various property owners within the area of the Grandpark Specific Plan.

Additionally the friction is not adjusted at these locations for the resistance to flows that may occur post development from fences and structures.

CESI then prepared 4 different analyses for each breach location as follows:

- **GEI Existing Conditions 1D Analysis.** The GEI existing conditions 1-dimensional (1D) storage-area based analysis was re-run in HEC-RAS 6.2.[3] Based on a visual comparison of the results from this re-run of the GEI existing conditions 1D in 2D analysis with the GEI published 1D results, the two sets of results were found to be similar.

  Upon completion of this modeling exercise, CESI again consulted with GEI to report on the efforts to update the 2015 model and the results from this modeling existing conditions analysis when using the newer HEC-RAS software. During this consultation, both GEI and CESI agreed the updated model was producing results similar to those obtained from the 2015 model in terms of the duration of time to 1-foot depth of flooding over the critical locations along the major evacuation routes, and the maximum depth of flooding within the Basin.

- **Existing Conditions Analysis with Storage Areas Converted to 2D**. HEC-RAS limited the breach weir formation elevations to the lowest grade in the adjacent 2D mesh elements. As a result, where higher ground was adjacent to the weir location, less flow was transmitted through the breach. This is a better solution than the original analysis, as it considers the local ground elevations. In particular, this applies to Breach 3 and Breach 6, where changes to the amount and timing of inflows are noted.

  Compared to the GEI 1D modeling which fills each storage area with flood volumes from the lowest elevation upward regardless of the distance, terrain and flow impediments within the storage area, the 2D analysis models the water flowing from the breach location through overland paths before entering into the main system of canals.

- "**With Grandpark" Analysis (also using 2D)**. This alternative is discussed in TM 0039.

- **Cumulative Conditions Analysis (also using 2D)**. This alternative is discussed in this TM 0040.

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[3] The HEC-RAS Version 6.2 is recognized by the engineering community for its superior capabilities to more accurately analyze flooding using 2D terrain surfaces as compared to HEC-RAS Version 4.1.3 that only utilized 1D terrain models.

**TIME TO FILL TO 1-FOOT DEPTH AT EVACUATION ROUTE LOCATIONS:**

Oversized exhibits are included at the end of this technical memorandum which present the results of these analyses for each of the 4 alternatives studies for each breach location. They are plotted on top of the original GEI exhibits from the original Study.

For each Evacuation Route location identified in the original mapping, CESI identified the location where the depth would reach 1 foot of inundation depth earliest (the lowest point of the roadway stretch) and retrieved the time to 1-foot of inundation depth for each scenario and breach in hours. The results are summarized in the following tables (Tables 1 through 7) for each of the seven breach locations. These results are also shown on the oversized exhibits included with this TM (Note: On the oversized exhibits, if flooding to a depth of 1 foot over the roadway was not demonstrated in the analysis, the point was removed from the exhibit).

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**BREACH 1**

The results of the modeling exercise for Breach 1 are summarized in Table 1 and the text following the table.

**Table 1**
***BREACH 1: (Natomas Cross Canal Levee Breach Location)***

| Evacuation Route Location: | Time to 1ft for 1D GEI Exist Cond. Model (hrs) | Time to 1 ft for 2D Existing Cond. Model (hrs) | Time to 1ft for 2D Cumulative Model (hrs) | Improvement in Timing of 1ft Depth (hrs) |
|---|---|---|---|---|
| SR-99 | 89 | 93 | 62 | -31 |
| ELVERTA | 47 | 42 | 49 | +7 |
| ELKHORN | 38 | 39 | 50 | +11 |
| DEL PASO | 22 | 39 | 50 | +11 |
| I-80 EAST | 31 | 46 | 63 | +17 |
| I-5 CENTRAL | 106 | 125 | 128 | +3 |
| I-5 JUNCTION | 79 | 79 | 111 | +32 |
| I-5 WEST | 73 | 96 | 104 | +8 |
| I-80 WEST | 63 | 80 | 79 | -1 |
| ELKHORN WEST | 73 | 96 | 104 | +8 |
| SR-99 NORTH | 98 | 98 | 39 | -59 |
| SR-99 SOUTH | 135 | 145 | 147 | +2 |
| POWER LINE | 92 | 116 | 124 | +8 |
| ELVERTA WEST | 106 | 116 | 111 | -5 |
| SAN JUAN | 36 | 52 | 62 | +10 |
| EL CAMINO | 36 | 52 | 63 | +11 |
| I-80 CENTRAL | 58 | 73 | 74 | +1 |
| NATOMAS RD | 28 | 36 | 47 | +11 |

1D to 2D model:

In general the change from 1D to 2D modeling had little effect on the result of the flood depth timing to 1 foot, and for most of the points reviewed there was an increase in the time to the flood depth. The ELVERTA location shows a reduction in time to 1 foot depth as a result of the 2D model predicting increased overland and system flows at this location in the 1st 48 hours of the event.

2D to 2D Cumulative Model Changes:

In general, most of the data points show that there is an increased delay in the propagation of the breach flood wave timing as a result of the Cumulative Conditions improvements in the Natomas Basin for Breach 1.

The following four points identify reductions in timing to the depth of 1 foot:

1. SR-99: SR-99 is located near a low point in SR-99 near the northern boundary of the proposed Grandpark project. A reduction in flood depth timing at this location of 31 hours is identified in the modeling (93 hours to 62 hours). The reduction in flood time results from the reduced flood volumes in the northern part of the basin due to the embankments placed for the Sankey Gap storage basin proposed by SAFCA to be constructed with the Sutter Pointe project.

   Also, the proposed culvert crossings within the Grandpark development under Elverta Road restrict how fast flows lower than the street overtopping levels can progress from north of the Grandpark project to south of the project. These culverts are sized for properly reducing potential flooding changes both downstream and upstream of the Grandpark project in the 100-year, 200-year design storms with and without Climate Change being factored, in order to meet Sacramento County and RD-1000 peak flood mitigation requirements.

2. I-80 WEST: A 1 hour reduction is shown, but this is within the rounding estimates of the model results. We would not expect any changes in this area of the basin for this breach location.

3. SR-99 NORTH: A reduction in 1 foot flood depth timing at this location of 59 hours is identified in the modeling (98 hours to 39 hours). This roadway low point is at a slightly lower elevation than surrounding data points, so it sees flooding sooner in the Cumulative Event analysis as a result of the Sankey Gap Storage Facility Embankments and Grandpark proposed project culverts under Elverta Road at its crossing of the East Drainage Canal.

4. ELVERTA WEST. A reduction in 1 foot flood depth timing at this location of 5 hours is identified in the modeling (116 hours to 111 hours). This data point is affected by the Sankey Gap storage facility embankments.

The three data points noting a meaningful change in 1 foot flood depth arrival time are in the Northwest quadrant of the basin, where the breach occurs.

Also, adverse timing of 1-hour (-1 hour) is less than the accuracy of this model and, therefore, this reduction in timing to 1-feet depth of flooding is not considered material.

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## BREACH 2

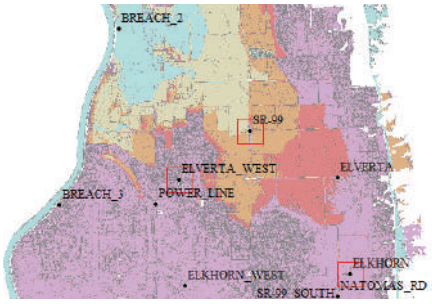
The results of the modeling exercise for Breach 2 are summarized in Table 2 and the text following the table.

**Table 2**
***BREACH 2 (North Sacramento River Breach Location)***

| Evacuation Route Location: | Time to 1ft for 1D GEI Exist Cond. Model (hrs) | Time to 1 ft for 2D Existing Cond. Model (hrs) | Time to 1ft for 2D Cumulative Model (hrs) | Improvement in Timing of 1ft Depth (hrs) |
|---|---|---|---|---|
| SR-99 | 35 | 22 | 19 | -3 |
| ELVERTA | 25 | 18 | 21 | +3 |
| ELKHORN | 20 | 20 | 24 | +4 |
| DEL PASO | 14 | 22 | 26 | +4 |
| I-80 EAST | 18 | 25 | 32 | +7 |
| I-5 CENTRAL | 53 | 56 | 57 | +1 |
| I-5 JUNCTION | 47 | 55 | 58 | +3 |
| I-5 WEST | 44 | 52 | 55 | +3 |
| I-80 WEST | 32 | 39 | 40 | +1 |
| ELKHORN WEST | 45 | 52 | 36 | -16 |
| SR-99 NORTH | 12 | 15 | 14 | -1 |
| SR-99 SOUTH | 87 | 88 | 88 | 0 |
| POWER LINE | 55 | 63 | 65 | +2 |
| ELVERTA WEST | 43 | 33 | 14 | -19 |
| SAN JUAN | 22 | 28 | 32 | +4 |
| EL CAMINO | 22 | 29 | 33 | +4 |
| I-80 CENTRAL | 34 | 39 | 38 | -1 |
| NATOMAS RD | 17 | 20 | 24 | +4 |

1D to 2D model:

In general the change from 1D to 2D modeling had little effect on the result of the flood depth timing to 1 foot, and for most of the points reviewed there was an increase in the time to the flood depth.




Three locations show a reduction in flood depth response timing, SR-99, ELKHORN and ELVERTA WEST. For these three locations the flood waters passing through the breach area conveyed overland before they enter the system, in the direction of these locations, and the flood waters have not yet fully filled some of the storage downstream of these locations. As a result the 2D model more accurately predicts that there is potential for these locations to become overtopped to a depth of 1 foot in a shorter duration of the time than the 1D model predicts.

2D to 2D Cumulative Model Changes:

This breach analysis identifies 3 locations where moderate adverse changes to the timing of 1 foot inundation of the evacuation routes would occur at: SR-99, ELKHORN WEST, and ELVERTA WEST.

The breach location is similar to the location of Breach 1, discharging into the Northwest Quadrant of the basin. As a result, the Sankey Gap storage area reduces available storage in this area below the embankment overtopping elevations. Proposed project culverts in Grandpark also slow the progression of the initial flood wave below Elverta Road overtopping elevations, resulting in a modest acceleration of the flood timing within the northwest quadrant. These culverts are sized for properly reducing potential flooding changes both downstream and upstream of the Grandpark project in the 100-year, 200-year design storms with and without Climate Change being factored, in order to meet Sacramento County and RD-1000 peak flood mitigation requirements.

Also, adverse timing of 1-hour (-1 hour) is less than the accuracy of this model and, therefore, this reduction in timing to 1-feet depth of flooding is not considered material.

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## BREACH 3

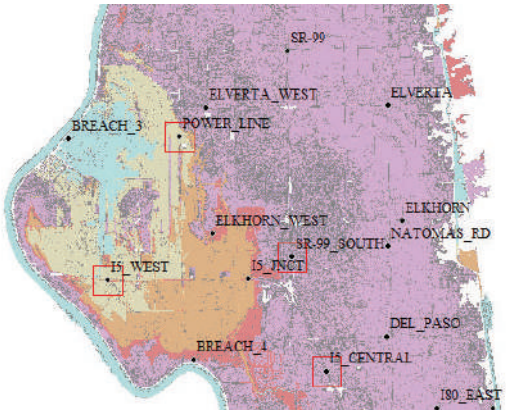
The results of the modeling exercise for Breach 3 are summarized in Table 3 and the text following the table.

**Table 3**
***BREACH 3(Sacramento River Levee Near Elverta Road)***

| Evacuation Route Location: | Time to 1ft for 1D GEI Exist Cond. Model (hrs) | Time to 1 ft for 2D Existing Cond. Model (hrs) | Time to 1ft for 2D Cumulative Model (hrs) | Improvement in Timing of 1ft Depth (hrs) |
|---|---|---|---|---|
| SR-99 | 66 | 71 | 73 | +2 |
| ELVERTA | 47 | 53 | 61 | +8 |
| ELKHORN | 43 | 48 | 46 | -2 |
| DEL PASO | 33 | 37 | 37 | 0 |
| I-80 EAST | 40 | 40 | 37 | -3 |
| I-5 CENTRAL | 67 | 48 | 46 | -2 |
| I-5 JUNCTION | 10 | 13 | 13 | 0 |
| I-5 WEST | 9 | 7 | 6 | -1 |
| I-80 WEST | 23 | 28 | 27 | -1 |
| ELKHORN WEST | 4 | 9 | 9 | 0 |
| SR-99 NORTH | 75 | 80 | 84 | +4 |
| SR-99 SOUTH | 129 | 127 | 125 | -2 |
| POWER LINE | 17 | 6 | 5 | -1 |
| ELVERTA WEST | 79 | 82 | 81 | -1 |
| SAN JUAN | 30 | 36 | 36 | 0 |
| EL CAMINO | 30 | 36 | 36 | 0 |
| I-80 CENTRAL | 17 | 24 | 25 | +1 |
| NATOMAS RD | 38 | 44 | 44 | 0 |

1D to 2D model:

In general the change from 1D to 2D modeling had little effect on the result of the flood depth timing to 1 foot, and for most of the points reviewed there was an increase in the time to the flood depth.




Four locations show a reduction in flood depth response timing, I-5 CENTRAL, I-5 WEST, SR-99 SOUTH and POWER LINE. The four locations are highlighted on the figure to the right. For these locations, in the 2D model, a greater portion of the breach flood waters stay in the west side of the basin and flow easterly and southerly overland as compared to the 1D model. The POWERLINE location is near the breach

and receives overland flow earlier than it would fill from the system flows. I-5 WEST is the next point in the flood propagation which gets overtopped as a result of this overland flow path of the flood waters in a southerly direction. The changes at I-5 CENTRAL and SR-99 SOUTH are small changes which occur much later in the event, as these points are higher in elevation. Similarly though these changes result from differences in how the 2D model fills the overland areas by filling areas connected by terrain, and not filling areas that are separated by terrain for given flood elevations, which the 1D model cannot handle

2D to 2D Cumulative Model Changes:

For this breach location scenario, the Cumulative Condition produces similar results to the Existing Conditions model at all locations. The largest reduction in time to flood 1 foot is at I-80 EAST where a 3-hour reduction occurs (40 to 37 hours). This is in an area near the breach location, in which flood storage volumes are reduced by the Sankey Gap storage area embankments.

All other minor changes noted by the analysis are less than 1 hour, which is approximately the rounding error in the results.

Also, adverse timing of 1-hour (-1 hour) is less than the accuracy of this model and, therefore, this reduction in timing to 1-feet depth of flooding is not considered material.

## BREACH 4

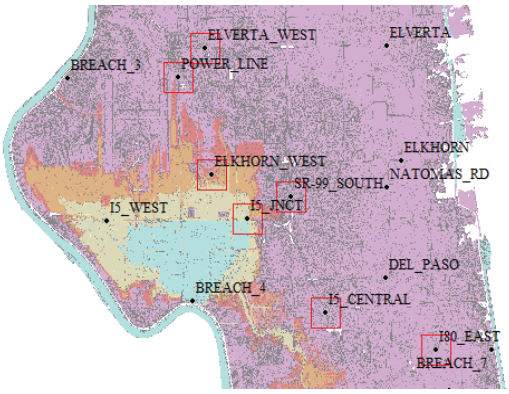
The results of the modeling exercise for Breach 4 are summarized in Table 4 and the text following the table.

**Table 4**
***BREACH 4 (Sacramento River Levee South of I-5)***

| Evacuation Route Location: | Time to 1ft for 1D GEI Exist Cond. Model (hrs) | Time to 1 ft for 2D Existing Cond. Model (hrs) | Time to 1ft for 2D Cumulative Model (hrs) | Improvement in Timing of 1ft Depth (hrs) |
|---|---|---|---|---|
| SR-99 | 70 | 75 | 78 | +3 |
| ELVERTA | 52 | 56 | 65 | +9 |
| ELKHORN | 47 | 51 | 49 | -2 |
| DEL PASO | 38 | 38 | 37 | -1 |
| I-80 EAST | 44 | 42 | 39 | -3 |
| I-5 CENTRAL | 69 | 55 | 53 | -2 |
| I-5 JUNCTION | 9 | 8 | 8 | 0 |
| I-5 WEST | 6 | 6 | 6 | 0 |
| I-80 WEST | 24 | 28 | 26 | -2 |
| ELKHORN WEST | 9 | 8 | 8 | 0 |
| SR-99 NORTH | 78 | 83 | 85 | +2 |
| SR-99 SOUTH | 101 | 99 | 97 | -2 |
| POWER LINE | 21 | 19 | 19 | 0 |
| ELVERTA WEST | 80 | 78 | 77 | -1 |
| SAN JUAN | 33 | 37 | 37 | 0 |
| EL CAMINO | 33 | 37 | 37 | 0 |
| I-80 CENTRAL | 18 | 23 | 24 | +1 |
| NATOMAS RD | 42 | 46 | 47 | +1 |

1D to 2D model:

In general the change from 1D to 2D modeling had little effect on the result of the flood depth timing to 1 foot, and for most of the points reviewed there was an increase in the time to the flood depth.




Seven locations show a reduction in flood depth response timing, ELVERTA WEST, POWERLINE, ELKHORN WEST, SR-99 SOUTH, I-5 JNCT, I-5 CENTRAL and I80 EAST.

The I-5 JNCT and ELKHORN WEST locations show in the 2D model a larger overland flow component fanning out to the north than the 1-D model shows. This overland flow reaches

these sites before the in system flow would overtop them, and as a result a reduction in timing to a depth of 1 foot is reported. Similarly the POWERLINE location is also impacted by the 2D models identification of the overland flow to the north. These three locations show an impact early in the event.

Later in the event, The ELVERTA WEST, SR-99 SOUTH, I5 CENTRAL, and I-80 EAST locations show a reduction resulting from differences in how the 2D model fills the overland areas by filling areas connected by terrain, and not filling areas that are separated by terrain for given flood elevations, which the 1D model cannot handle

2D to 2D Cumulative Model Changes:

For this breach location scenario, the Cumulative Conditions produce similar results to the Existing Conditions model at all locations. The largest reduction in time to flood 1 foot is at I-80 EAST where a 3-hour reduction occurs (42 to 39 hours). This is in an area near the breach location, in which flood storage volumes are reduced by the Sankey Gap storage area embankments.

All other minor changes noted by the analysis are less than 1 hour, which is approximately the rounding error in the results.

Also, adverse timing of 1-hour (-1 hour) is less than the accuracy of this model and, therefore, this reduction in timing to 1-feet depth of flooding is not considered material.

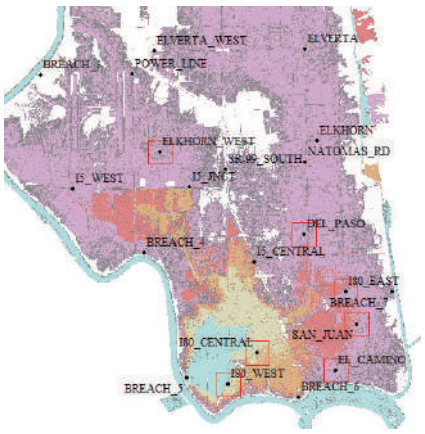
## BREACH 5

The results of the modeling exercise for Breach 5 are summarized in Table 5 and the text following the table.

**Table 5**
***BREACH 5 (Sacramento River Levee Near I-80)***

| Evacuation Route Location: | Time to 1ft for 1D GEI Exist Cond. Model (hrs) | Time to 1 ft for 2D Existing Cond. Model (hrs) | Time to 1ft for 2D Cumulative Model (hrs) | Improvement in Timing of 1ft Depth (hrs) |
|---|---|---|---|---|
| SR-99 | 84 | 83 | 83 | 0 |
| ELVERTA | 50 | 46 | 60 | +14 |
| ELKHORN | 39 | 36 | 30 | -6 |
| DEL PASO | 21 | 19 | 18 | -1 |
| I-80 EAST | 21 | 19 | 18 | -1 |
| I-5 CENTRAL | 100 | 96 | 90 | -6 |
| I-5 JUNCTION | 27 | 30 | 34 | +4 |
| I-5 WEST | 19 | 23 | 25 | +2 |
| I-80 WEST | 9 | 6 | 3 | -3 |
| ELKHORN WEST | 57 | 25 | 26 | +1 |
| SR-99 NORTH | 22 | 98 | 102 | +4 |
| SR-99 SOUTH | 99 | 99 | 97 | -2 |
| POWER LINE | 46 | 51 | 55 | +4 |
| ELVERTA WEST | 112 | 110 | 113 | +3 |
| SAN JUAN | 19 | 18 | 16 | -2 |
| EL CAMINO | 19 | 18 | 16 | -2 |
| I-80 CENTRAL | 9 | 8 | 6 | -2 |
| NATOMAS RD | 30 | 29 | 27 | -2 |

1D to 2D model:

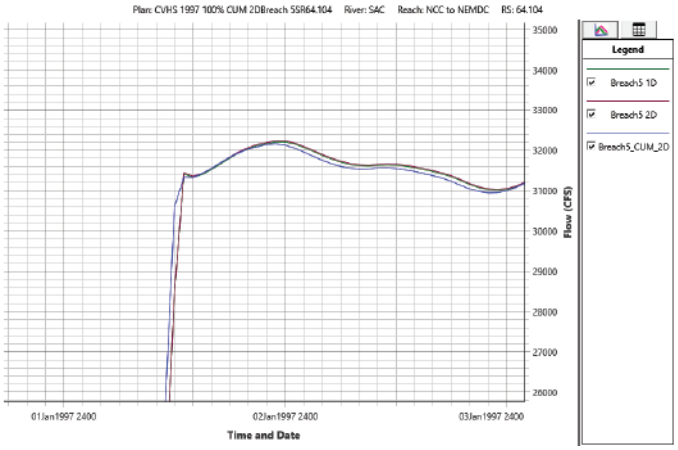



For Breach 5 a number of locations show a reduction in timing to 1 foot depth. For this Breach location, the 2D model allows higher flow rates through the breach due to the low ground elevations adjacent to the breach. As a result we would highlight the changes at the point identified in the image to the right. For the 1st impacted points of the I-80 WEST and I-80 CENTRAL locations the increased breach flows and overland flooding paths which are computed in the 2D model show these points to be at risk of flooding even sooner than the 1D model. Other points which are shown to be closed early in the event Such as the EL CAMINO, SAN JUAN, I-80 EAST and DEL PASO points, an increase in flows early in the event through the eastern flow paths accounts for the

roughly 2 hours of reduced timing between the 2D and 1D models.

2D to 2D Cumulative Model Changes:

The Breach location near the I-80 crossing of the Sacramento River generally shows a small reduction in response time to a 1-foot depth along the I-80 corridor within the southern areas of the basin (Data Points: ELKHORN, DEL PASO, I-80 EAST, I-5 CENTRAL, I-80 WEST, SR-99 SOUTH, SAN JUAN, EL CAMINO, I-80 CENTRAL and NATOMAS RD).




Of note would be the low points in Interstate 80 at I-80 WEST, and I-80 central where the response time to flood 1 foot reduces from 6-hours to a 3-hours, and 8 hours to 6-hours respectively, between the 1D and 2D models. The models show there are 2 reasons for the reduction in timing. The most important is that for the 2D Cumulative Condition, the model shows the full breach formation 1 hour and 10 minutes sooner than in the 1D and 2D conditions per the graph to the right. This generally affects all points and accounts for the general reduction between 1 and 2 hours seen in many of the data point locations.

The second portion which additionally affects the 2 I-80 points nearest the breach appears to result from the proposed grading at the Upper Westside project. The breach flows would spread out from the breach through the generally flat grades proposed and through the streets which are at lower grades. The result is an overland flooding path to these locations sooner in the event. The Breach 5 location just happens to be directly adjacent to the southern end of the Upper Westside project. The 2D Cumulative Models do not account for the resistance to the flow spreading effect that would occur due to the construction of buildings, fences and the planting of vegetation and trees. An average friction value is applied over the surface. These future condition items cannot be included in the current modeling as they are still unknown. It is likely that if structures, fences and vegetation are built similar to other developments, they would slow the spread effect.

## BREACH 6

The results of the modeling exercise for Breach 6 are summarized in Table 6 and the text following the table.

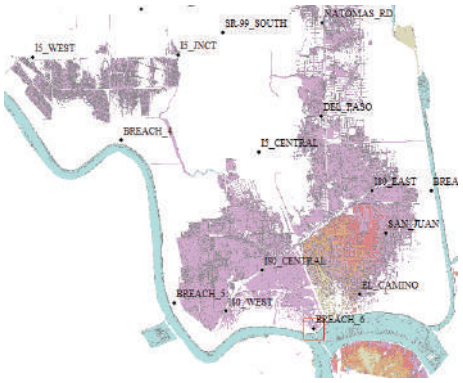
**Table 6**
***BREACH 6 (American River Levee Near Confluence With Sacramento River)***

| Evacuation Route Location: | Time to 1ft for 1D GEI Exist Cond. Model (hrs) | Time to 1 ft for 2D Existing Cond. Model (hrs) | Time to 1ft for 2D Cumulative Model (hrs) | Improvement in Timing of 1ft Depth (hrs) |
|---|---|---|---|---|
| SR-99 | 53 | No Flood | No Flood | No Flood |
| ELVERTA | 29 | No Flood | No Flood | No Flood |
| ELKHORN | 21 | No Flood | No Flood | No Flood |
| DEL PASO | 10 | 76 | 118 | +42 |
| I-80 EAST | 6 | 40 | 42 | +2 |
| I-5 CENTRAL | 57 | No Flood | No Flood | No Flood |
| I-5 JUNCTION | 17 | No Flood | No Flood | No Flood |
| I-5 WEST | 11 | No Flood | No Flood | No Flood |
| I-80 WEST | 141 | 148 | 162 | +14 |
| ELKHORN WEST | 14 | No Flood | No Flood | No Flood |
| SR-99 NORTH | 61 | No Flood | No Flood | No Flood |
| SR-99 SOUTH | 133 | No Flood | No Flood | No Flood |
| POWER LINE | 31 | No Flood | No Flood | No Flood |
| ELVERTA WEST | 65 | No Flood | No Flood | No Flood |
| SAN JUAN | 4 | 30 | 31 | +1 |
| EL CAMINO | 4 | 31 | 32 | +1 |
| I-80 CENTRAL | 137 | 143 | 156 | +13 |
| NATOMAS RD | 16 | No Flood | No Flood | No Flood |

Note: "No Flood" means that the breach event did not report flooding in excess of 1 foot at the data point throughout the model event duration (typical for all Tables).

1D to 2D model:

For Breach 6, in the 2D versions of the model, flooding will not reach the 1-foot depth for the duration of the model. This results from the fact that the ground elevations directly downstream of the breach location are higher ground, and as a result flows passing through the breach are significantly limited in quantity passing beyond this high ground.




2D to 2D Cumulative Model Changes:

No reductions in flood response time to 1 foot depth were noted for this analysis.

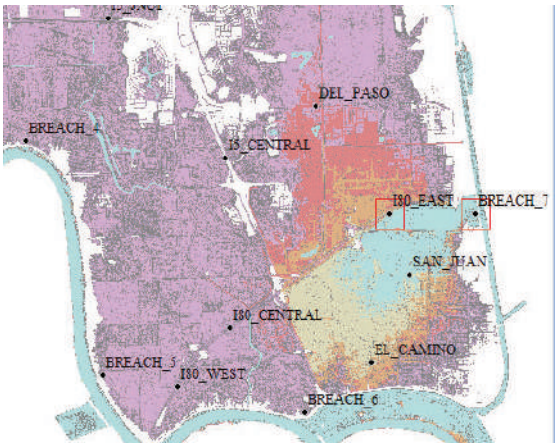
## BREACH 7

The results of the modeling exercise for Breach 7 are summarized in Table 7 and the text following the table.

**Table 7**
***BREACH 7 (NEMDC Levee Near I-80)***

| Evacuation Route Location: | Time to 1ft for 1D GEI Exist Cond. Model (hrs) | Time to 1 ft for 2D Existing Cond. Model (hrs) | Time to 1ft for 2D Cumulative Model (hrs) | Improvement in Timing of 1ft Depth (hrs) |
|---|---|---|---|---|
| ELVERTA | 56 | 57 | 159 | +102 |
| ELKHORN | 29 | 30 | 25 | -5 |
| DEL PASO | 14 | 15 | 15 | 0 |
| I-80 EAST | 6 | 2 | 3 | +1 |
| I-5 JUNCTION | 88 | 93 | 90 | -3 |
| I-5 WEST | 82 | 86 | 80 | -6 |
| I-80 WEST | 27 | 48 | 39 | -9 |
| ELKHORN WEST | 80 | 84 | 76 | -8 |
| POWER LINE | 140 | 136 | 123 | -13 |
| SAN JUAN | 4 | 4 | 3 | -1 |
| EL CAMINO | 5 | 6 | 6 | 0 |
| I-80 CENTRAL | 26 | 37 | 30 | -7 |
| NATOMAS RD | 20 | 22 | 22 | 0 |

1D to 2D model:




For Breach 7, most points report similar or delayed timing. However, the data point for I-80 West shows a reduction from 6 hours to 2 hours. The figure to the right shows that the I-80 WEST point is directly downstream of the Breach 7 location, and how the overland flow path of the waters passing through the breach would be directed at this location before they could reach any main system conveyance paths. The 1D model simply models the area downstream of this breach as a storage area with 1 set of stage-storage values for the whole area which simply fills from the lowest elevation upwards. The 2D model allows the flood waters to spill over the terrain, and be redirected by high and low terrain. The 1D model could not accurately model the timing of flooding of this data point location.

2D to 2D Cumulative Model Changes:

This beach location is located along the Natomas East Main Drainage Canal Levee, north of the American River.

In general, the Cumulative analysis shows a reduction in flood response timing to a depth of 1 foot in the southern areas of the basin. Along the I-80 corridor, for example, reductions of 86 to 80 hours (I-5 West), 48 to 39 hours (I-80 WEST) and 37 to 30 hours(I-80 CENTRAL) are estimated by the modeling.

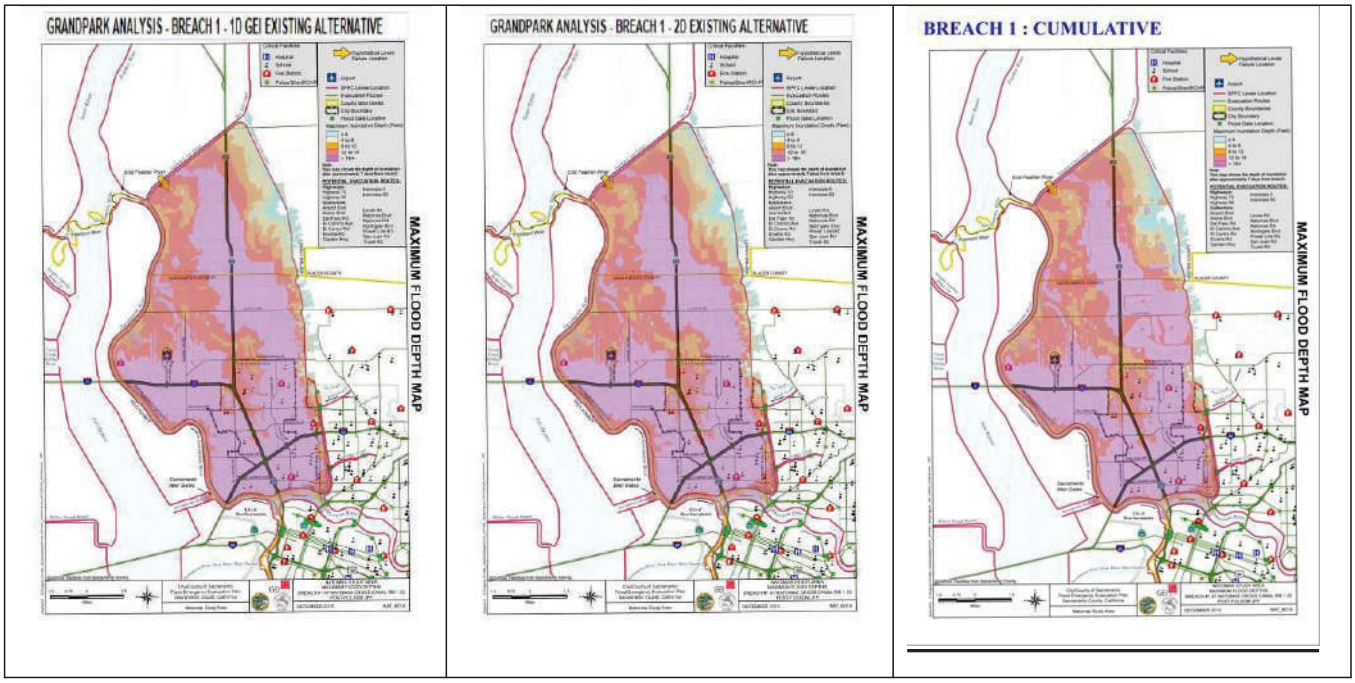
These changes result from the proposed Grandpark project culverts under Elverta Road restricting low flows below their roadway overtopping elevations along the East Drainage Canal in a South to North direction  These culverts are sized for properly reducing potential flooding changes both downstream and upstream of the Grandpark project in the 100-year, 200-year design storms with and without Climate Change being factored, in order to meet Sacramento County and RD-1000 peak flood mitigation requirements.

Also, adverse timing of 1-hour (-1 hour) is less than the accuracy of this model and, therefore, this reduction in timing to 1-feet depth of flooding is not considered material.

## MAXIMUM INUNDATION DEPTH:

Following is a comparison of the Maximum Inundation Depth computed for each breach scenario under each analysis. Oversized versions of these exhibits are presented at the end of this Technical Memorandum.

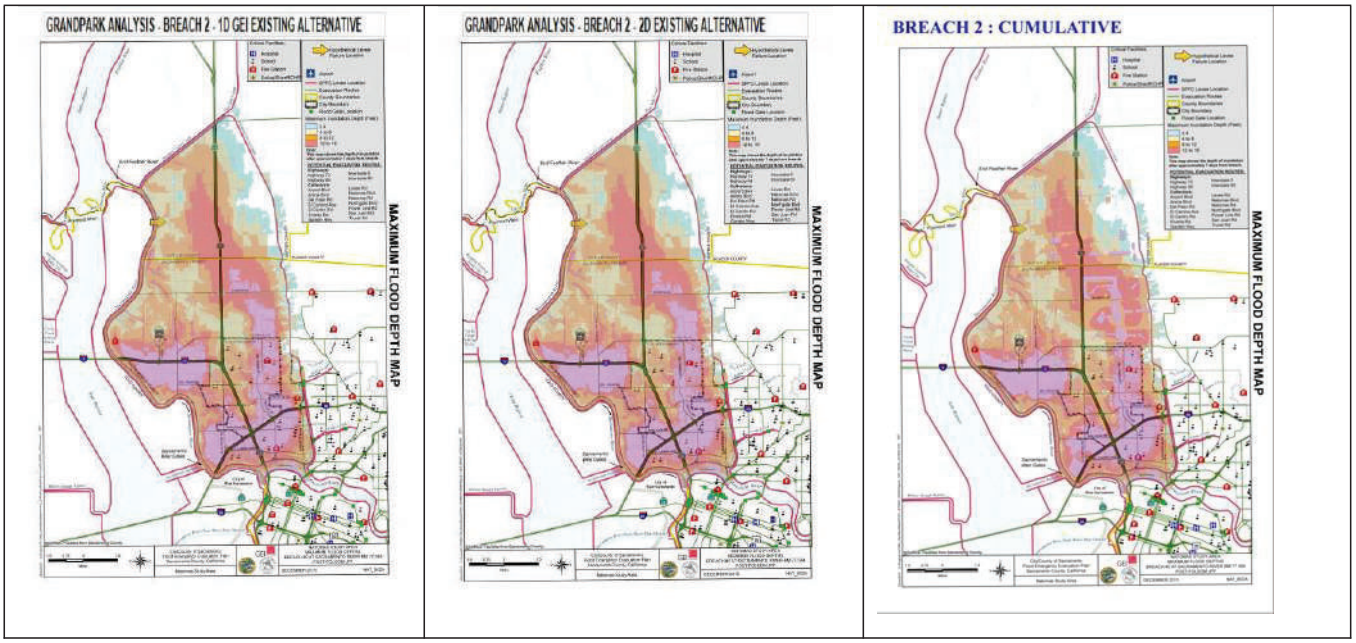
### BREACH 1: (Cross Canal Levee Breach Location)




For the Breach 1 scenario, the results are similar except as follows:

- The 1D analysis floods to a greater depth than the 2D analysis.
- The existing conditions 1D analysis does not show the Sankey gap spill path. This is because of how storage areas are represented in the 1D model.
- Grading for the embankments at the Sankey Gap flood storage facility block the flood progression until the embankments are overtopped. This causes the northwest quadrant to have less flood volume initially than the existing conditions analysis.
- Grading within the Cumulative developments shows some differences, such as lower depths where embankments are proposed and higher depths at proposed detention basins.

**BREACH 2: (North Sacramento River Breach Location)**




For the Breach 2 scenario, all results report a similar final flooding depth with the exception of:

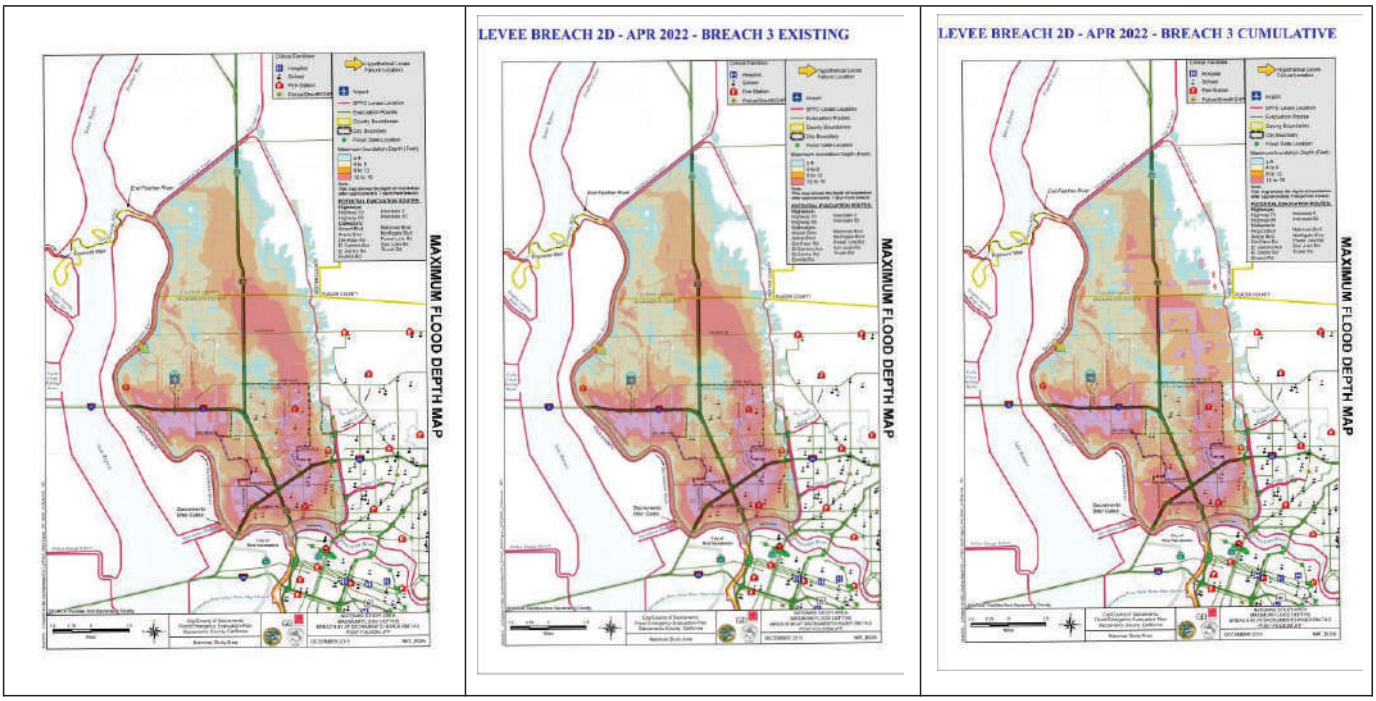
- The existing conditions 1D analysis does not show the Sankey gap spill path. This is because of how storage areas are represented in the 1D model.

- Grading for the embankments at the Sankey Gap flood storage facility block the flood progression until the embankments are overtopped. This causes the northwest quadrant to have less flood volume initially than the existing conditions analysis.

- Grading within the Cumulative developments shows some differences, such as lower depths where embankments are proposed and higher depths at detention basins.

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**BREACH 3: (Sacramento River Levee Near Elverta Road)**




For the Breach 3 scenario, all results report a similar final flooding depth with the exception of:

- The existing conditions 1D analysis showed a much higher maximum flooding depth than the 2D analysis: This is result of greater breach flows being allowed in this model resulting from the differences between storage areas and 2D analysis.

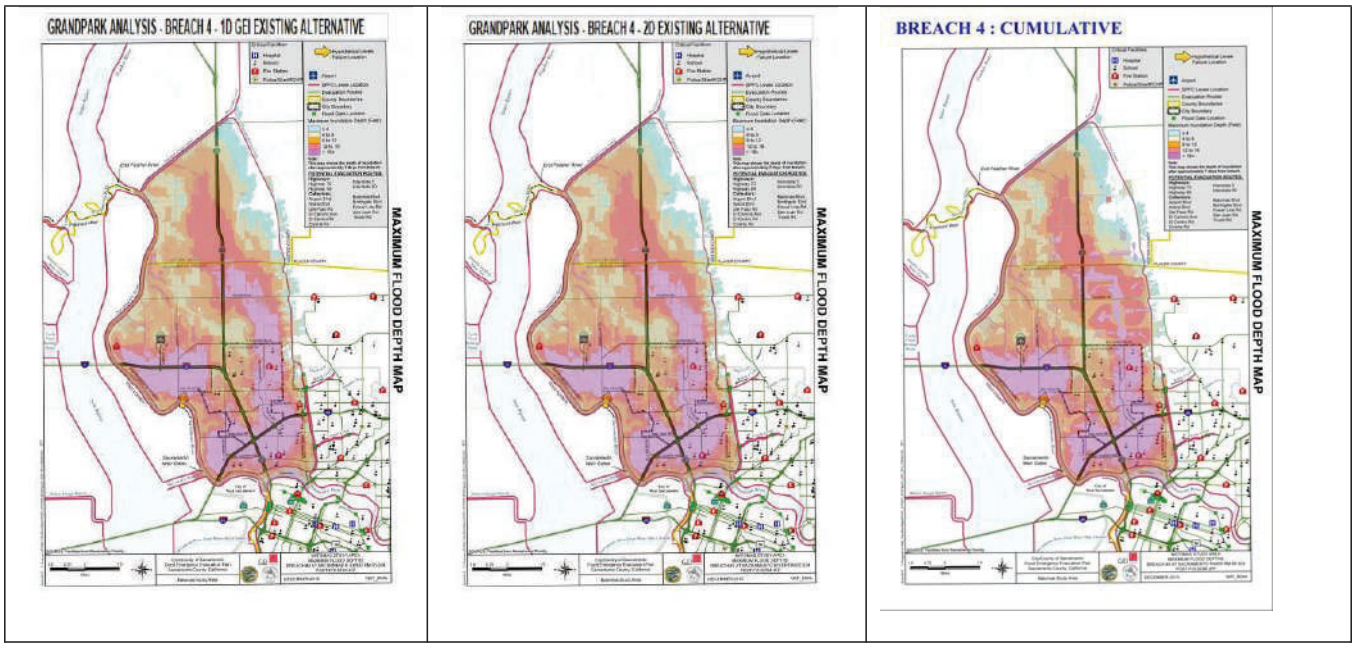
- The existing conditions 1D analysis does not show the Sankey gap spill path. This is because of how storage areas are represented in the 1D model.

- Grading for the embankments at the Sankey Gap flood storage facility block the flood progression until the embankments are overtopped. This causes the northwest quadrant to have less flood volume initially than the existing conditions analysis.

- Grading within the Cumulative Developments shows some differences, such as lower depths where embankments are proposed and higher depths at detention basins.

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**BREACH 4: (Sacramento River Levee South of I-5)**



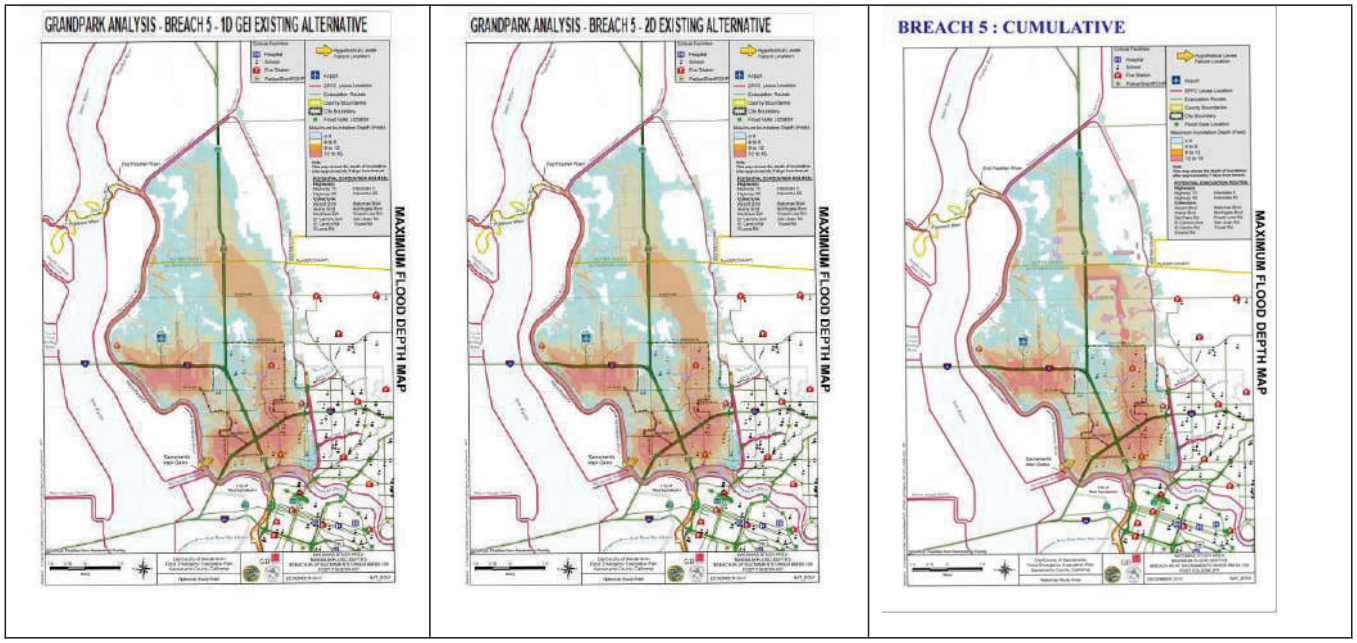

For the Breach 4 scenario, all results report a similar final flooding depth with the exception of:

- The existing conditions 1D analysis does not show the Sankey gap spill path. This is because of how storage areas are represented in the 1D model.

- Grading within the Cumulative developments shows some differences, such as lower depths where embankments are proposed and higher depths at detention basins.

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**BREACH 5: (Sacramento River Levee Near I-80)**



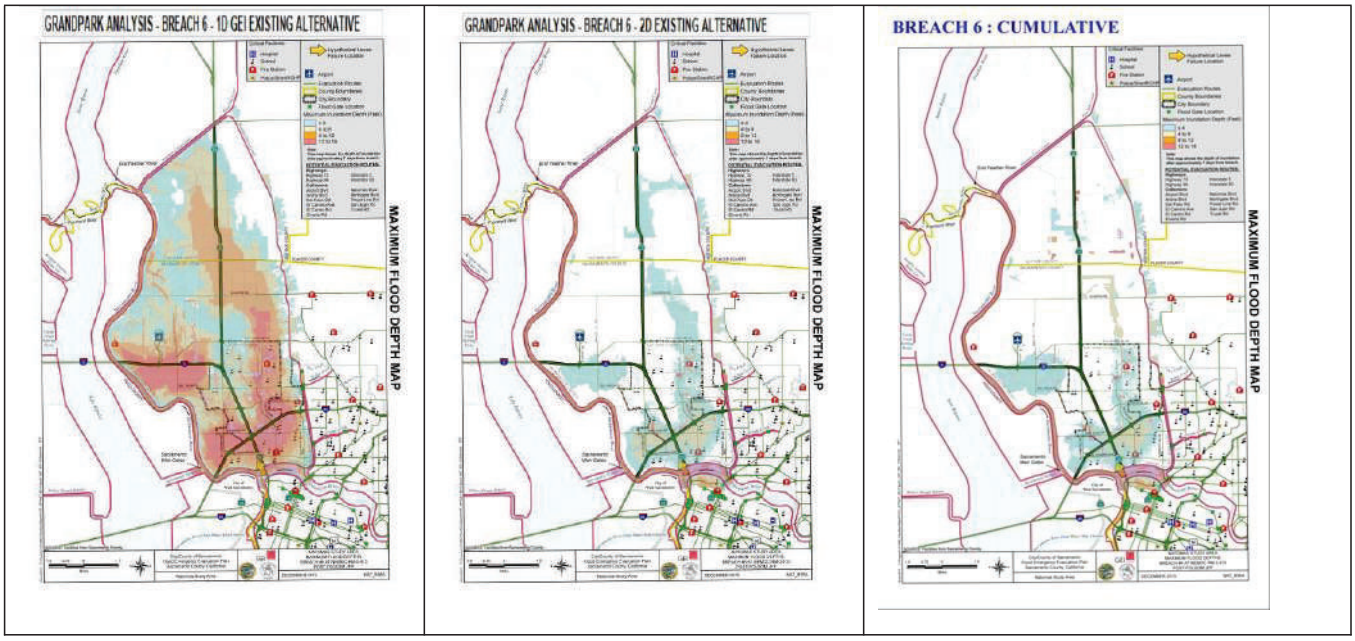

For the Breach 5 scenario, all results report a similar final flooding depth with the exception of:

- The existing conditions 1D analysis does not show the Sankey gap spill path. This is because of how storage areas are represented in the 1D model.

- Grading within the Cumulative developments shows some differences, such as lower depths where embankments are proposed and higher depths at detention basins.

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**BREACH 6 (American River Levee Near Confluence With Sacramento River):**

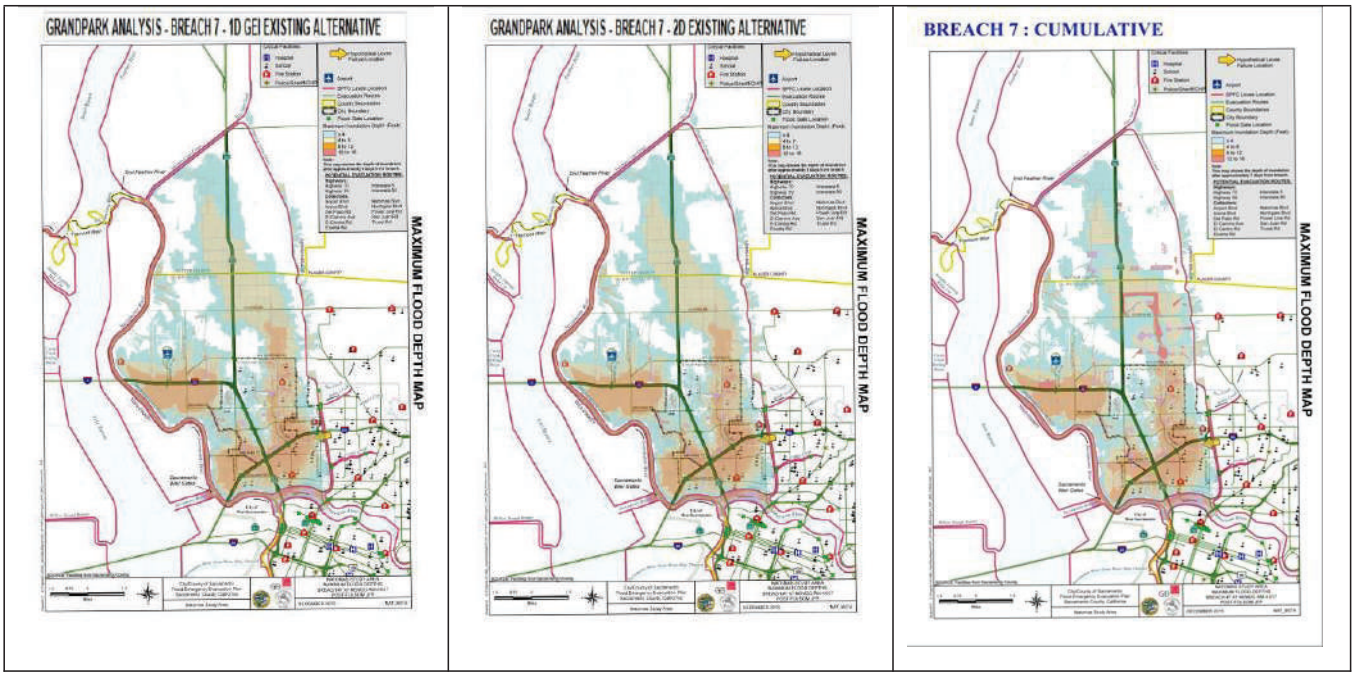



For the Breach 6 scenario, for the 2D analyses report a similar final flooding depth. However:

- The existing conditions 1D analysis showed a much higher maximum flooding depth than the 2D analysis. This is result of greater breach flows being allowed in this model resulting from the differences between storage areas and 2D analysis.
- The existing conditions 1D analysis does not show the Sankey gap spill path. This is because of how storage areas are represented in the 1D model.
- Grading within the Cumulative developments shows some differences, such as lower depths where embankments are proposed and higher depths at detention basins.
- Due to available flood capacity within the Grand Parkway, lower maximum flood depths occur within the southwestern areas and areas north of Elkhorn Blvd.

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## BREACH 7 (NEMDC Levee Near I-80)




For the Breach 7 scenario, all results report a similar final flooding depth with the exception of:

- The existing conditions 1D analysis does not show the Sankey gap spill path. This is because of how storage areas are represented in the 1D model.

- Grading within the Cumulative developments shows some differences, such as lower depths where embankments are proposed and higher depths at detention basins.

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## MAXIMUM DEPTH OF FLOODING COMPARISON

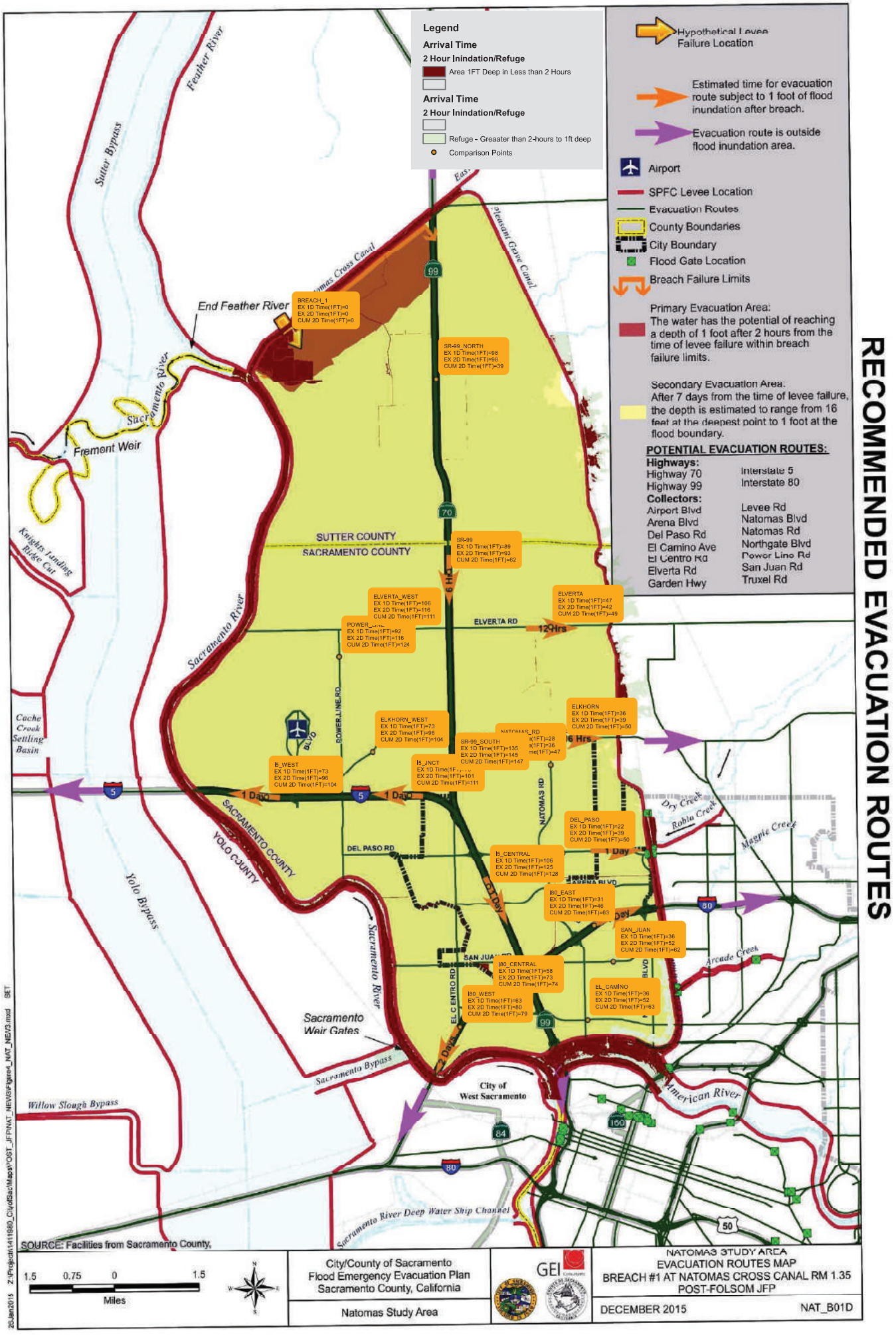
A comparison of Maximum Flooding Water Surface Elevations for the Grandpark and Upper Westside Development Areas, by breach scenario is shown in Table 8. For this table the location of the East Drainage Canal Crossing of Elverta Road was selected for the Grandpark project, and a central point within the Upper Westside project was selected.

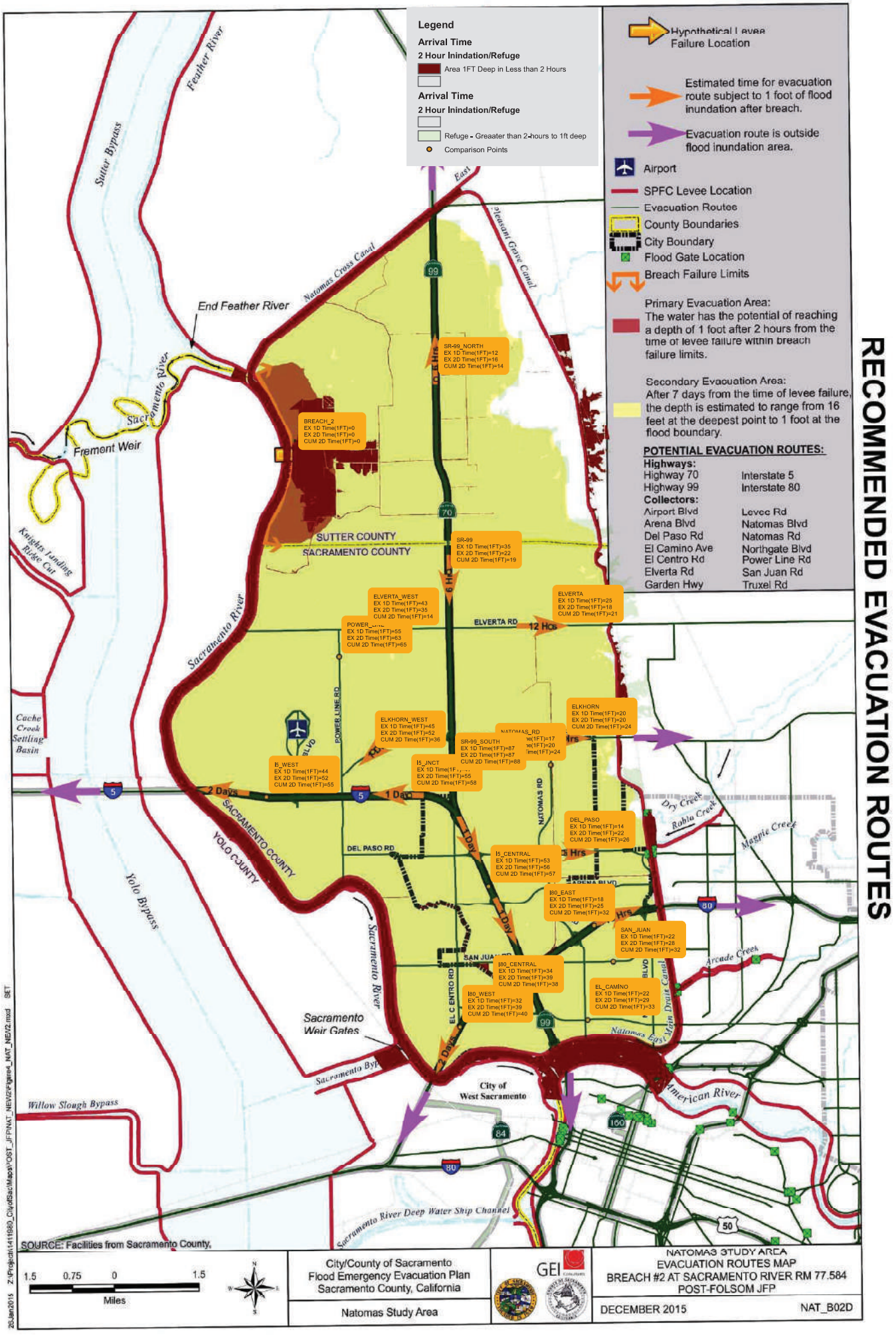
**TABLE 8**
**Maximum Flooding Water Surface Elevations**
(Existing v. Cumulative Conditions)

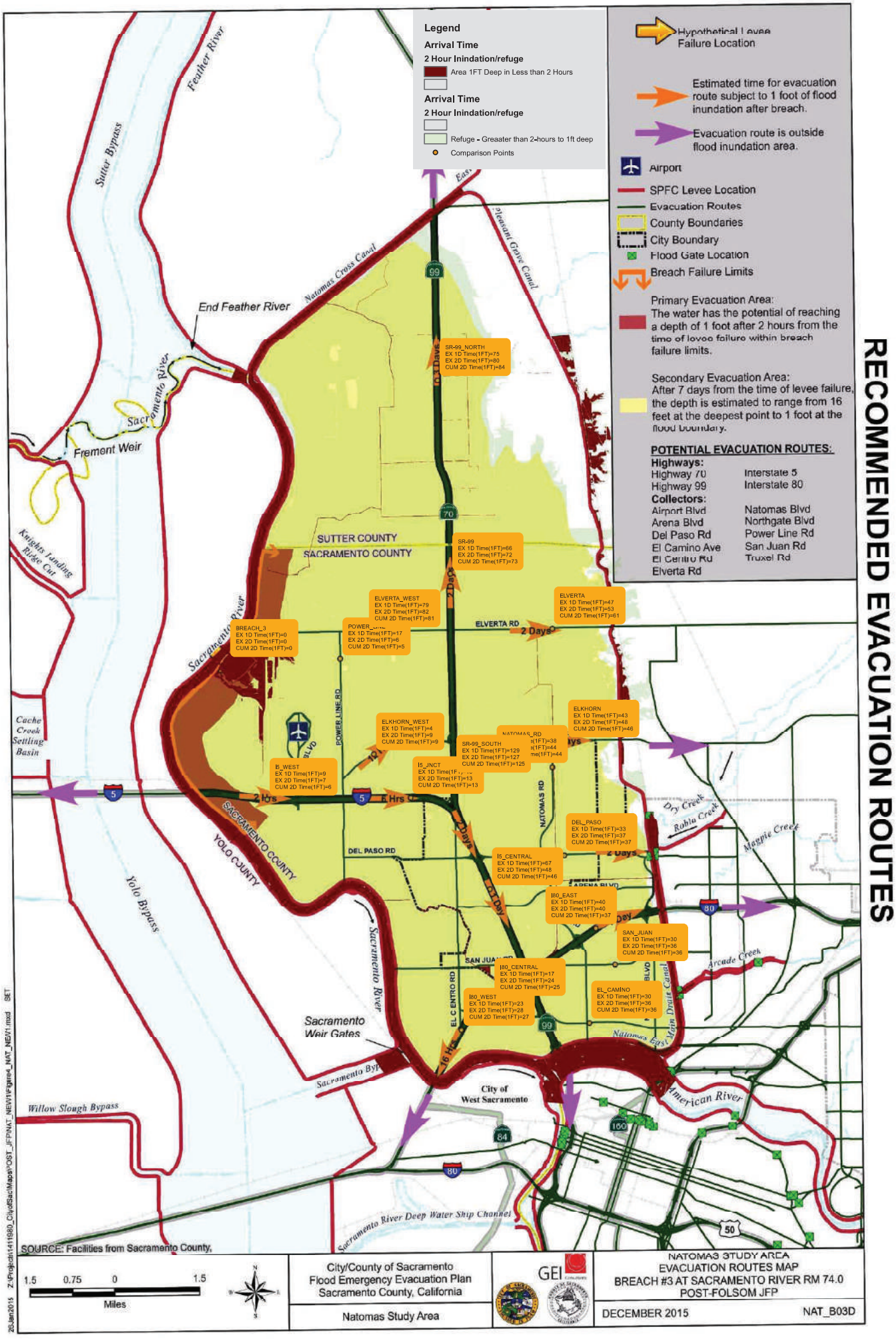
| BREACH SCENARIO | UWS Existing | UWS Cumulative | Grandpark Existing | Grandpark Cumulative |
|---|---|---|---|---|
| 1 – Natomas Cross Canal | 36.85 | 36.76 | 36.85 | 36.76 |
| 2 – Sac. River North | 31.77 | 31.78 | 31.77 | 31.79 |
| 3 – Sac River Northcentral | 29.22 | 29.23 | 29.22 | 29.23 |
| 4 – Sac River Central. | 32.23 | 32.24 | 32.23 | 32.24 |
| 5 – Sac River South | 25.15 | 25.14 | 25.15 | 25.14 |
| 6 – American River | 16.15 | 15.82 | 15.86 | 15.51 |
| 7 – NEMDC | 23.23 | 23.28 | 23.23 | 23.28 |

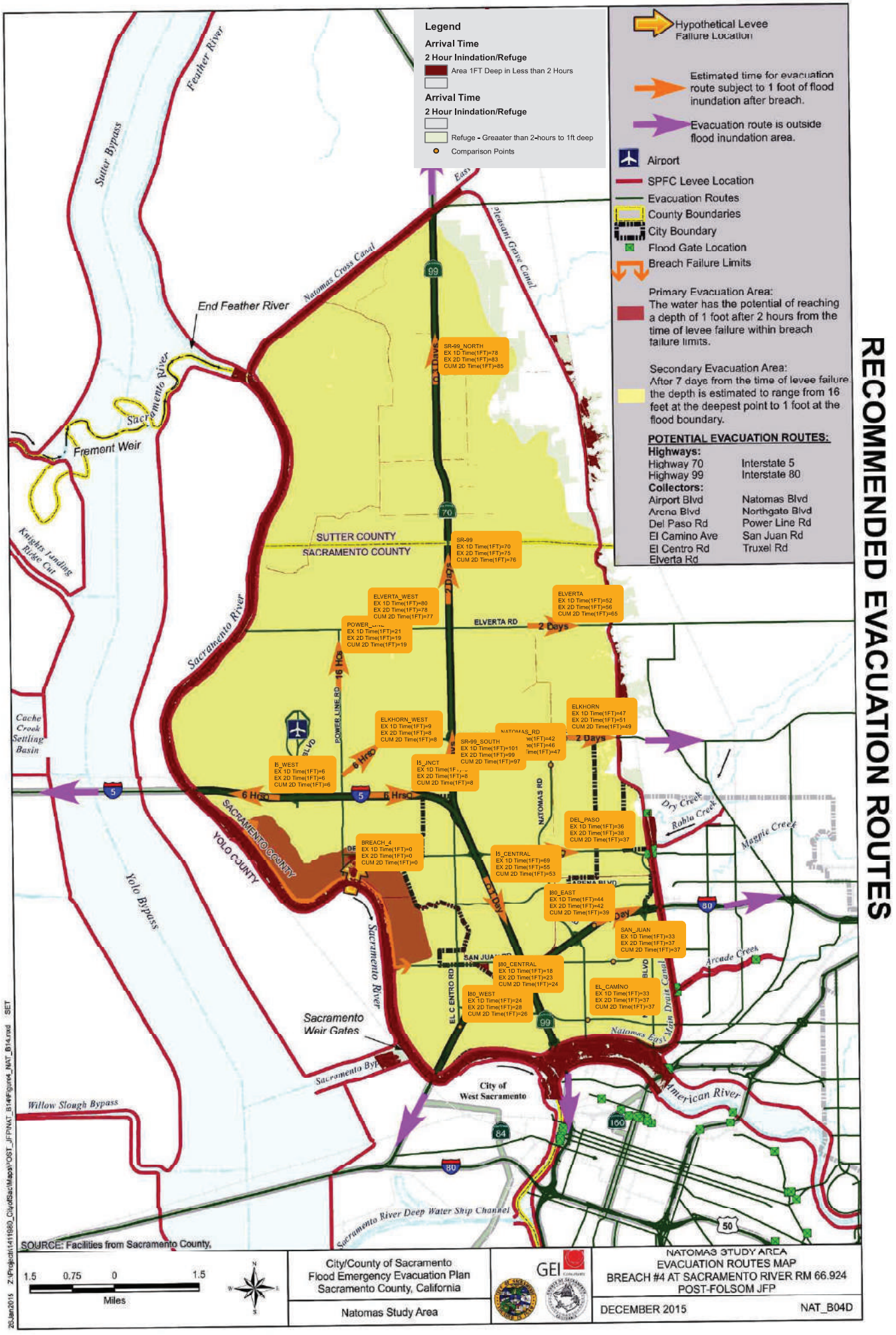
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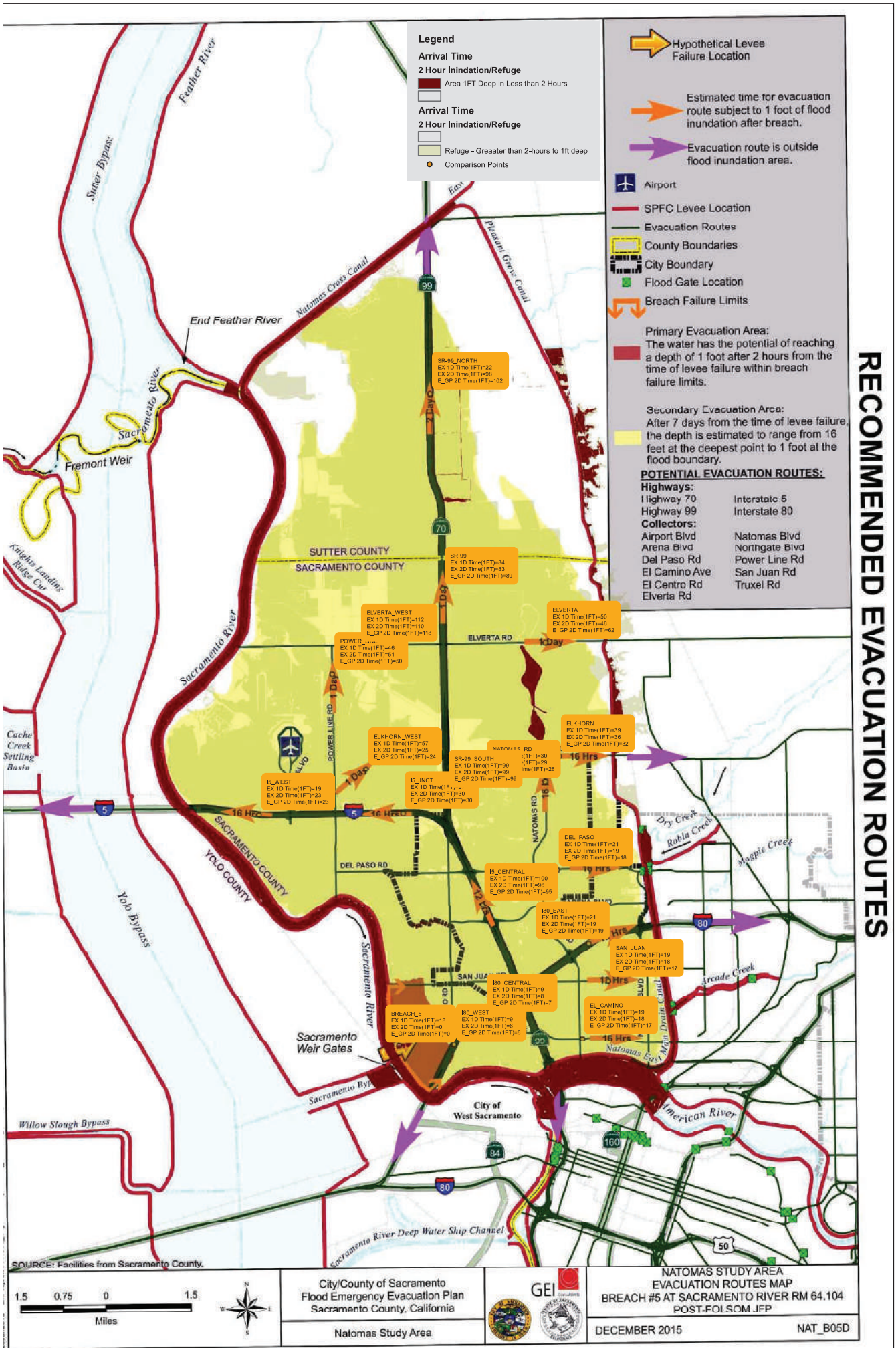
# OVERSIZED EXHIBITS

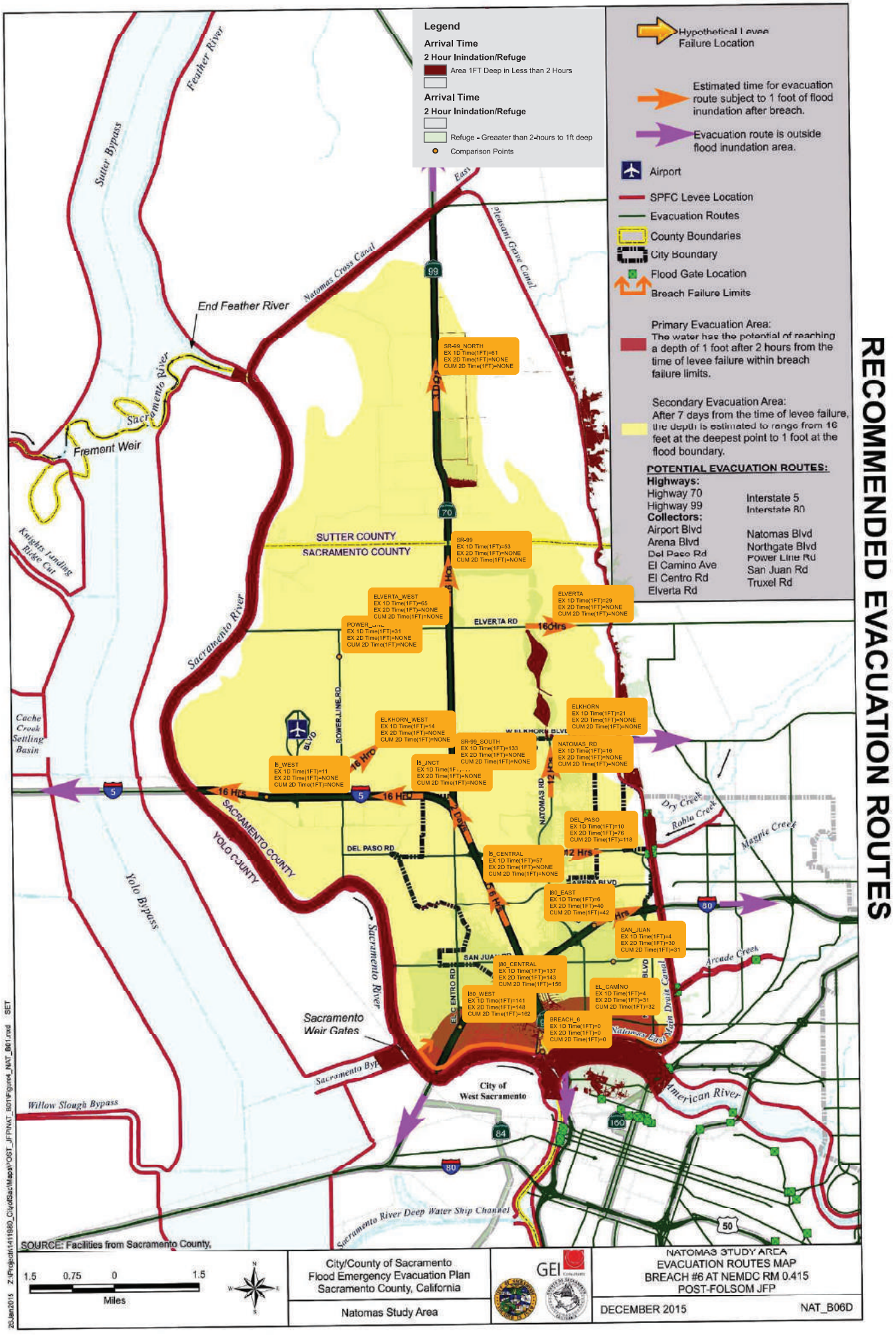

Legend
Arrival Time
2 Hour Inundation/Refuge
Area 1FT Deep in Less than 2 Hours
Arrival Time
2 Hour Inundation/Refuge
Refuge - Greaater than 2-hours to 1ft deep
Comparison Points
Hypothetical Levee Failure Location
Estimated time for evacuation route subject to 1 foot of flood inundation after breach.
Evacuation route is outside flood inundation area.
Airport
SPFC Levee Location
Evacuation Routes
County Boundaries
City Boundary
Flood Gate Location
Breach Failure Limits
Primary Evacuation Area:
The water has the potential of reaching a depth of 1 foot after 2 hours from the time of levee failure within breach failure limits.
Secondary Evacuation Area:
After 7 days from the time of levee failure, the depth is estimated to range from 16 feet at the deepest point to 1 foot at the flood boundary.
POTENTIAL EVACUATION ROUTES:
Highways:
Highway 70
Highway 99
Interstate 5
Interstate 80
Collectors:
Airport Blvd
Arena Blvd
Del Paso Rd
El Camino Ave
El Centro Rd
Elverta Rd
Garden Hwy
Levee Rd
Natomas Blvd
Natomas Rd
Northgate Blvd
Power Line Rd
San Juan Rd
Truxel Rd
RECOMMENDED EVACUATION ROUTES
Feather River
Sutter Bypass
End Feather River
BREACH_1
EX 1D Time(1FT)=0
EX 2D Time(1FT)=0
CUM 2D Time(1FT)>0
Sacramento River
Fremont Weir
Knights Landing Ridge Cut
Cache Creek Settling Basin
Yolo Bypass
Willow Slough Bypass
Sacramento Weir Gates
Sacramento Bypass
Sacramento River Deep Water Ship Channel
City of West Sacramento
American River
Dry Creek
Robla Creek
Magpie Creek
Arcade Creek
SUTTER COUNTY
SACRAMENTO COUNTY
YOLO COUNTY
SR-99_NORTH
EX 1D Time(1FT)=98
EX 2D Time(1FT)=98
CUM 2D Time(1FT)=39
SR-99
EX 1D Time(1FT)=89
EX 2D Time(1FT)=93
CUM 2D Time(1FT)=62
ELVERTA_WEST
EX 1D Time(1FT)=106
EX 2D Time(1FT)=116
CUM 2D Time(1FT)=111
ELVERTA
EX 1D Time(1FT)=47
EX 2D Time(1FT)=42
CUM 2D Time(1FT)=49
ELVERTA RD
12Hrs
ELKHORN_WEST
EX 1D Time(1FT)=73
EX 2D Time(1FT)=96
CUM 2D Time(1FT)=104
ELKHORN
EX 1D Time(1FT)=36
EX 2D Time(1FT)=39
CUM 2D Time(1FT)=50
SR-99_SOUTH
EX 1D Time(1FT)=135
EX 2D Time(1FT)=145
CUM 2D Time(1FT)=147
I5_WEST
EX 1D Time(1FT)=73
EX 2D Time(1FT)=96
CUM 2D Time(1FT)=104
I5_JNCT
EX 1D Time(1FT)=101
EX 2D Time(1FT)=101
CUM 2D Time(1FT)=111
1 Day
DEL_PASO
EX 1D Time(1FT)=22
EX 2D Time(1FT)=39
CUM 2D Time(1FT)=50
DEL PASO RD
I5_CENTRAL
EX 1D Time(1FT)=106
EX 2D Time(1FT)=125
CUM 2D Time(1FT)=128
I80_EAST
EX 1D Time(1FT)=31
EX 2D Time(1FT)=46
CUM 2D Time(1FT)=63
SAN_JUAN
EX 1D Time(1FT)=36
EX 2D Time(1FT)=52
CUM 2D Time(1FT)=62
I80_CENTRAL
EX 1D Time(1FT)=58
EX 2D Time(1FT)=73
CUM 2D Time(1FT)=74
I80_WEST
EX 1D Time(1FT)=63
EX 2D Time(1FT)=80
CUM 2D Time(1FT)=79
EL_CAMINO
EX 1D Time(1FT)=36
EX 2D Time(1FT)=52
CUM 2D Time(1FT)=63
2 Days
NATOMAS RD
POWER LINE RD
EL CENTRO RD
SAN JUAN BLVD
SOURCE: Facilities from Sacramento County,
1.5 0.75 0 1.5
Miles
City/County of Sacramento
Flood Emergency Evacuation Plan
Sacramento County, California
Natomas Study Area
GEI
NATOMAS STUDY AREA
EVACUATION ROUTES MAP
BREACH #1 AT NATOMAS CROSS CANAL RM 1.35
POST-FOLSOM JFP
DECEMBER 2015
NAT_B01D
26-Jan-2015 Z:\Projects\1411980_CityofSac\Maps\POST_JFP\NAT_NEW3\Figure4_NAT_NEW3.mxd SET

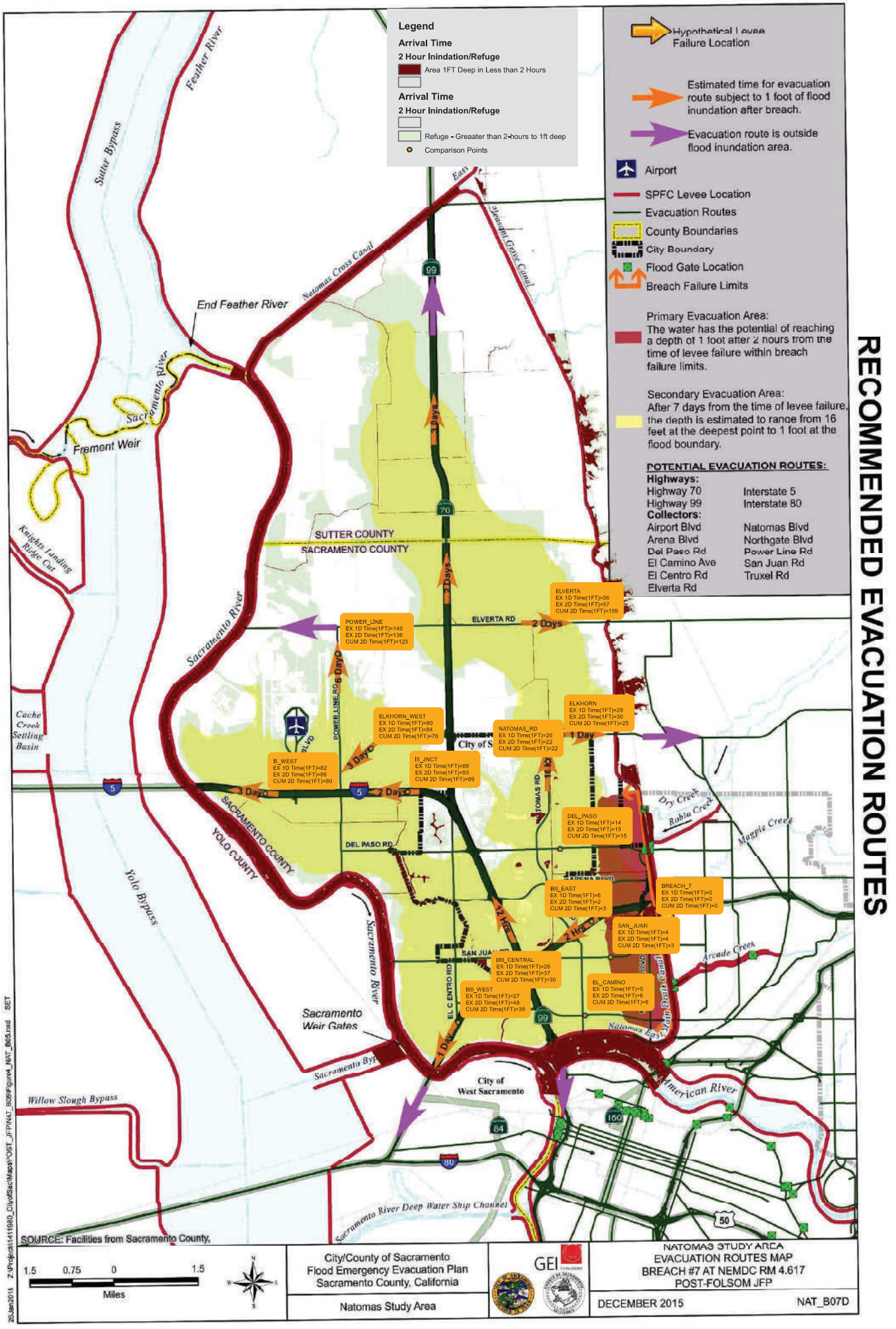

Legend
Arrival Time
2 Hour Inundation/Refuge
Area 1FT Deep in Less than 2 Hours
Arrival Time
2 Hour Inundation/Refuge
Refuge - Greaater than 2-hours to 1ft deep
Comparison Points
Hypothetical Levee Failure Location
Estimated time for evacuation route subject to 1 foot of flood inundation after breach.
Evacuation route is outside flood inundation area.
Airport
SPFC Levee Location
Evacuation Routes
County Boundaries
City Boundary
Flood Gate Location
Breach Failure Limits
Primary Evacuation Area:
The water has the potential of reaching a depth of 1 foot after 2 hours from the time of levee failure within breach failure limits.
Secondary Evacuation Area:
After 7 days from the time of levee failure, the depth is estimated to range from 16 feet at the deepest point to 1 foot at the flood boundary.
POTENTIAL EVACUATION ROUTES:
Highways:
Highway 70
Highway 99
Interstate 5
Interstate 80
Collectors:
Airport Blvd
Arena Blvd
Del Paso Rd
El Camino Ave
El Centro Rd
Elverta Rd
Garden Hwy
Levee Rd
Natomas Blvd
Natomas Rd
Northgate Blvd
Power Line Rd
San Juan Rd
Truxel Rd
RECOMMENDED EVACUATION ROUTES
Feather River
Sutter Bypass
End Feather River
Natomas Cross Canal
East Pleasant Grove Canal
Sacramento River
Fremont Weir
Knights Landing Ridge Cut
SUTTER COUNTY
SACRAMENTO COUNTY
YOLO COUNTY
Cache Creek Settling Basin
Yolo Bypass
Willow Slough Bypass
Sacramento Weir Gates
Sacramento River Deep Water Ship Channel
City of West Sacramento
American River
Natomas East Main Drain Canal
Dry Creek
Robla Creek
Magpie Creek
Arcade Creek
BREACH_2
EX 1D Time(1FT)=0
EX 2D Time(1FT)=0
CUM 2D Time(1FT)=0
SR-99_NORTH
EX 1D Time(1FT)=12
EX 2D Time(1FT)=16
CUM 2D Time(1FT)=14
SR-99
EX 1D Time(1FT)=35
EX 2D Time(1FT)=22
CUM 2D Time(1FT)=19
ELVERTA_WEST
EX 1D Time(1FT)=43
EX 2D Time(1FT)=35
CUM 2D Time(1FT)=14
ELVERTA
EX 1D Time(1FT)=25
EX 2D Time(1FT)=18
CUM 2D Time(1FT)=21
ELVERTA RD
12 Hrs
ELKHORN_WEST
EX 1D Time(1FT)=45
EX 2D Time(1FT)=52
CUM 2D Time(1FT)=36
ELKHORN
EX 1D Time(1FT)=20
EX 2D Time(1FT)=20
CUM 2D Time(1FT)=24
SR-99_SOUTH
EX 1D Time(1FT)=87
EX 2D Time(1FT)=87
CUM 2D Time(1FT)=88
I5_JNCT
EX 2D Time(1FT)=55
CUM 2D Time(1FT)=58
I5_WEST
EX 1D Time(1FT)=44
EX 2D Time(1FT)=52
CUM 2D Time(1FT)=55
2 Days
1 Day
DEL PASO RD
DEL_PASO
EX 1D Time(1FT)=14
EX 2D Time(1FT)=22
CUM 2D Time(1FT)=26
I5_CENTRAL
EX 1D Time(1FT)=53
EX 2D Time(1FT)=56
CUM 2D Time(1FT)=57
I80_EAST
EX 1D Time(1FT)=18
EX 2D Time(1FT)=25
CUM 2D Time(1FT)=32
SAN_JUAN
EX 1D Time(1FT)=22
EX 2D Time(1FT)=28
CUM 2D Time(1FT)=32
I80_CENTRAL
EX 1D Time(1FT)=34
EX 2D Time(1FT)=39
CUM 2D Time(1FT)=38
I80_WEST
EX 1D Time(1FT)=32
EX 2D Time(1FT)=39
CUM 2D Time(1FT)=40
EL_CAMINO
EX 1D Time(1FT)=22
EX 2D Time(1FT)=29
CUM 2D Time(1FT)=33
NATOMAS RD
POWER LINE RD
EL CENTRO RD
SAN JUAN RD
SOURCE: Facilities from Sacramento County,
1.5 0.75 0 1.5
Miles
City/County of Sacramento
Flood Emergency Evacuation Plan
Sacramento County, California
Natomas Study Area
GEI
NATOMAS STUDY AREA
EVACUATION ROUTES MAP
BREACH #2 AT SACRAMENTO RIVER RM 77.584
POST-FOLSOM JFP
DECEMBER 2015
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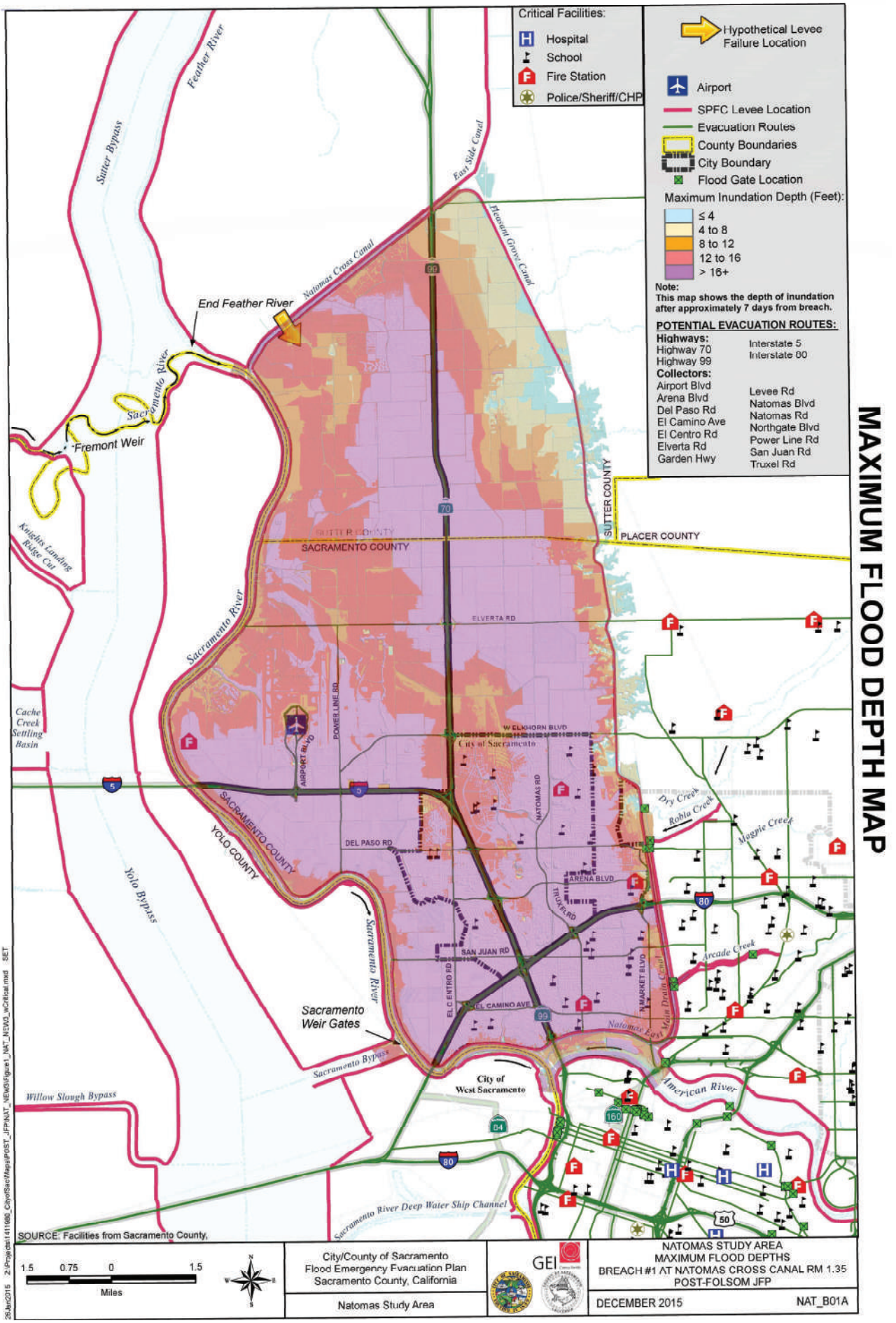

Legend
Arrival Time
2 Hour Inindation/refuge
Area 1FT Deep in Less than 2 Hours
Arrival Time
2 Hour Inindation/refuge
Refuge - Greaater than 2-hours to 1ft deep
Comparison Points
Hypothetical Levee Failure Location
Estimated time for evacuation route subject to 1 foot of flood inundation after breach.
Evacuation route is outside flood inundation area.
Airport
SPFC Levee Location
Evacuation Routes
County Boundaries
City Boundary
Flood Gate Location
Breach Failure Limits
Primary Evacuation Area:
The water has the potential of reaching a depth of 1 foot after 2 hours from the time of levee failure within breach failure limits.
Secondary Evacuation Area:
After 7 days from the time of levee failure, the depth is estimated to range from 16 feet at the deepest point to 1 foot at the flood boundary.
POTENTIAL EVACUATION ROUTES:
Highways:
Highway 70
Highway 99
Interstate 5
Interstate 80
Collectors:
Airport Blvd
Arena Blvd
Del Paso Rd
El Camino Ave
El Centro Rd
Elverta Rd
Natomas Blvd
Northgate Blvd
Power Line Rd
San Juan Rd
Truxel Rd
RECOMMENDED EVACUATION ROUTES
Feather River
Sutter Bypass
Natomas Cross Canal
Pleasant Grove Canal
End Feather River
Sacramento River
Fremont Weir
Knights Landing Ridge Cut
SUTTER COUNTY
SACRAMENTO COUNTY
YOLO COUNTY
Cache Creek Settling Basin
Yolo Bypass
Willow Slough Bypass
Sacramento River
Sacramento Weir Gates
Sacramento Bypass
City of West Sacramento
Sacramento River Deep Water Ship Channel
American River
Natomas East Main Drain Canal
Arcade Creek
Dry Creek
Robla Creek
Magpie Creek
SR-99_NORTH
EX 1D Time(1FT)=75
EX 2D Time(1FT)=80
CUM 2D Time(1FT)=84
SR-99
EX 1D Time(1FT)=66
EX 2D Time(1FT)=72
CUM 2D Time(1FT)=73
ELVERTA_WEST
EX 1D Time(1FT)=79
EX 2D Time(1FT)=82
CUM 2D Time(1FT)=81
ELVERTA
EX 1D Time(1FT)=47
EX 2D Time(1FT)=53
CUM 2D Time(1FT)=61
BREACH_3
EX 1D Time(1FT)=0
EX 2D Time(1FT)=0
CUM 2D Time(1FT)=0
POWER_...
EX 1D Time(1FT)=17
EX 2D Time(1FT)=6
CUM 2D Time(1FT)=5
ELKHORN_WEST
EX 1D Time(1FT)=4
EX 2D Time(1FT)=9
CUM 2D Time(1FT)=9
ELKHORN
EX 1D Time(1FT)=43
EX 2D Time(1FT)=48
CUM 2D Time(1FT)=46
SR-99_SOUTH
EX 1D Time(1FT)=129
EX 2D Time(1FT)=127
CUM 2D Time(1FT)=125
I5_JNCT
EX 1D Time(1F...
EX 2D Time(1FT)=13
CUM 2D Time(1FT)=13
I5_WEST
EX 1D Time(1FT)=9
EX 2D Time(1FT)=7
CUM 2D Time(1FT)=6
DEL_PASO
EX 1D Time(1FT)=33
EX 2D Time(1FT)=37
CUM 2D Time(1FT)=37
I5_CENTRAL
EX 1D Time(1FT)=67
EX 2D Time(1FT)=48
CUM 2D Time(1FT)=46
I80_EAST
EX 1D Time(1FT)=40
EX 2D Time(1FT)=40
CUM 2D Time(1FT)=37
SAN_JUAN
EX 1D Time(1FT)=30
EX 2D Time(1FT)=36
CUM 2D Time(1FT)=36
I80_CENTRAL
EX 1D Time(1FT)=17
EX 2D Time(1FT)=24
CUM 2D Time(1FT)=25
I80_WEST
EX 1D Time(1FT)=23
EX 2D Time(1FT)=28
CUM 2D Time(1FT)=27
EL_CAMINO
EX 1D Time(1FT)=30
EX 2D Time(1FT)=36
CUM 2D Time(1FT)=36
ELVERTA RD
DEL PASO RD
POWER LINE RD
NATOMAS RD
EL CENTRO RD
2 Days
1 Day
16 Hrs
2 Hrs
SOURCE: Facilities from Sacramento County,
1.5 0.75 0 1.5
Miles
City/County of Sacramento
Flood Emergency Evacuation Plan
Sacramento County, California
Natomas Study Area
GEI
NATOMAS STUDY AREA
EVACUATION ROUTES MAP
BREACH #3 AT SACRAMENTO RIVER RM 74.0
POST-FOLSOM JFP
DECEMBER 2015
NAT_B03D
26-Jan-2015 Z:\Projects\1411\80_CityofSac\Maps\POST_JFP\NAT_NEW\Figure4_NAT_NEW1.mxd SET


Legend
Arrival Time
2 Hour Inindation/Refuge
Area 1FT Deep in Less than 2 Hours
Arrival Time
2 Hour Inindation/Refuge
Refuge - Greaater than 2-hours to 1ft deep
Comparison Points
Hypothetical Levee Failure Location
Estimated time for evacuation route subject to 1 foot of flood inundation after breach.
Evacuation route is outside flood inundation area.
Airport
SPFC Levee Location
Evacuation Routes
County Boundaries
City Boundary
Flood Gate Location
Breach Failure Limits
Primary Evacuation Area:
The water has the potential of reaching a depth of 1 foot after 2 hours from the time of levee failure within breach failure limits.
Secondary Evacuation Area:
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POTENTIAL EVACUATION ROUTES:
Highways:
Highway 70
Highway 99
Interstate 5
Interstate 80
Collectors:
Airport Blvd
Arena Blvd
Del Paso Rd
El Camino Ave
El Centro Rd
Elverta Rd
Natomas Blvd
Northgate Blvd
Power Line Rd
San Juan Rd
Truxel Rd
RECOMMENDED EVACUATION ROUTES
Feather River
Sutter Bypass
Natomas Cross Canal
End Feather River
Sacramento River
Fremont Weir
Knights Landing Ridge Cut
SUTTER COUNTY
SACRAMENTO COUNTY
Pleasant Grove Canal
SR-99_NORTH
EX 1D Time(1FT)=78
EX 2D Time(1FT)=83
CUM 2D Time(1FT)=85
SR-99
EX 1D Time(1FT)=70
EX 2D Time(1FT)=75
CUM 2D Time(1FT)=76
ELVERTA_WEST
EX 1D Time(1FT)=80
EX 2D Time(1FT)=78
CUM 2D Time(1FT)=77
ELVERTA
EX 1D Time(1FT)=52
EX 2D Time(1FT)=56
CUM 2D Time(1FT)=65
ELVERTA RD
2 Days
POWER_LINE_RD
EX 1D Time(1FT)=21
EX 2D Time(1FT)=19
CUM 2D Time(1FT)=19
16 Hrs
ELKHORN_WEST
EX 1D Time(1FT)=9
EX 2D Time(1FT)=8
CUM 2D Time(1FT)=8
ELKHORN
EX 1D Time(1FT)=47
EX 2D Time(1FT)=51
CUM 2D Time(1FT)=49
2 Days
SR-99_SOUTH
EX 1D Time(1FT)=101
EX 2D Time(1FT)=99
CUM 2D Time(1FT)=97
NATOMAS_RD
EX 1D Time(1FT)=42
EX 2D Time(1FT)=46
EX 2D Time(1FT)=47
I5_JNCT
EX 1D Time(1FT)=8
EX 2D Time(1FT)=8
CUM 2D Time(1FT)=8
I5_WEST
EX 1D Time(1FT)=6
EX 2D Time(1FT)=6
CUM 2D Time(1FT)=6
6 Hrs
5 Hrs
Cache Creek Settling Basin
SACRAMENTO COUNTY
YOLO COUNTY
BREACH_4
EX 1D Time(1FT)=0
EX 2D Time(1FT)=0
CUM 2D Time(1FT)=0
DEL_PASO
EX 1D Time(1FT)=36
EX 2D Time(1FT)=38
CUM 2D Time(1FT)=37
I5_CENTRAL
EX 1D Time(1FT)=69
EX 2D Time(1FT)=55
CUM 2D Time(1FT)=53
I80_EAST
EX 1D Time(1FT)=44
EX 2D Time(1FT)=42
CUM 2D Time(1FT)=39
SAN_JUAN
EX 1D Time(1FT)=33
EX 2D Time(1FT)=37
CUM 2D Time(1FT)=37
I80_CENTRAL
EX 1D Time(1FT)=18
EX 2D Time(1FT)=23
CUM 2D Time(1FT)=24
I80_WEST
EX 1D Time(1FT)=24
EX 2D Time(1FT)=28
CUM 2D Time(1FT)=26
EL_CAMINO
EX 1D Time(1FT)=33
EX 2D Time(1FT)=37
CUM 2D Time(1FT)=37
Dry Creek
Robla Creek
Magpie Creek
Arcade Creek
Natomas East Main Drain Canal
Yolo Bypass
Sacramento River
Sacramento Weir Gates
Willow Slough Bypass
City of West Sacramento
American River
Sacramento River Deep Water Ship Channel
SOURCE: Facilities from Sacramento County,
1.5 0.75 0 1.5
Miles
City/County of Sacramento
Flood Emergency Evacuation Plan
Sacramento County, California
Natomas Study Area
GEI
NATOMAS STUDY AREA
EVACUATION ROUTES MAP
BREACH #4 AT SACRAMENTO RIVER RM 66.924
POST-FOLSOM JFP
DECEMBER 2015
NAT_B04D
26-Jan-2015 Z:\Projects\1411\80_CityofSac\Maps\POST_JFP\NAT_B14\Figure4_NAT_B14.mxd SET


Legend
Arrival Time
2 Hour Inundation/Refuge
Area 1FT Deep in Less than 2 Hours
Arrival Time
2 Hour Inundation/Refuge
Refuge - Greaater than 2-hours to 1ft deep
Comparison Points
Hypothetical Levee Failure Location
Estimated time for evacuation route subject to 1 foot of flood inundation after breach.
Evacuation route is outside flood inundation area.
Airport
SPFC Levee Location
Evacuation Routes
County Boundaries
City Boundary
Flood Gate Location
Breach Failure Limits
Primary Evacuation Area:
The water has the potential of reaching a depth of 1 foot after 2 hours from the time of levee failure within breach failure limits.
Secondary Evacuation Area:
After 7 days from the time of levee failure, the depth is estimated to range from 16 feet at the deepest point to 1 foot at the flood boundary.
POTENTIAL EVACUATION ROUTES:
Highways:
Highway 70
Highway 99
Interstate 5
Interstate 80
Collectors:
Airport Blvd
Arena Blvd
Del Paso Rd
El Camino Ave
El Centro Rd
Elverta Rd
Natomas Blvd
Northgate Blvd
Power Line Rd
San Juan Rd
Truxel Rd
RECOMMENDED EVACUATION ROUTES
Feather River
Sutter Bypass
Natomas Cross Canal
Pleasant Grove Canal
End Feather River
Sacramento River
Fremont Weir
Knights Landing Ridge Cut
SUTTER COUNTY
SACRAMENTO COUNTY
YOLO COUNTY
Cache Creek Settling Basin
Yolo Bypass
Willow Slough Bypass
Sacramento River Deep Water Ship Channel
Sacramento Weir Gates
City of West Sacramento
ELVERTA RD
DEL PASO RD
POWER LINE RD
NATOMAS RD
SAN JUAN
Dry Creek
Robla Creek
Magpie Creek
Arcade Creek
American River
Natomas East Main Drain Canal
SR-99_NORTH
EX 1D Time(1FT)=22
EX 2D Time(1FT)=98
E_GP 2D Time(1FT)=102
SR-99
EX 1D Time(1FT)=84
EX 2D Time(1FT)=83
E_GP 2D Time(1FT)=89
ELVERTA_WEST
EX 1D Time(1FT)=112
EX 2D Time(1FT)=110
E_GP 2D Time(1FT)=118
ELVERTA
EX 1D Time(1FT)=50
EX 2D Time(1FT)=46
E_GP 2D Time(1FT)=62
POWER_...
EX 1D Time(1FT)=46
EX 2D Time(1FT)=51
E_GP 2D Time(1FT)=50
ELKHORN_WEST
EX 1D Time(1FT)=57
EX 2D Time(1FT)=25
E_GP 2D Time(1FT)=24
ELKHORN
EX 1D Time(1FT)=39
EX 2D Time(1FT)=36
E_GP 2D Time(1FT)=32
SR-99_SOUTH
EX 1D Time(1FT)=99
EX 2D Time(1FT)=99
E_GP 2D Time(1FT)=99
I5_WEST
EX 1D Time(1FT)=19
EX 2D Time(1FT)=23
E_GP 2D Time(1FT)=23
I5_JNCT
EX 1D Time(1FT)=30
EX 2D Time(1FT)=30
E_GP 2D Time(1FT)=30
DEL_PASO
EX 1D Time(1FT)=21
EX 2D Time(1FT)=19
E_GP 2D Time(1FT)=18
I5_CENTRAL
EX 1D Time(1FT)=100
EX 2D Time(1FT)=96
E_GP 2D Time(1FT)=96
I80_EAST
EX 1D Time(1FT)=21
EX 2D Time(1FT)=19
E_GP 2D Time(1FT)=19
SAN_JUAN
EX 1D Time(1FT)=19
EX 2D Time(1FT)=18
E_GP 2D Time(1FT)=17
I80_CENTRAL
EX 1D Time(1FT)=9
EX 2D Time(1FT)=8
E_GP 2D Time(1FT)=7
EL_CAMINO
EX 1D Time(1FT)=19
EX 2D Time(1FT)=18
E_GP 2D Time(1FT)=17
BREACH_5
EX 1D Time(1FT)=18
EX 2D Time(1FT)=0
E_GP 2D Time(1FT)=0
I80_WEST
EX 1D Time(1FT)=9
EX 2D Time(1FT)=6
E_GP 2D Time(1FT)=6
1 Day
16 Hrs
12 Hrs
10 Hrs
SOURCE: Facilities from Sacramento County.
1.5 0.75 0 1.5
Miles
City/County of Sacramento
Flood Emergency Evacuation Plan
Sacramento County, California
Natomas Study Area
GEI
NATOMAS STUDY AREA
EVACUATION ROUTES MAP
BREACH #5 AT SACRAMENTO RIVER RM 64.104
POST-FOLSOM JFP
DECEMBER 2015
NAT_B05D


Legend
Arrival Time
2 Hour Inundation/Refuge
Area 1FT Deep in Less than 2 Hours
Arrival Time
2 Hour Inundation/Refuge
Refuge - Greaater than 2-hours to 1ft deep
Comparison Points
Hypothetical Levee Failure Location
Estimated time for evacuation route subject to 1 foot of flood inundation after breach.
Evacuation route is outside flood inundation area.
Airport
SPFC Levee Location
Evacuation Routes
County Boundaries
City Boundary
Flood Gate Location
Breach Failure Limits
Primary Evacuation Area:
The water has the potential of reaching a depth of 1 foot after 2 hours from the time of levee failure within breach failure limits.
Secondary Evacuation Area:
After 7 days from the time of levee failure, the depth is estimated to range from 16 feet at the deepest point to 1 foot at the flood boundary.
POTENTIAL EVACUATION ROUTES:
Highways:
Highway 70
Highway 99
Interstate 5
Interstate 80
Collectors:
Airport Blvd
Arena Blvd
Del Paso Rd
El Camino Ave
El Centro Rd
Elverta Rd
Natomas Blvd
Northgate Blvd
Power Line Rd
San Juan Rd
Truxel Rd
RECOMMENDED EVACUATION ROUTES
Feather River
Sutter Bypass
Natomas Cross Canal
East Pleasant Grove Canal
End Feather River
Sacramento River
Fremont Weir
Knights Landing Ridge Cut
SUTTER COUNTY
SACRAMENTO COUNTY
SR-99_NORTH
EX 1D Time(1FT)=61
EX 2D Time(1FT)=NONE
CUM 2D Time(1FT)=NONE
SR-99
EX 1D Time(1FT)=53
EX 2D Time(1FT)=NONE
CUM 2D Time(1FT)=NONE
ELVERTA_WEST
EX 1D Time(1FT)=65
EX 2D Time(1FT)=NONE
CUM 2D Time(1FT)=NONE
ELVERTA
EX 1D Time(1FT)=29
EX 2D Time(1FT)=NONE
CUM 2D Time(1FT)=NONE
ELVERTA RD
POWER_...
EX 1D Time(1FT)=31
EX 2D Time(1FT)=NONE
CUM 2D Time(1FT)=NONE
POWER LINE RD
Cache Creek Settling Basin
ELKHORN_WEST
EX 1D Time(1FT)=14
EX 2D Time(1FT)=NONE
CUM 2D Time(1FT)=NONE
ELKHORN
EX 1D Time(1FT)=21
EX 2D Time(1FT)=NONE
CUM 2D Time(1FT)=NONE
SR-99_SOUTH
EX 1D Time(1FT)=133
EX 2D Time(1FT)=NONE
CUM 2D Time(1FT)=NONE
NATOMAS_RD
EX 1D Time(1FT)=16
EX 2D Time(1FT)=NONE
CUM 2D Time(1FT)=NONE
I5_WEST
EX 1D Time(1FT)=11
EX 2D Time(1FT)=NONE
CUM 2D Time(1FT)=NONE
I5_JNCT
EX 1D Time(1F...
EX 2D Time(1FT)=NONE
CUM 2D Time(1FT)=NONE
16 Hrs
12 Hrs
DEL_PASO
EX 1D Time(1FT)=10
EX 2D Time(1FT)=76
CUM 2D Time(1FT)=118
DEL PASO RD
I5_CENTRAL
EX 1D Time(1FT)=57
EX 2D Time(1FT)=NONE
CUM 2D Time(1FT)=NONE
I80_EAST
EX 1D Time(1FT)=6
EX 2D Time(1FT)=40
CUM 2D Time(1FT)=42
SAN_JUAN
EX 1D Time(1FT)=4
EX 2D Time(1FT)=30
CUM 2D Time(1FT)=31
SAN JUAN RD
I80_CENTRAL
EX 1D Time(1FT)=137
EX 2D Time(1FT)=143
CUM 2D Time(1FT)=156
I80_WEST
EX 1D Time(1FT)=141
EX 2D Time(1FT)=148
CUM 2D Time(1FT)=162
EL_CAMINO
EX 1D Time(1FT)=4
EX 2D Time(1FT)=31
CUM 2D Time(1FT)=32
BREACH_6
EX 1D Time(1FT)=0
EX 2D Time(1FT)=0
CUM 2D Time(1FT)=0
EL CENTRO RD
Sacramento River
Yolo Bypass
YOLO COUNTY
SACRAMENTO COUNTY
Sacramento Weir Gates
Sacramento Bypass
Willow Slough Bypass
City of West Sacramento
Sacramento River Deep Water Ship Channel
Natomas East Main Drain Canal
American River
Dry Creek
Robla Creek
Magpie Creek
Arcade Creek
SOURCE: Facilities from Sacramento County,
1.5 0.75 0 1.5
Miles
City/County of Sacramento
Flood Emergency Evacuation Plan
Sacramento County, California
Natomas Study Area
GEI
NATOMAS STUDY AREA
EVACUATION ROUTES MAP
BREACH #6 AT NEMDC RM 0.415
POST-FOLSOM JFP
DECEMBER 2015
NAT_B06D
26-Jan-2015 Z:\Projects\14110\80_CityofSac\Maps\POST_JFP\NAT_B06\Figure4_NAT_B01.mxd SET


Legend
Arrival Time
2 Hour Inindation/Refuge
Area 1FT Deep in Less than 2 Hours
Arrival Time
2 Hour Inindation/Refuge
Refuge - Greaater than 2-hours to 1ft deep
Comparison Points
Hypothetical Levee Failure Location
Estimated time for evacuation route subject to 1 foot of flood inundation after breach.
Evacuation route is outside flood inundation area.
Airport
SPFC Levee Location
Evacuation Routes
County Boundaries
City Boundary
Flood Gate Location
Breach Failure Limits
Primary Evacuation Area:
The water has the potential of reaching a depth of 1 foot after 2 hours from the time of levee failure within breach failure limits.
Secondary Evacuation Area:
After 7 days from the time of levee failure, the depth is estimated to range from 16 feet at the deepest point to 1 foot at the flood boundary.
POTENTIAL EVACUATION ROUTES:
Highways:
Highway 70
Highway 99
Interstate 5
Interstate 80
Collectors:
Airport Blvd
Arena Blvd
Del Paso Rd
El Camino Ave
El Centro Rd
Elverta Rd
Natomas Blvd
Northgate Blvd
Power Line Rd
San Juan Rd
Truxel Rd
RECOMMENDED EVACUATION ROUTES
Feather River
Sutter Bypass
Natomas Cross Canal
End Feather River
Sacramento River
Fremont Weir
Knights Landing Ridge Cut
SUTTER COUNTY
SACRAMENTO COUNTY
Natomas East Main Drainage Canal
ELVERTA
EX 1D Time(1FT)=56
EX 2D Time(1FT)=57
CUM 2D Time(1FT)=159
POWER_LINE
EX 1D Time(1FT)=140
EX 2D Time(1FT)=136
CUM 2D Time(1FT)=123
ELKHORN_WEST
EX 1D Time(1FT)=80
EX 2D Time(1FT)=84
CUM 2D Time(1FT)=76
ELKHORN
EX 1D Time(1FT)=29
EX 2D Time(1FT)=30
CUM 2D Time(1FT)=25
NATOMAS_RD
EX 1D Time(1FT)=20
EX 2D Time(1FT)=22
CUM 2D Time(1FT)=22
I5_WEST
EX 1D Time(1FT)=82
EX 2D Time(1FT)=86
CUM 2D Time(1FT)=80
I5_JNCT
EX 1D Time(1FT)=88
EX 2D Time(1FT)=93
CUM 2D Time(1FT)=89
DEL_PASO
EX 1D Time(1FT)=14
EX 2D Time(1FT)=15
CUM 2D Time(1FT)=15
I80_EAST
EX 1D Time(1FT)=6
EX 2D Time(1FT)=2
CUM 2D Time(1FT)=3
BREACH_7
EX 1D Time(1FT)=0
EX 2D Time(1FT)=0
CUM 2D Time(1FT)=0
SAN_JUAN
EX 1D Time(1FT)=4
EX 2D Time(1FT)=4
CUM 2D Time(1FT)=3
I80_CENTRAL
EX 1D Time(1FT)=26
EX 2D Time(1FT)=37
CUM 2D Time(1FT)=30
I80_WEST
EX 1D Time(1FT)=27
EX 2D Time(1FT)=48
CUM 2D Time(1FT)=39
EL_CAMINO
EX 1D Time(1FT)=5
EX 2D Time(1FT)=6
CUM 2D Time(1FT)=6
3 Days
2 Days
6 Days
3 Days
2 Days
1 Day
12 Hrs
2 Hrs
1 Day
ELVERTA RD
POWER LINE RD
DEL PASO RD
NATOMAS RD
ARENA BLVD
SAN JUAN RD
EL CENTRO RD
Sacramento River
Yolo Bypass
Cache Creek Settling Basin
Willow Slough Bypass
Sacramento Weir Gates
Sacramento River Deep Water Ship Channel
City of West Sacramento
Dry Creek
Robla Creek
Magpie Creek
Arcade Creek
American River
SOURCE: Facilities from Sacramento County,
1.5 0.75 0 1.5
Miles
City/County of Sacramento
Flood Emergency Evacuation Plan
Sacramento County, California
Natomas Study Area
GEI
NATOMAS STUDY AREA
EVACUATION ROUTES MAP
BREACH #7 AT NEMDC RM 4.617
POST-FOLSOM JFP
DECEMBER 2015
NAT_B07D
26-Jan-2015 Z:\Projects\1411\80_CityofSac\Maps\POST_JFP\NAT_B05\Figure4_NAT_B05.mxd SET




MAXIMUM FLOOD DEPTH MAP

City/County of Sacramento
Flood Emergency Evacuation Plan
Sacramento County, California

Natomas Study Area

GEI

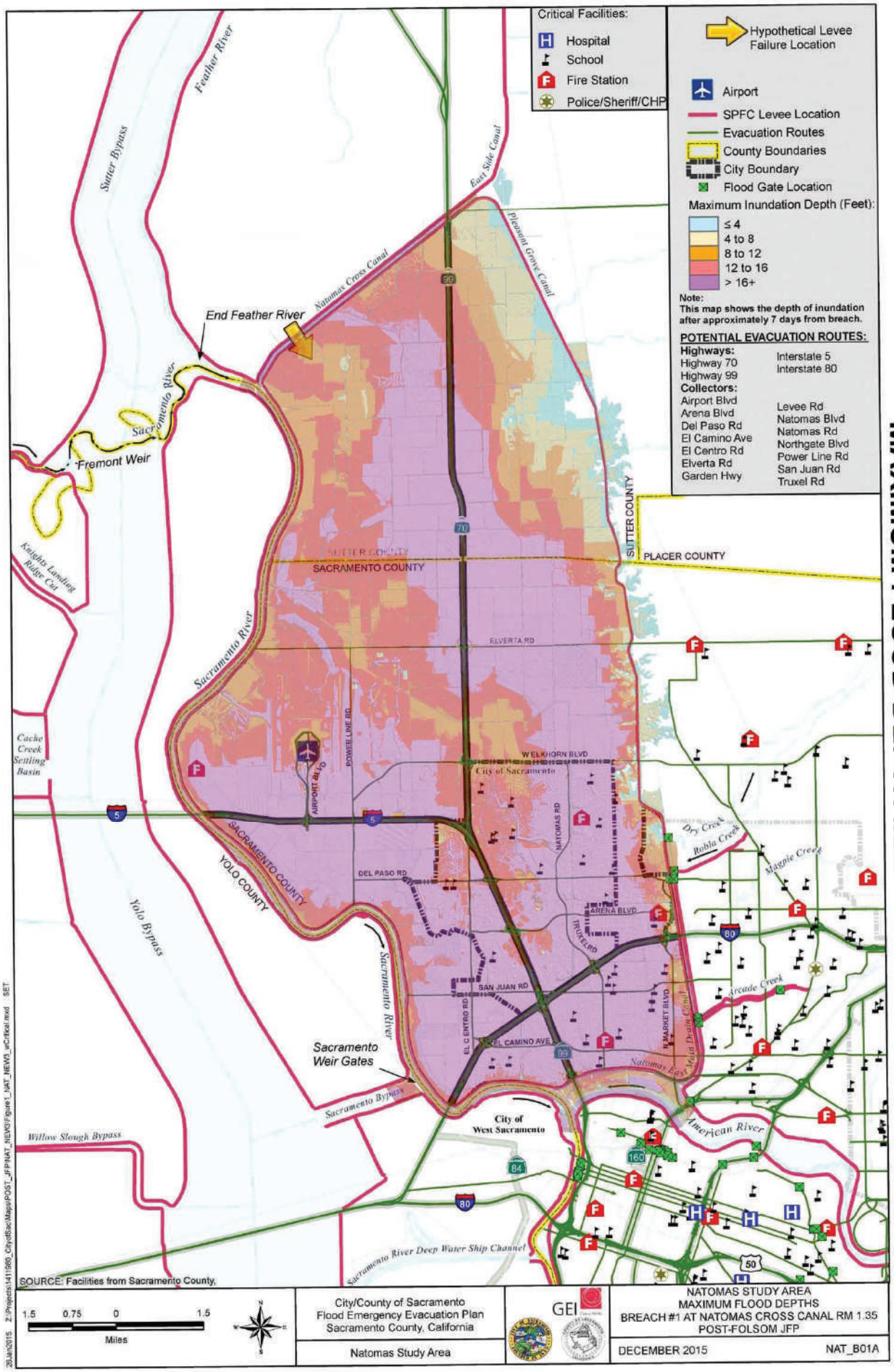
NATOMAS STUDY AREA
MAXIMUM FLOOD DEPTHS
BREACH #1 AT NATOMAS CROSS CANAL RM 1.35
POST-FOLSOM JFP

DECEMBER 2015

NAT_B01A

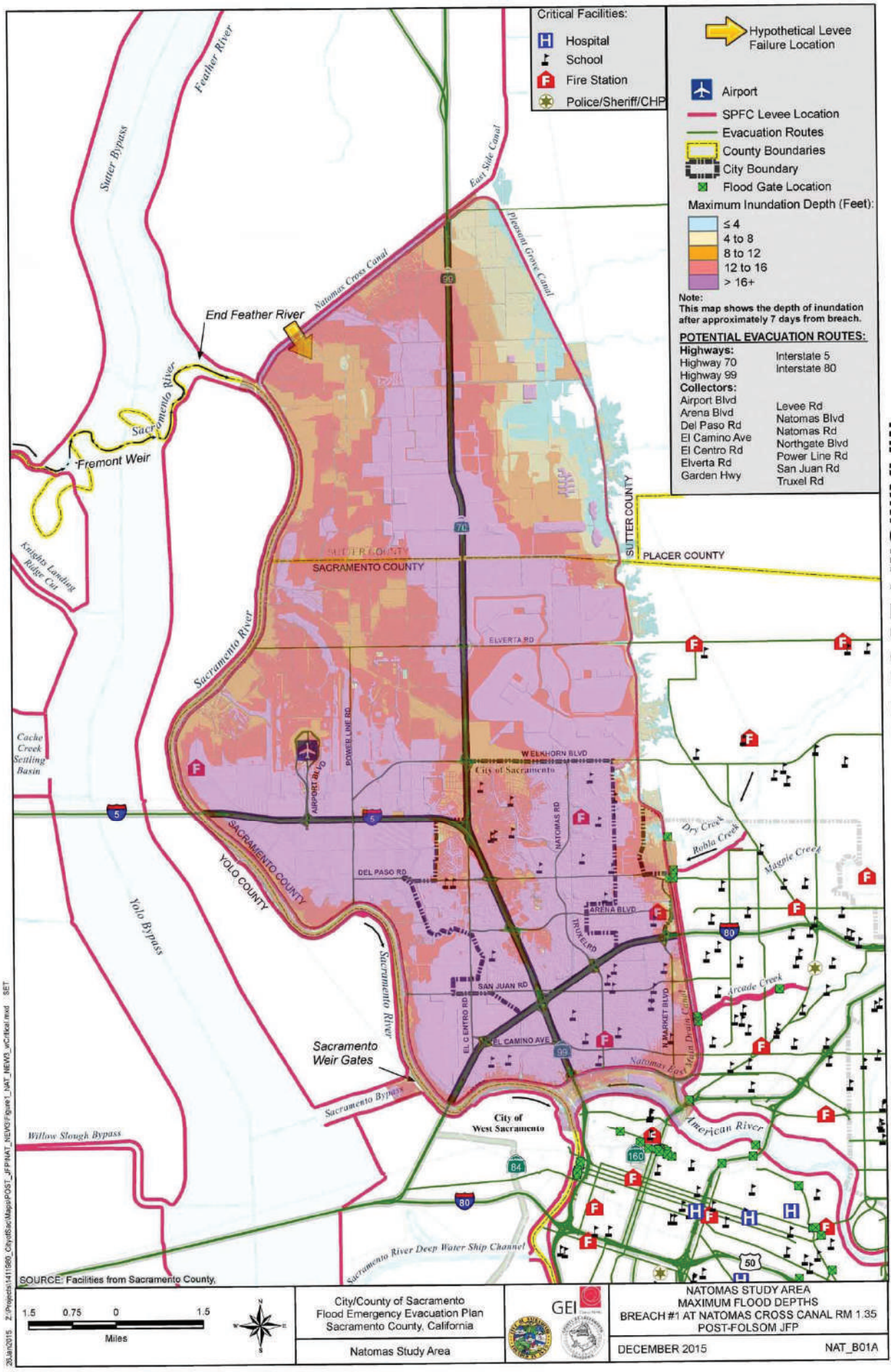
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# LEVEE BREACH 2D - APR 2022 - BREACH 1 EXISTING

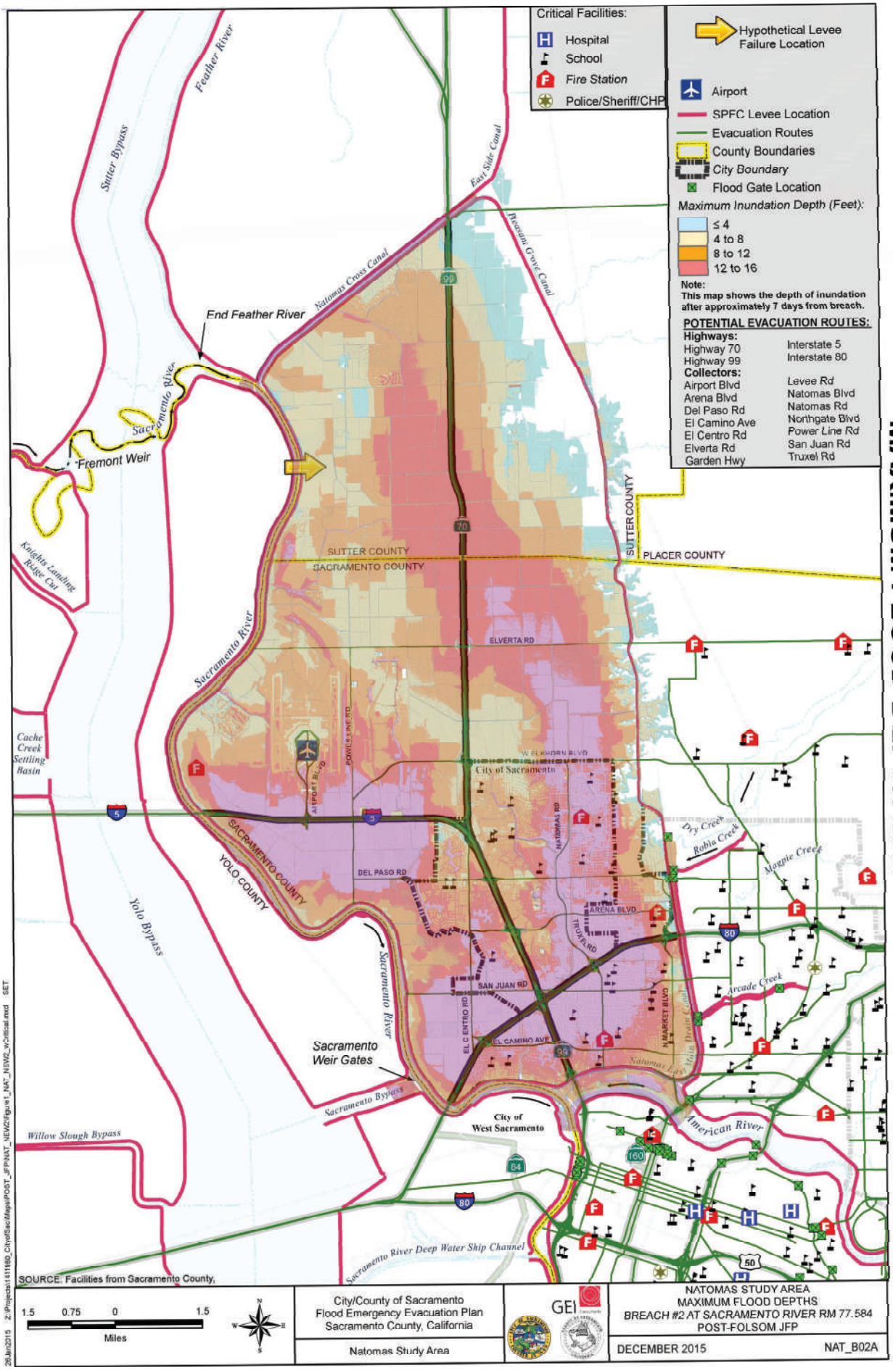



MAXIMUM FLOOD DEPTH MAP

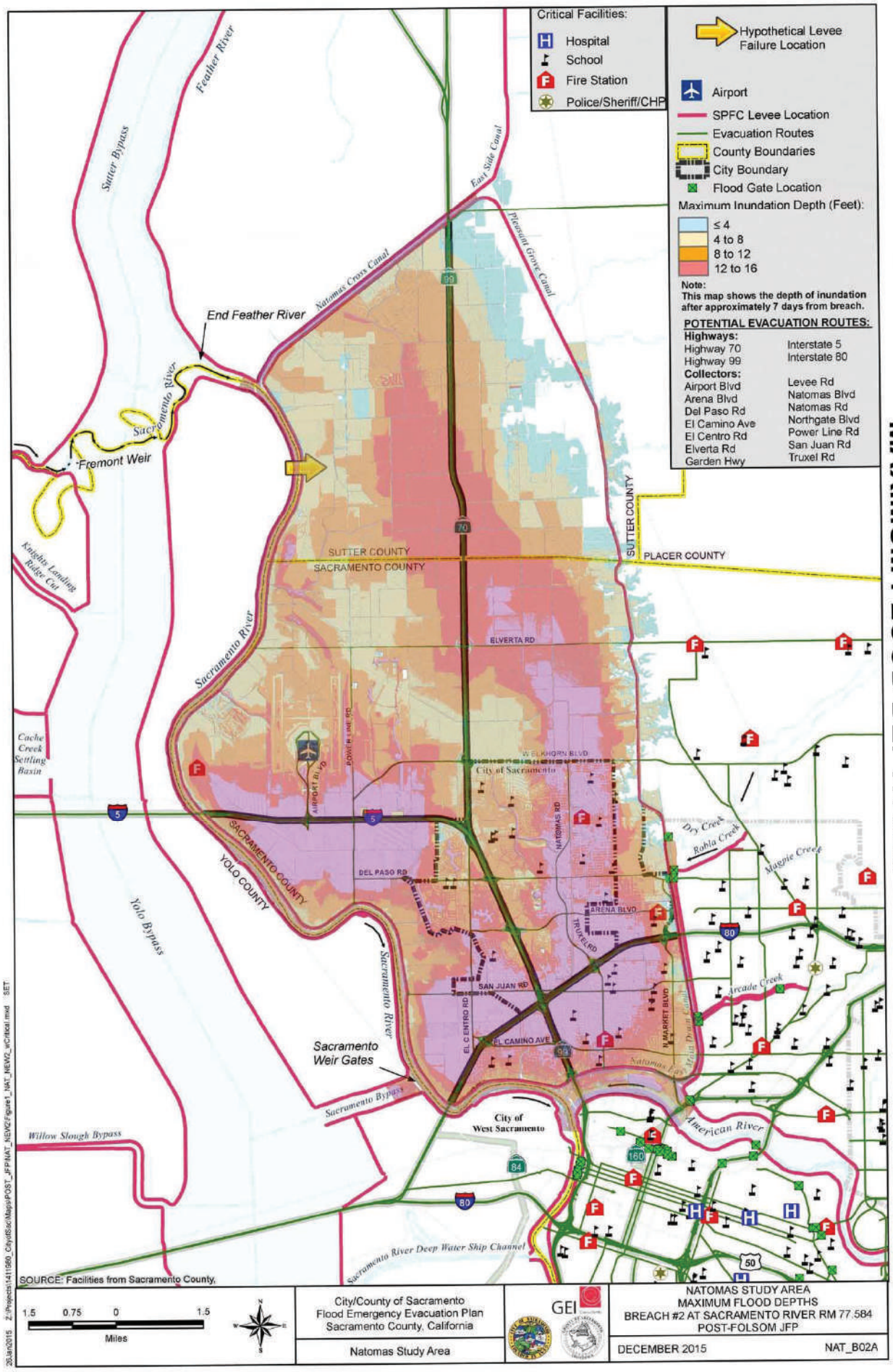
# LEVEE BREACH 2D - APR 2022 - BREACH 1 CUMULATIVE



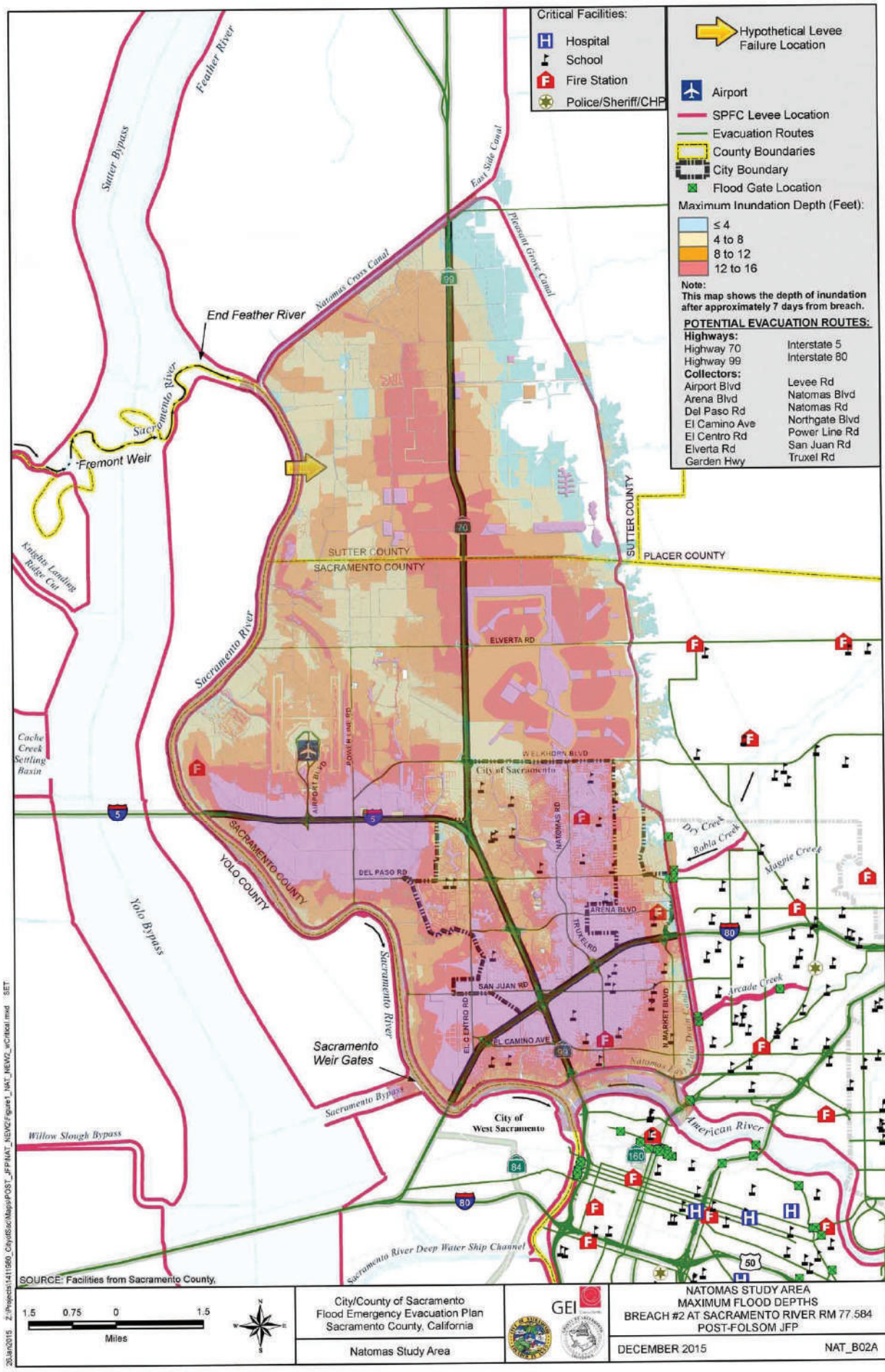

MAXIMUM FLOOD DEPTH MAP


Critical Facilities:
Hospital
School
Fire Station
Police/Sheriff/CHP
Hypothetical Levee Failure Location
Airport
SPFC Levee Location
Evacuation Routes
County Boundaries
City Boundary
Flood Gate Location
Maximum Inundation Depth (Feet):
≤ 4
4 to 8
8 to 12
12 to 16
Note:
This map shows the depth of inundation after approximately 7 days from breach.
POTENTIAL EVACUATION ROUTES:
Highways:
Highway 70
Highway 99
Interstate 5
Interstate 80
Collectors:
Airport Blvd
Arena Blvd
Del Paso Rd
El Camino Ave
El Centro Rd
Elverta Rd
Garden Hwy
Levee Rd
Natomas Blvd
Natomas Rd
Northgate Blvd
Power Line Rd
San Juan Rd
Truxel Rd
Feather River
Sutter Bypass
East Side Canal
Natomas Cross Canal
Tisdale Grove Canal
End Feather River
Sacramento River
Fremont Weir
Knights Landing Ridge Cut
SUTTER COUNTY
SACRAMENTO COUNTY
PLACER COUNTY
ELVERTA RD
Cache Creek Settling Basin
City of Sacramento
DEL PASO RD
ARENA BLVD
SAN JUAN RD
EL CAMINO AVE
Dry Creek
Robla Creek
Magpie Creek
Arcade Creek
Natomas East Main Drainage Canal
YOLO COUNTY
Yolo Bypass
Sacramento Weir Gates
Sacramento Bypass
Willow Slough Bypass
City of West Sacramento
American River
Sacramento River Deep Water Ship Channel
SOURCE: Facilities from Sacramento County,
1.5 0.75 0 1.5
Miles
City/County of Sacramento
Flood Emergency Evacuation Plan
Sacramento County, California
Natomas Study Area
GEI
NATOMAS STUDY AREA
MAXIMUM FLOOD DEPTHS
BREACH #2 AT SACRAMENTO RIVER RM 77.584
POST-FOLSOM JFP
DECEMBER 2015
NAT_B02A
MAXIMUM FLOOD DEPTH MAP

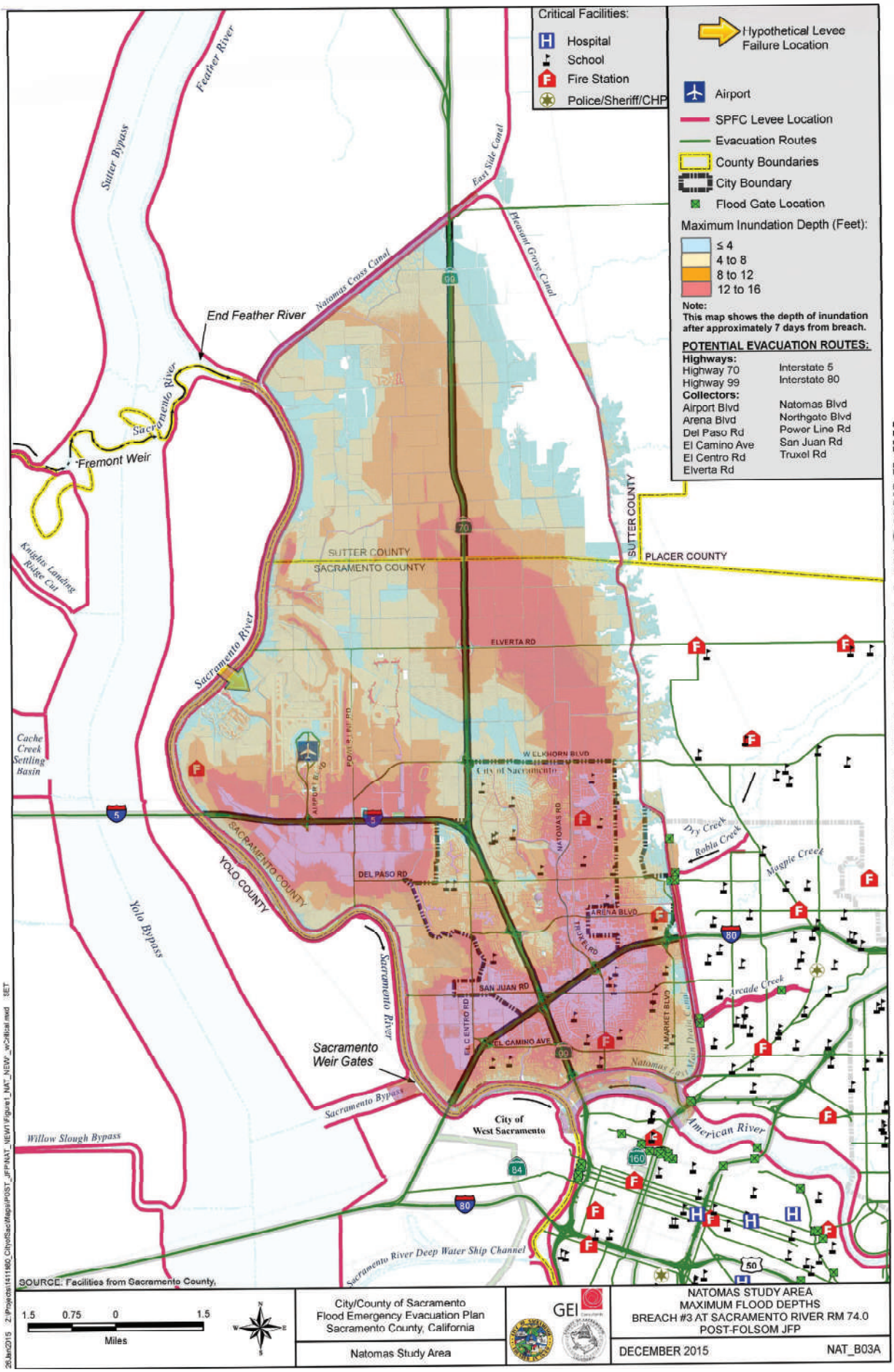
# LEVEE BREACH 2D - APR 2022 - BREACH 2 EXISTING



# LEVEE BREACH 2D - APR 2022 - BREACH 2 CUMULATIVE

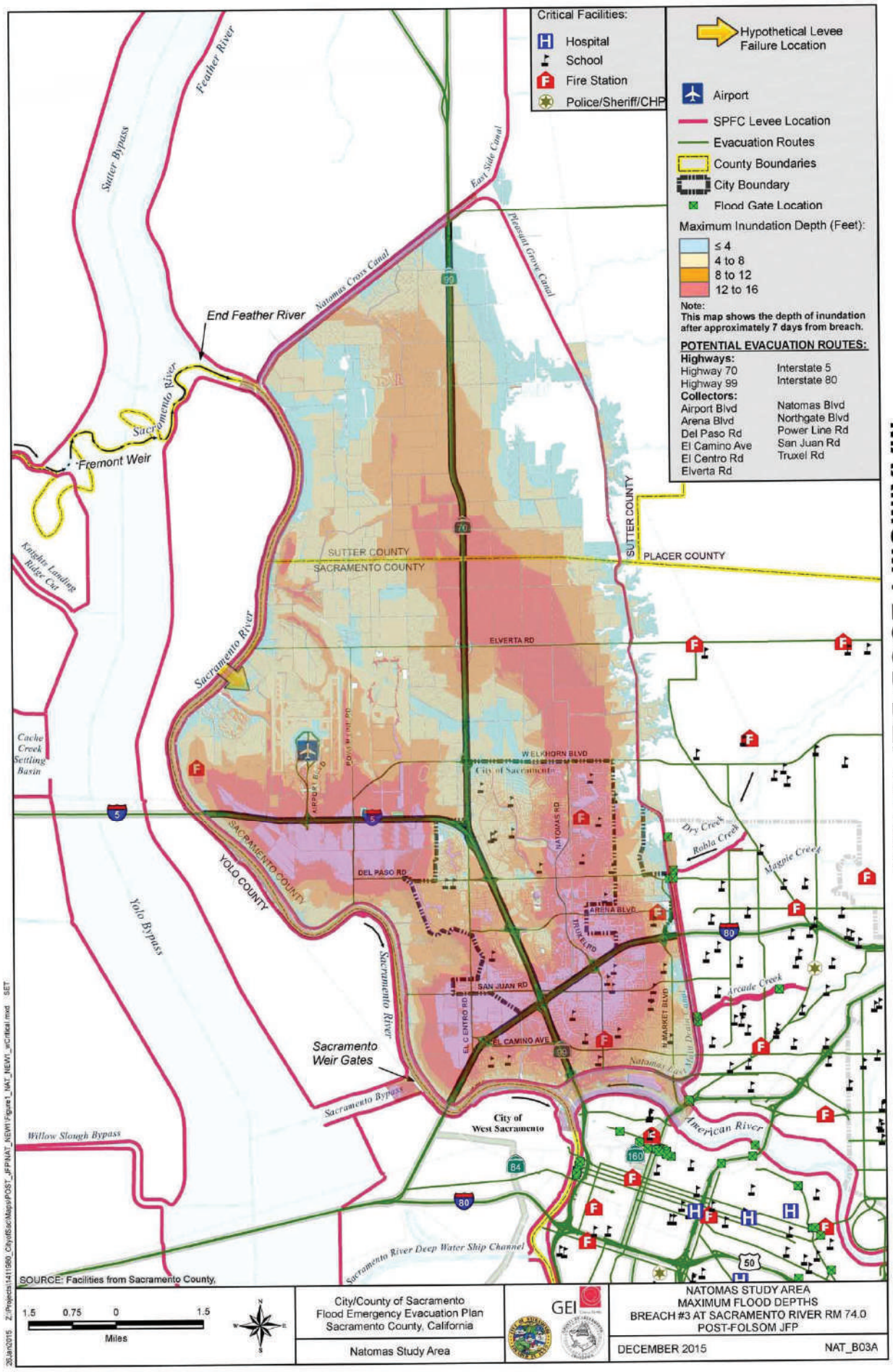



MAXIMUM FLOOD DEPTH MAP



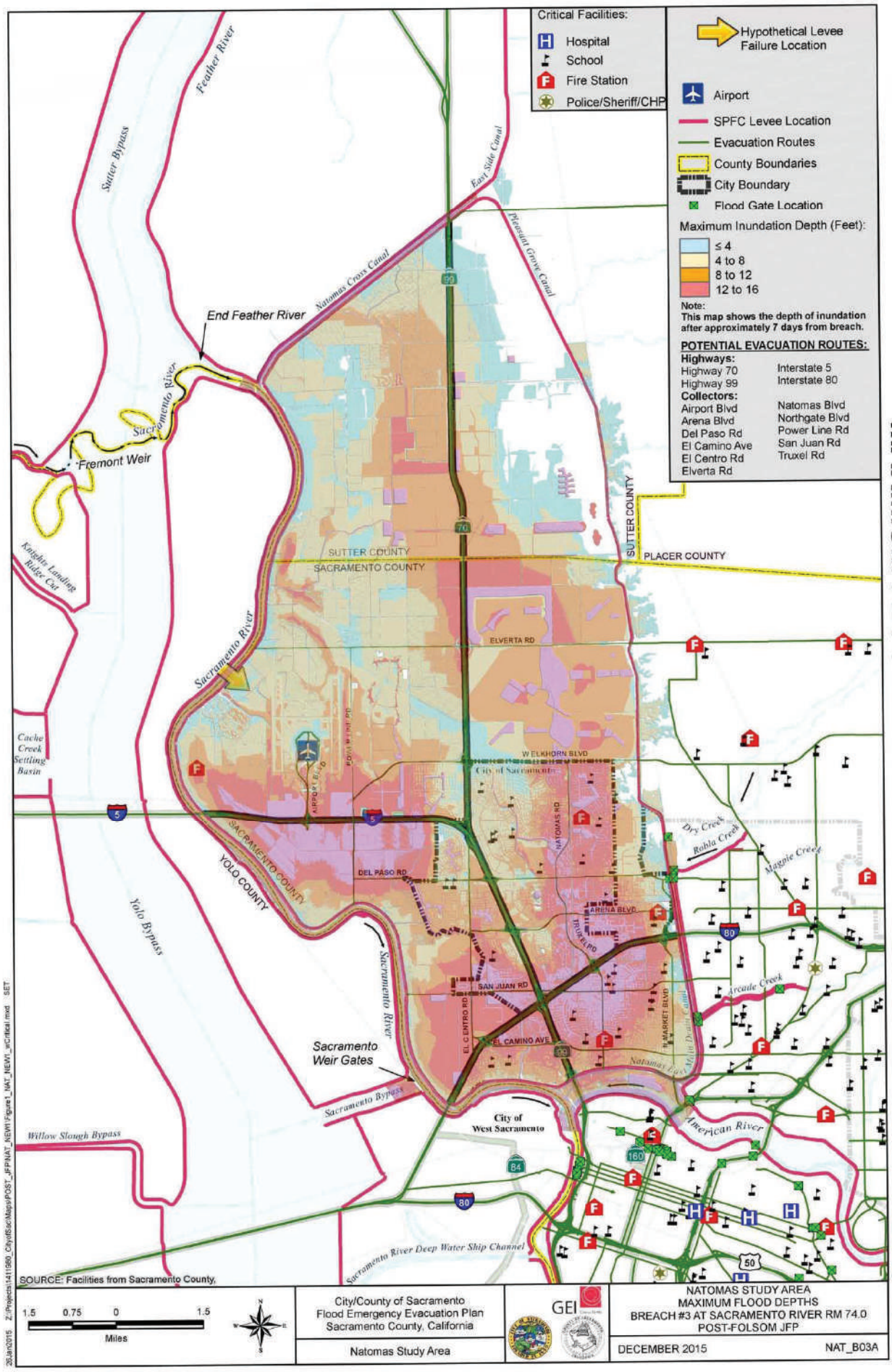

# MAXIMUM FLOOD DEPTH MAP

# LEVEE BREACH 2D - APR 2022 - BREACH 3 EXISTING

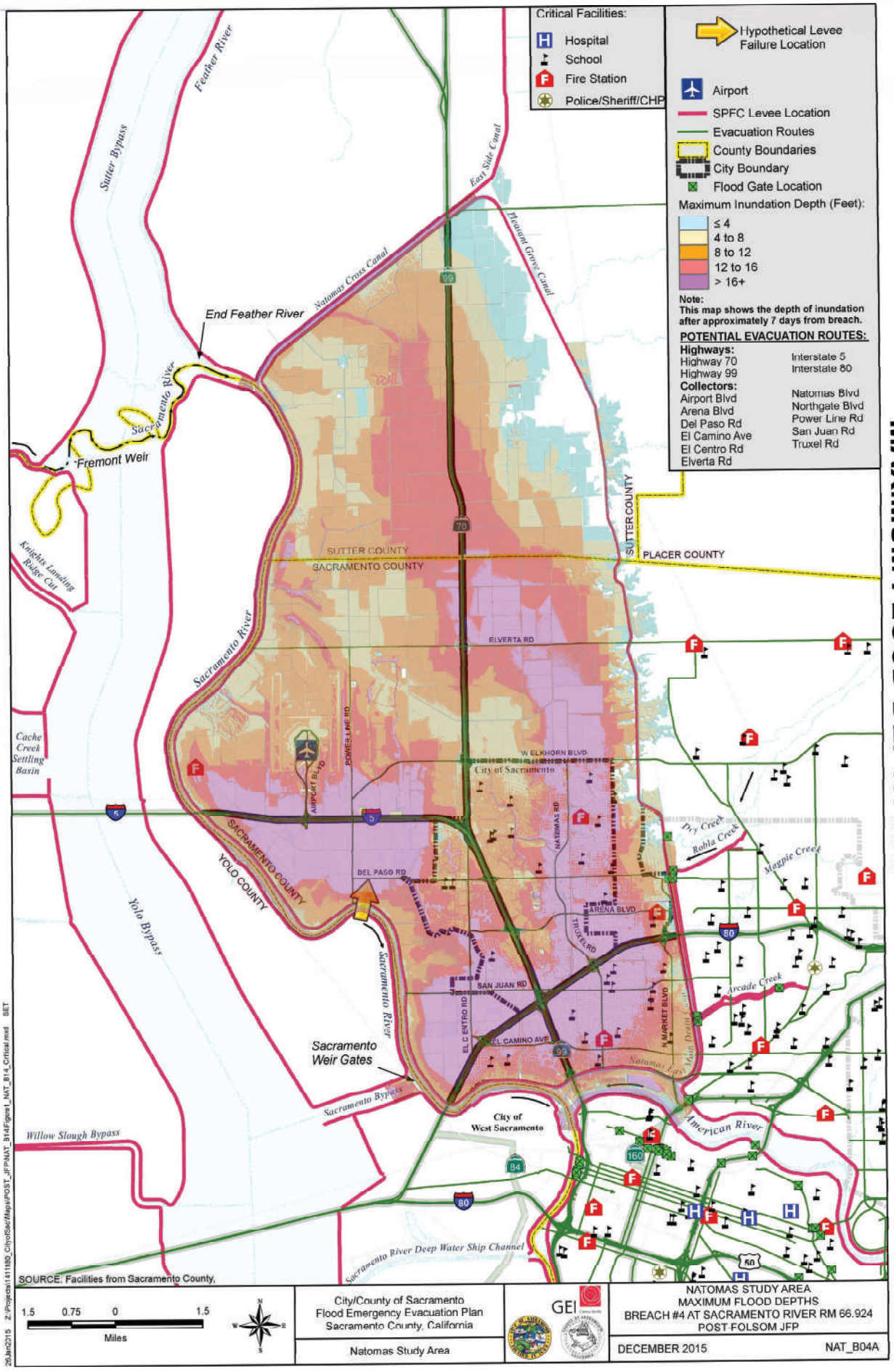



MAXIMUM FLOOD DEPTH MAP

# LEVEE BREACH 2D - APR 2022 - BREACH 3 CUMULATIVE

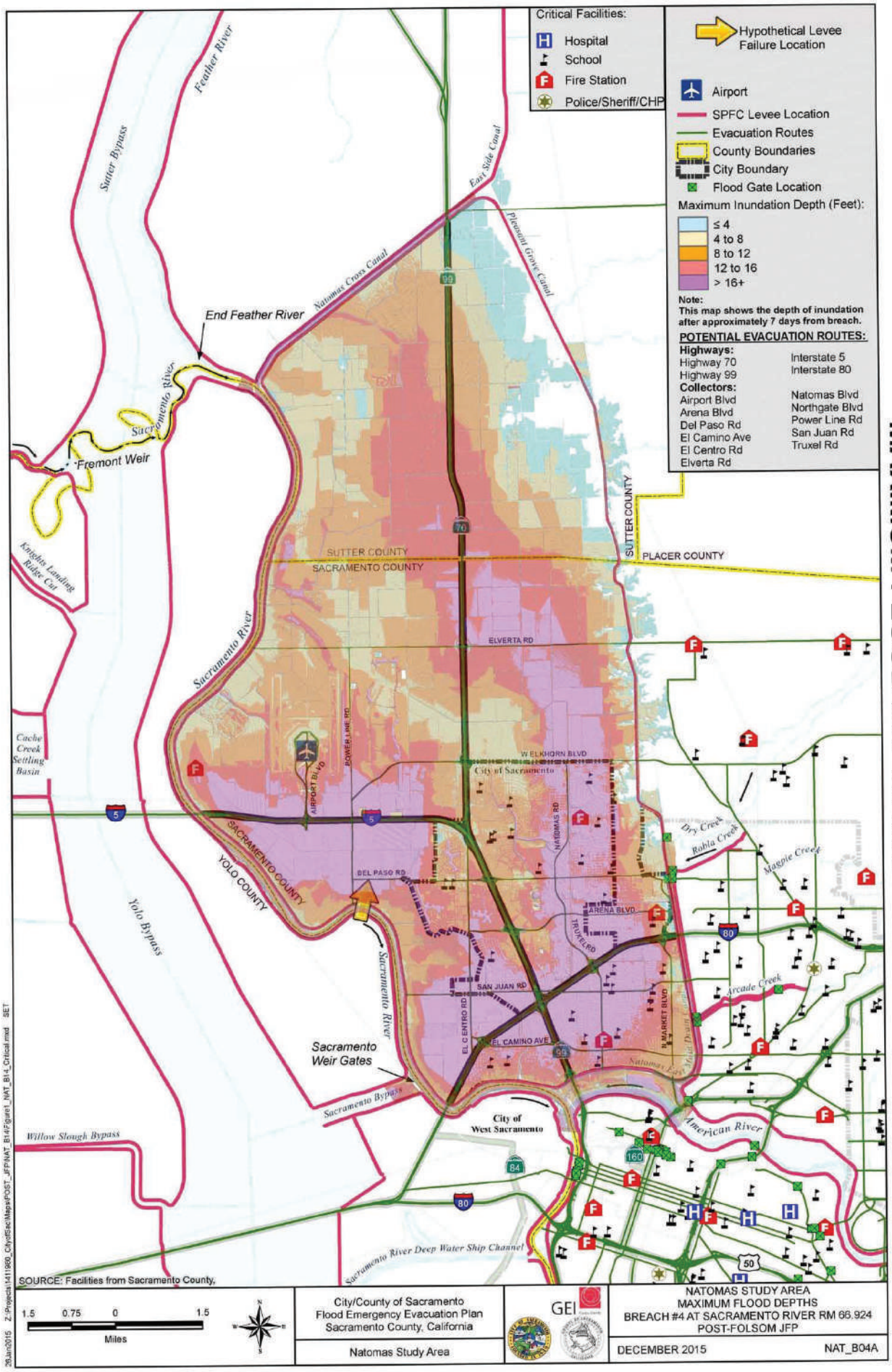



MAXIMUM FLOOD DEPTH MAP



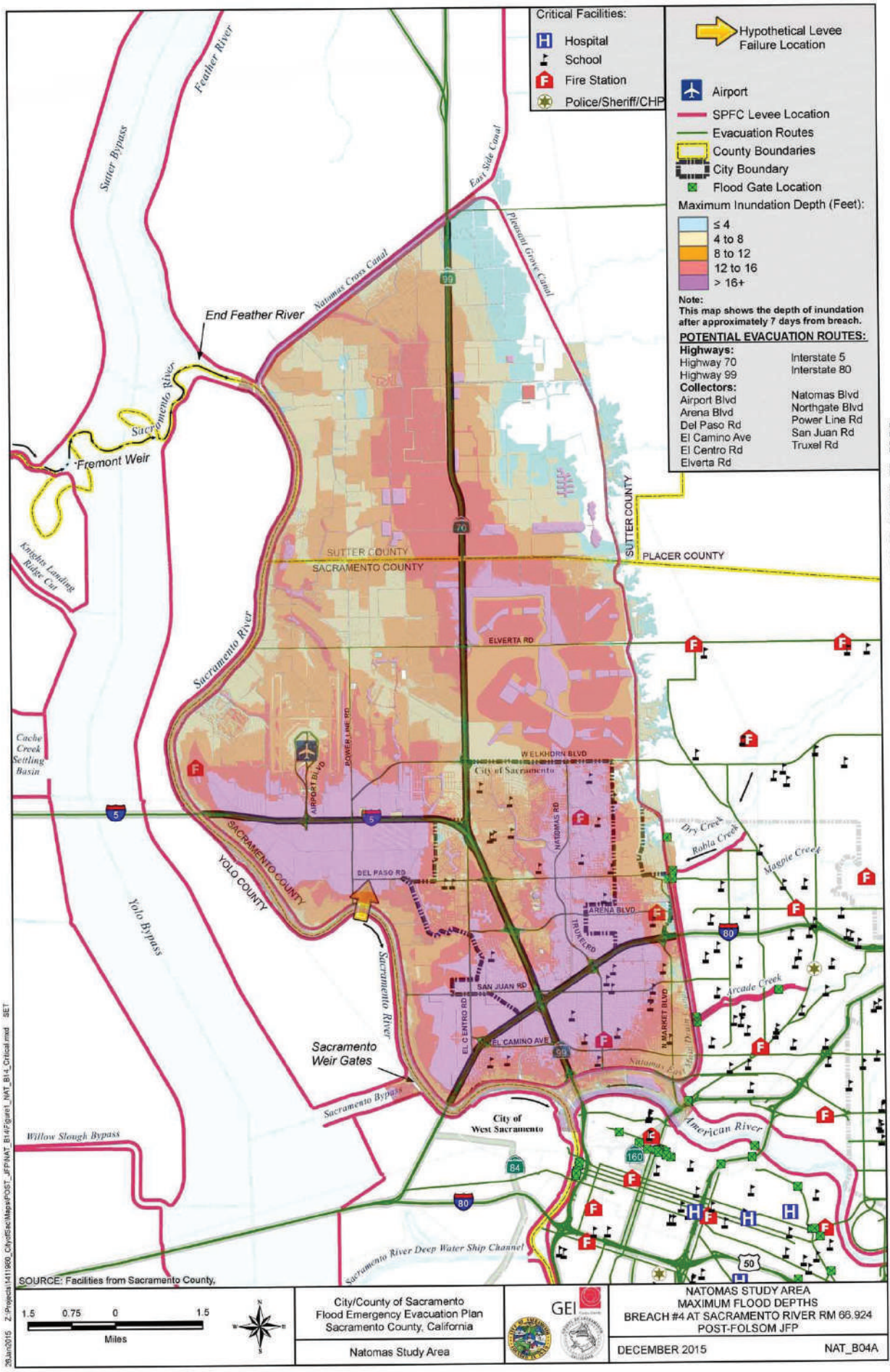

# MAXIMUM FLOOD DEPTH MAP

# LEVEE BREACH 2D - APR 2022 - BREACH 4 EXISTING

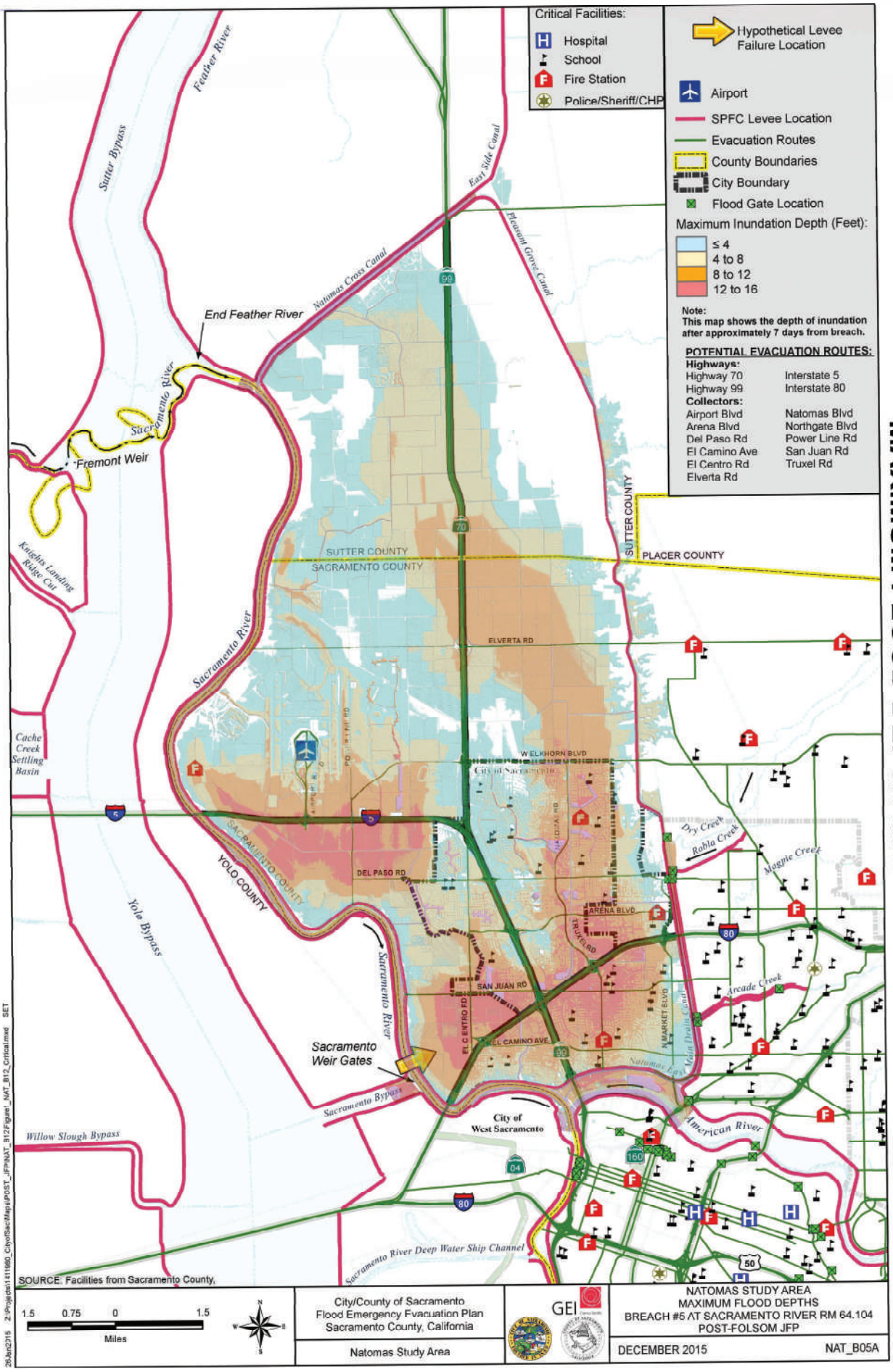



MAXIMUM FLOOD DEPTH MAP

# LEVEE BREACH 2D - APR 2022 - BREACH 4 CUMULATIVE

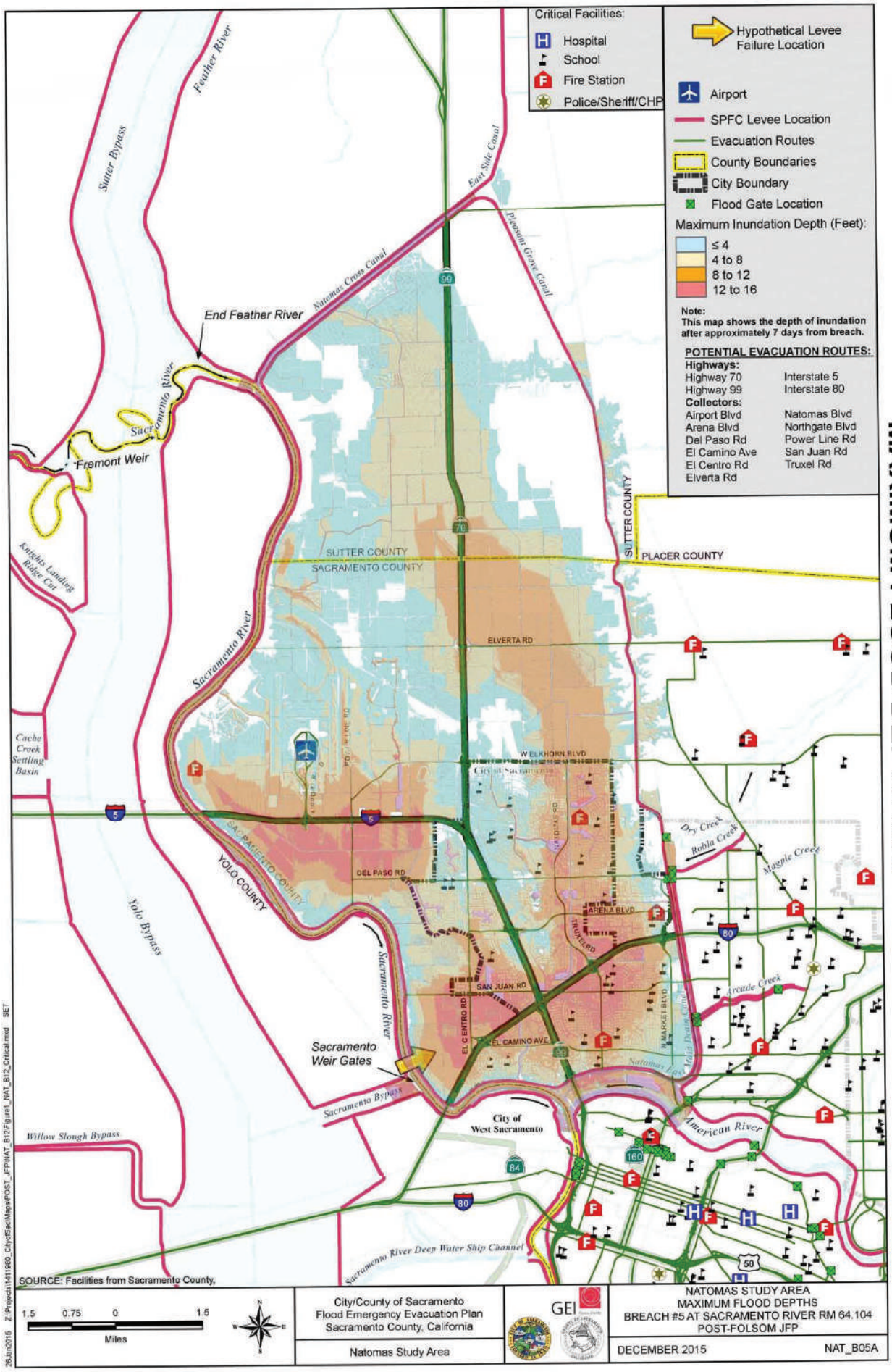



MAXIMUM FLOOD DEPTH MAP



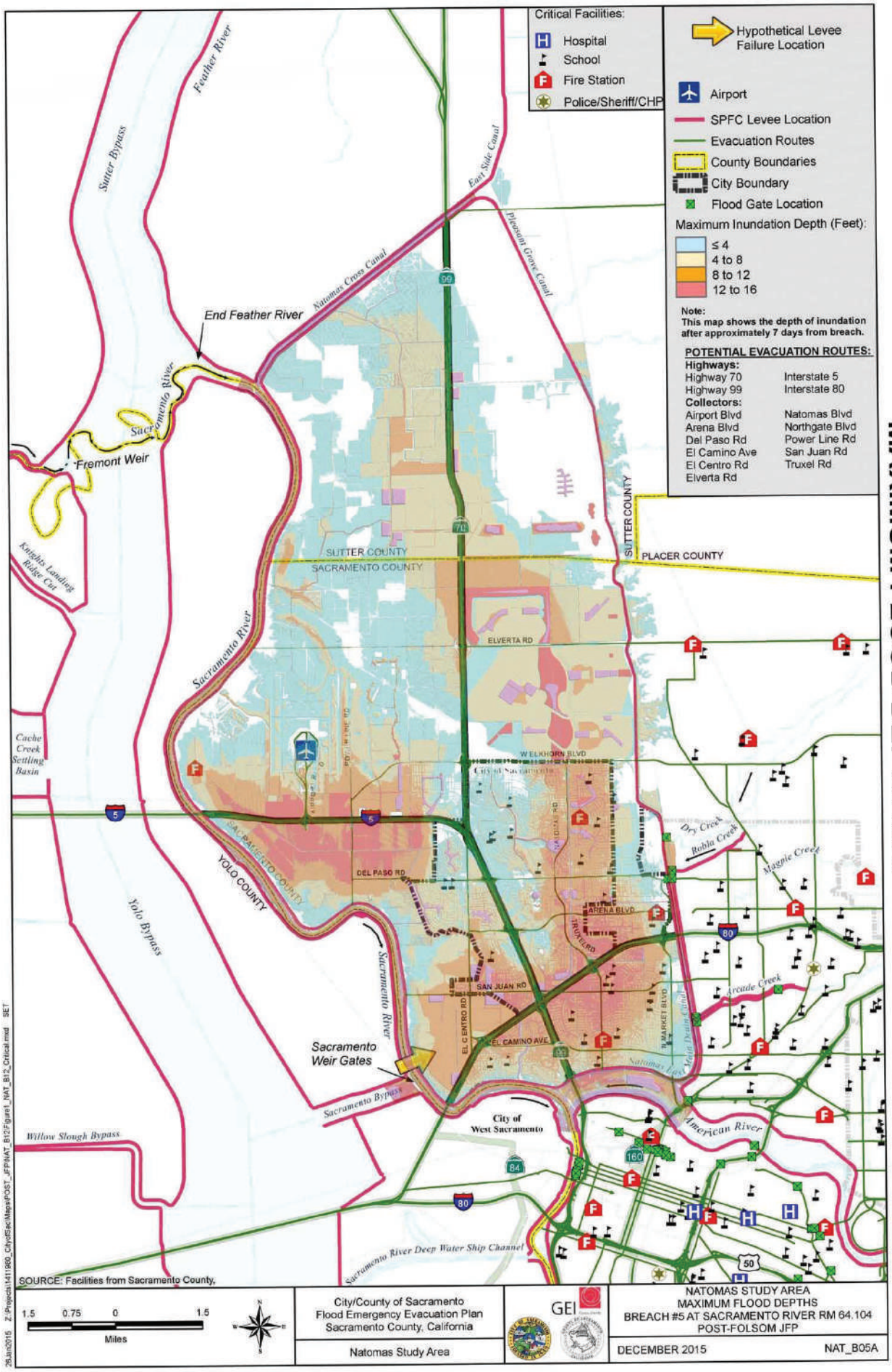

# MAXIMUM FLOOD DEPTH MAP

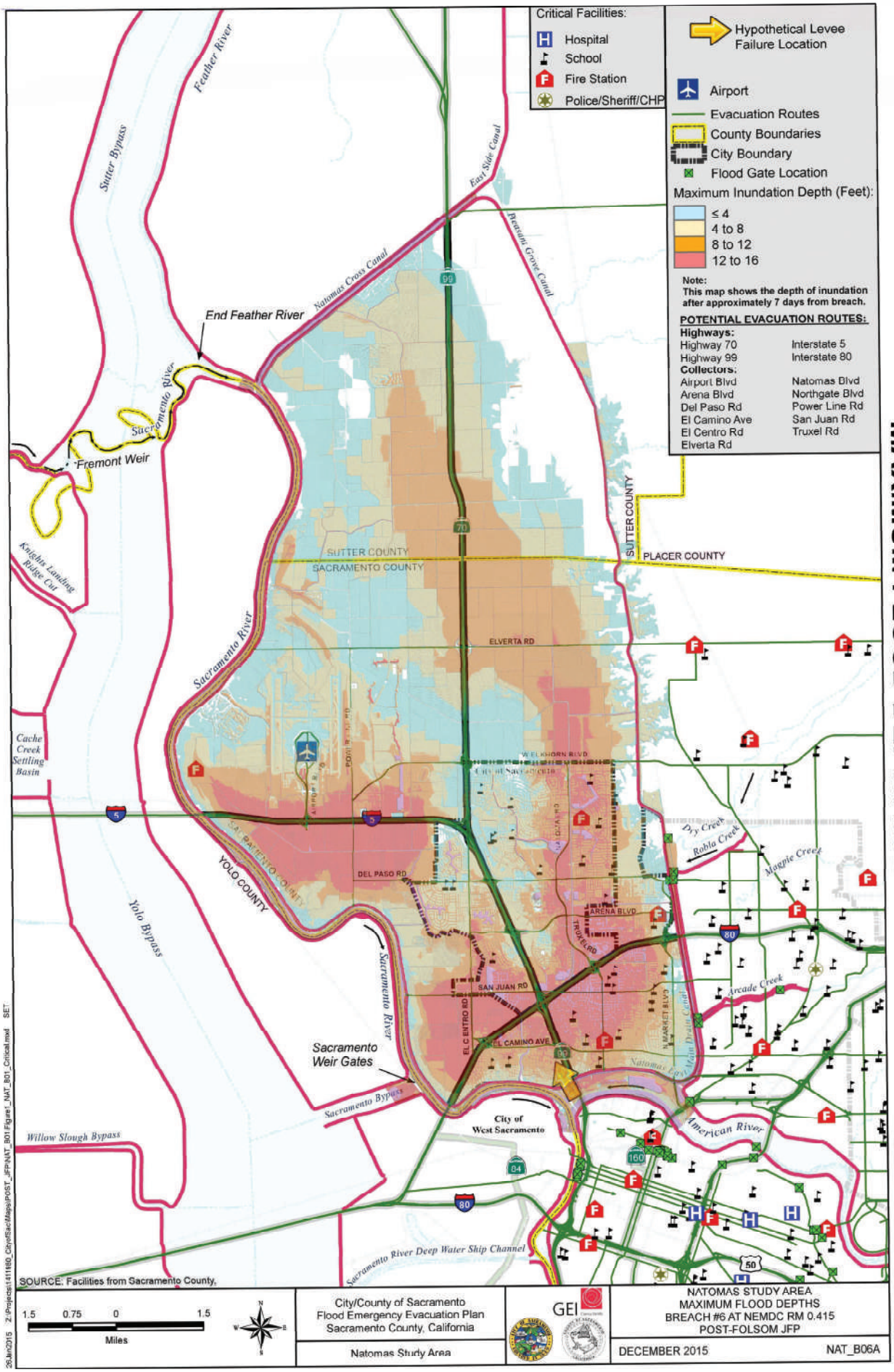
# LEVEE BREACH 2D - APR 2022 - BREACH 5 EXISTING




MAXIMUM FLOOD DEPTH MAP

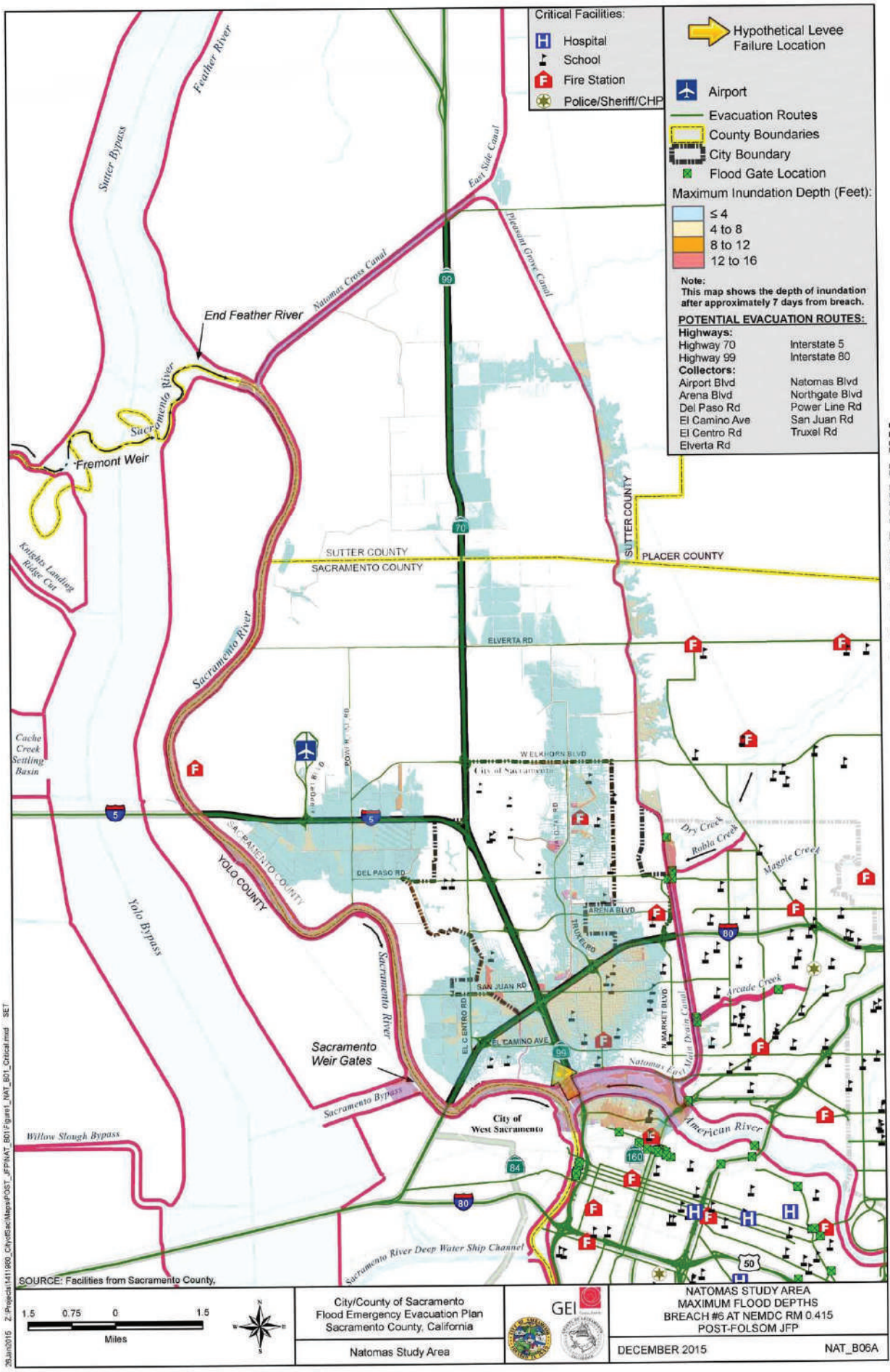
# LEVEE BREACH 2D - APR 2022 - BREACH 5 CUMULATIVE





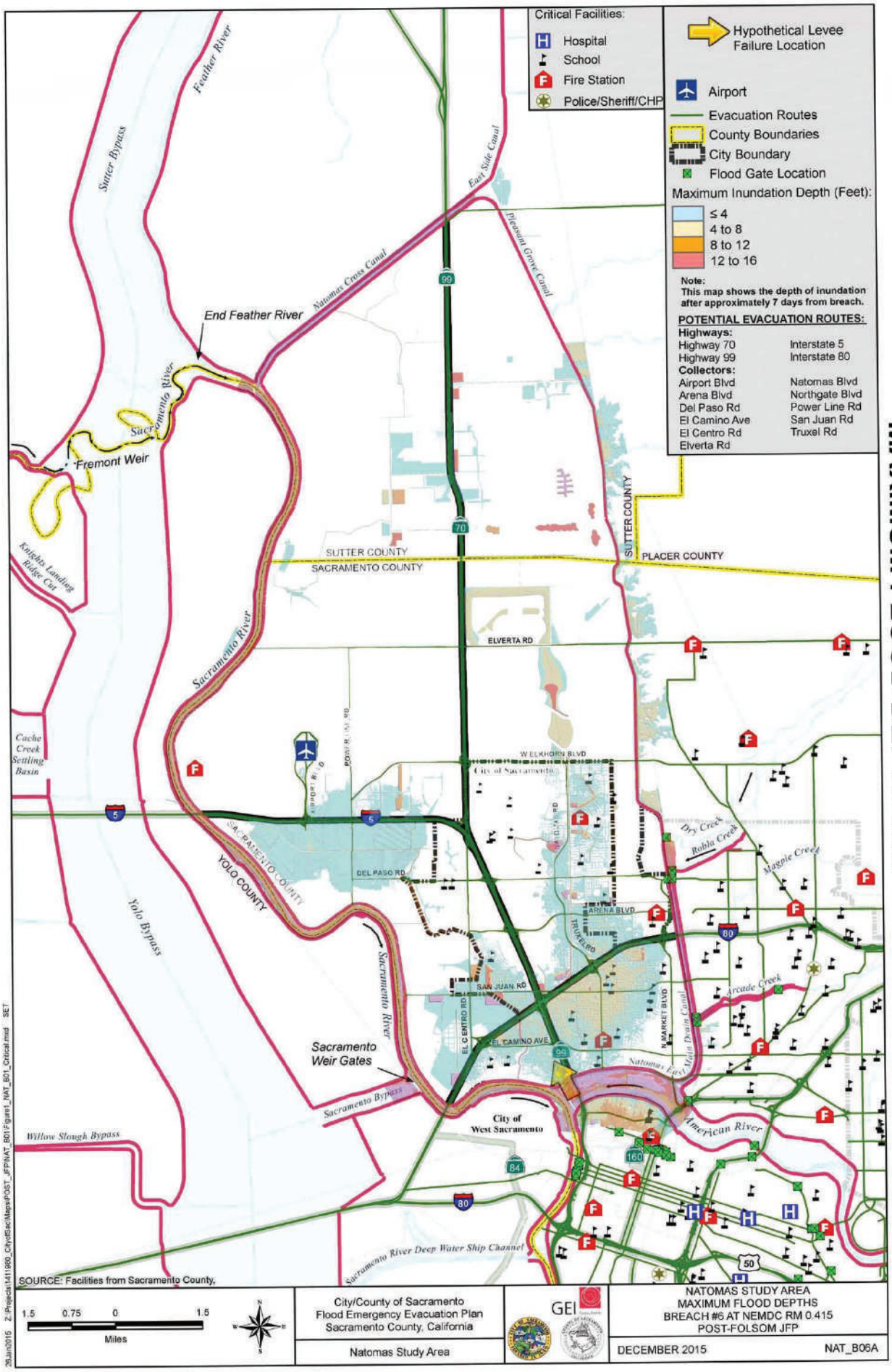

# MAXIMUM FLOOD DEPTH MAP

# LEVEE BREACH 2D - APR 2022 - BREACH 6 EXISTING

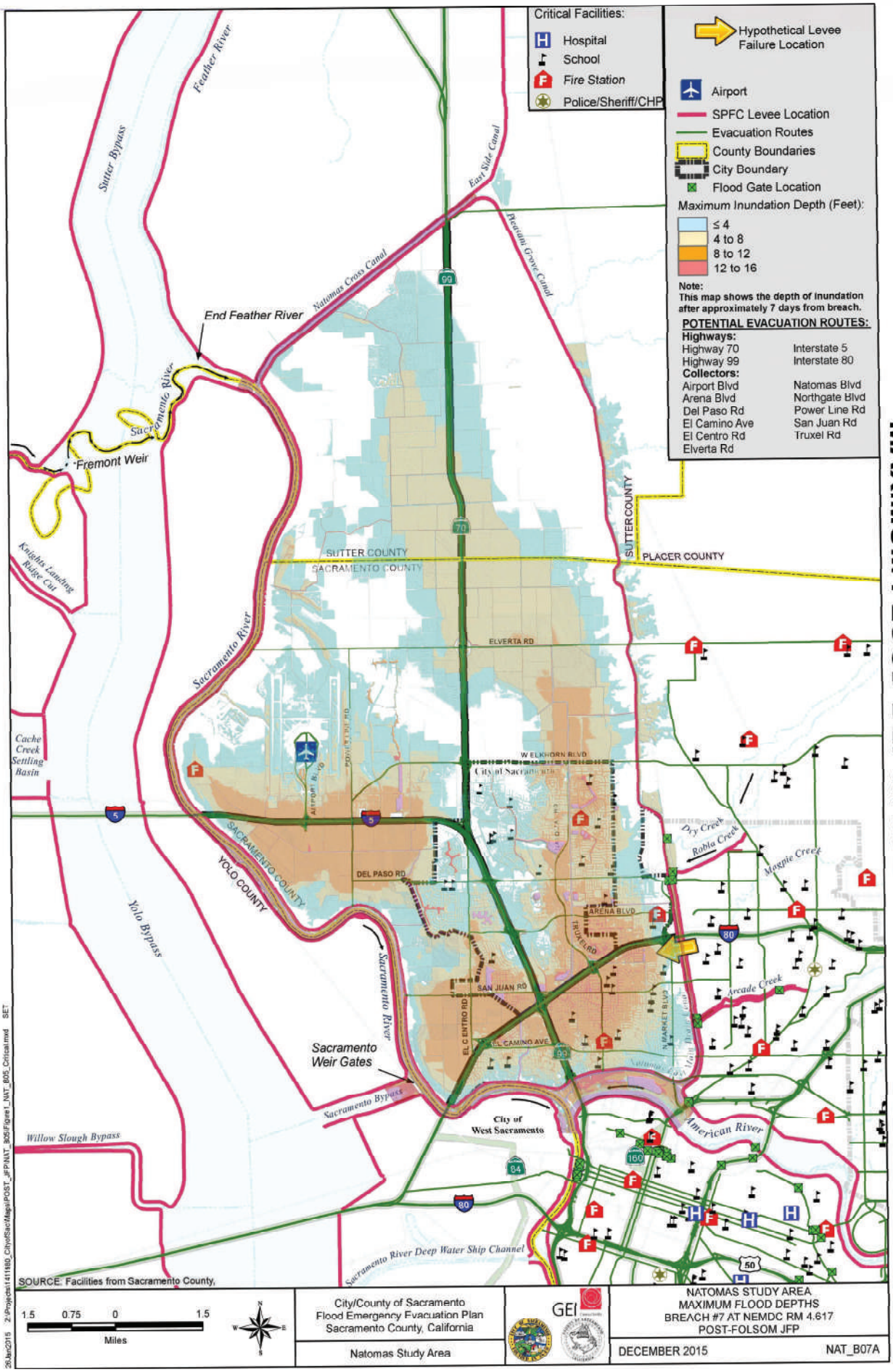



MAXIMUM FLOOD DEPTH MAP

# LEVEE BREACH 2D - APR 2022 - BREACH 6 CUMULATIVE

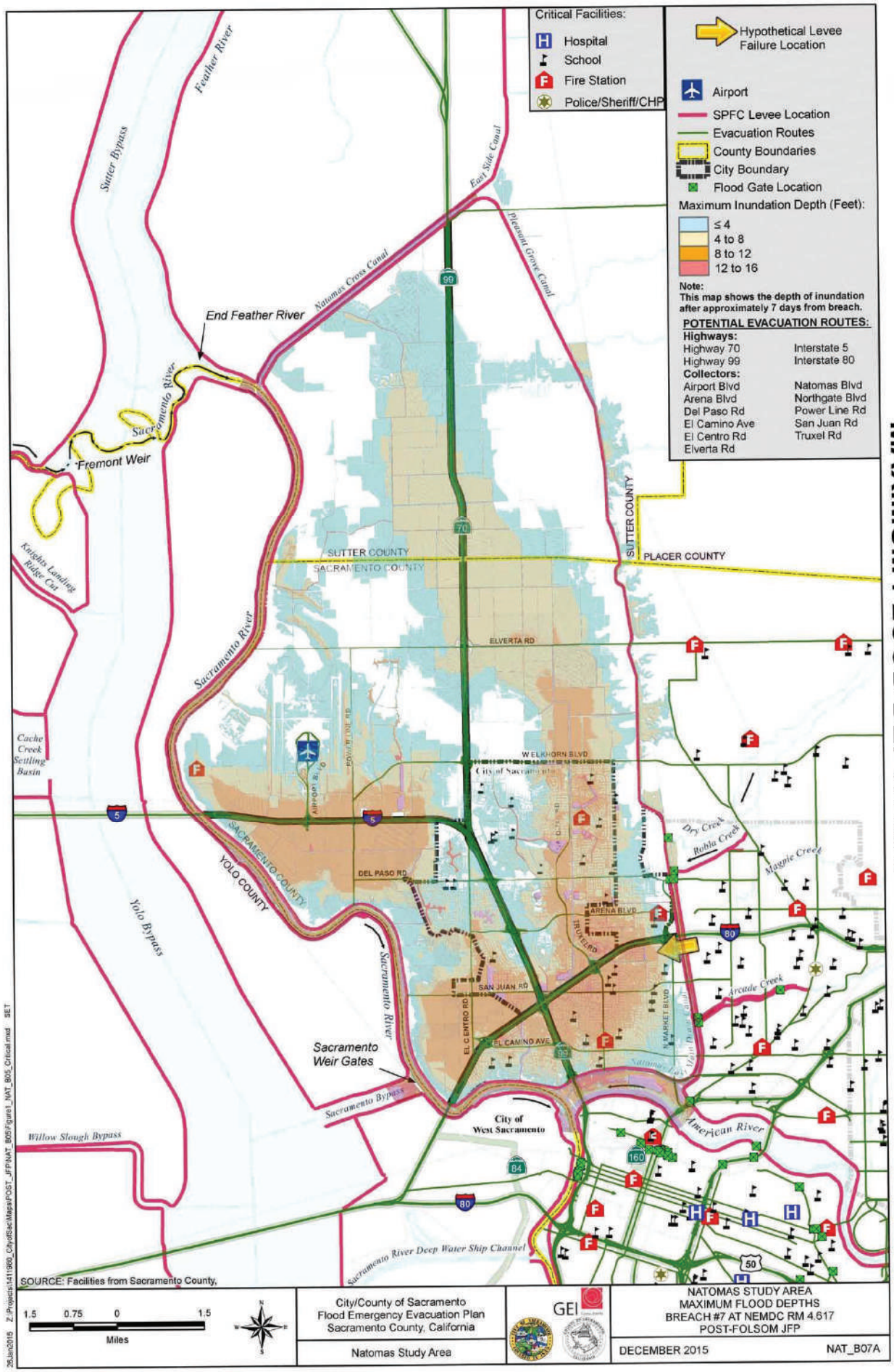



MAXIMUM FLOOD DEPTH MAP



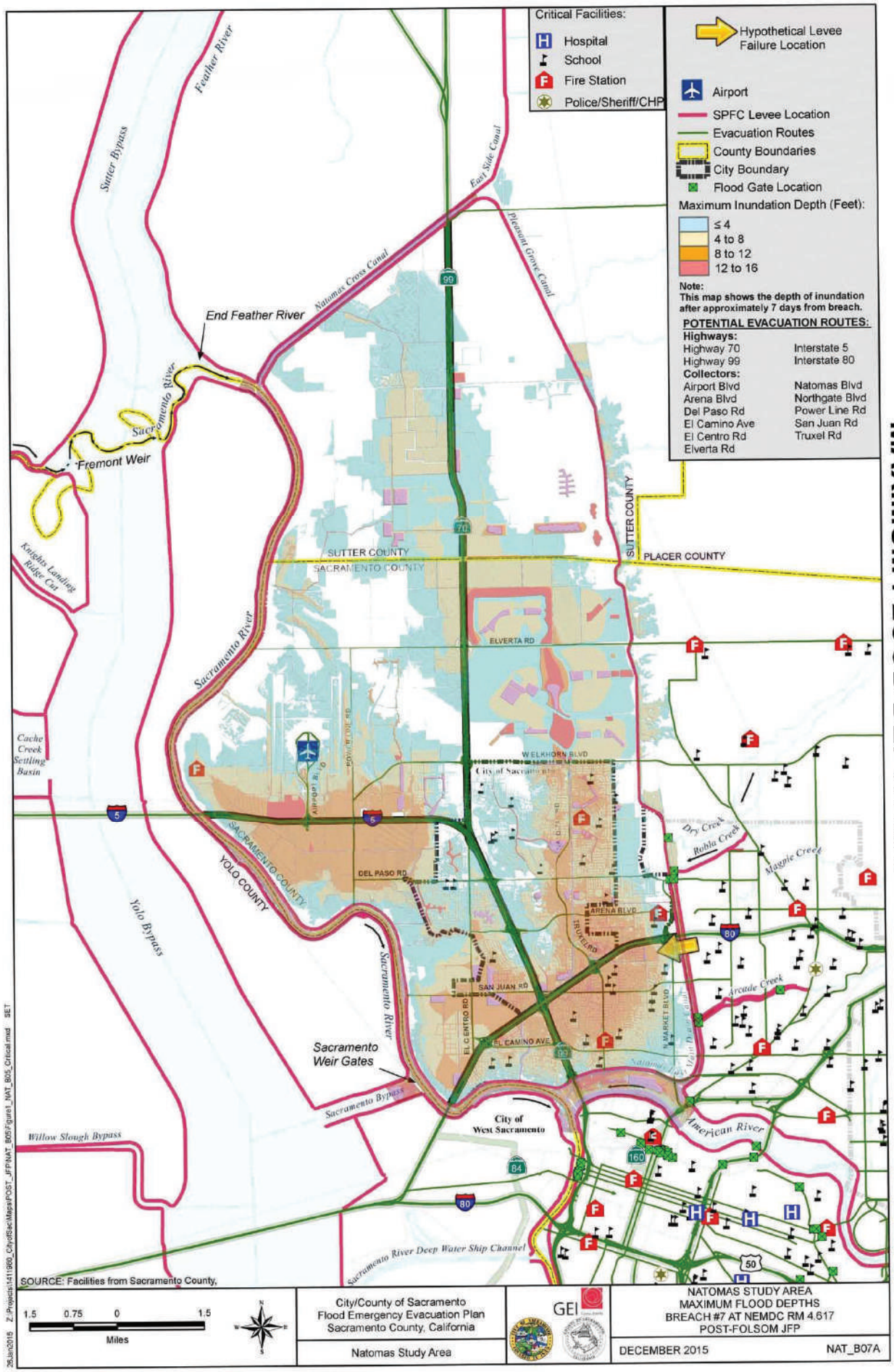

# MAXIMUM FLOOD DEPTH MAP

# LEVEE BREACH 2D - APR 2022 - BREACH 7 EXISTING




MAXIMUM FLOOD DEPTH MAP

# LEVEE BREACH 2D - APR 2022 - BREACH 7 CUMULATIVE



# APPENDIX C

## Supplemental Analysis

## CESI Technical Memorandum No. 0040A
## Levee Breach Analysis – Cumulative Plus Project Analysis

MACKAY & SOMPS ENGINEERS PLANNERS SURVEYORS

CIVIL ENGINEERING SOLUTIONS, INC.

# TECHNICAL MEMORANDUM No. 0040A

SUPPLEMENTAL ANALYSIS AND
RESULTS IN RESPONSE TO COMMENTS

## GRANDPARK & UPPER WESTSIDE

**Flood Inundation Propagation**
**Procedural Memorandum**

**Sacramento County, California**

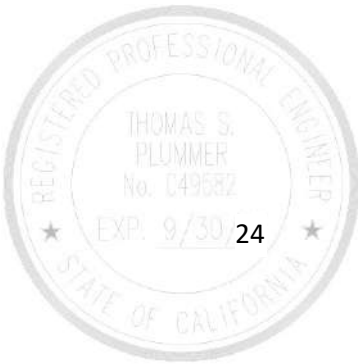
**To:** **Todd Smith, Sacramento County**

**From:** **Thomas S. Plummer P.E., CFM**

**Date:** **May 3, 2024**

**Subject:** **LEVEE BREACH ANALYSIS – CUMULATIVE ANALYSIS**

---




Sacramento DWR:

By: _____

Date: _____

☐ Acknowledged

☐ Approved

☐ Other: _____

## EXECUTIVE SUMMARY

### Background

This supplemental analysis was prepared to respond to the County's November 2, 2023 comments on the following Procedural Memoranda:

- *Grandpark Flood Inundation Propagation Procedural/Technical Memorandum* prepared by MacKay & Somps (dated November 10, 2022), and
- *Upper Westside Flood Inundation Propagation Procedural/Technical Memorandum* prepared by MacKay & Somps (dated November 10, 2022).

These Procedural Memoranda were prepared based on the flood modeling technical work prepared by CESI in 2022. This technical work included HEC-RAS modeling of the same seven (7) theoretical levee breach locations that the City of Sacramento selected for modeling by GEI Consultants in preparation of the 2015 City/County Evacuation Plan (2015 Evacuation Plan), and the 2021 Sacramento County Multi-Jurisdictional Local Hazard Mitigation Plan (2021 LHMP).
As explained below, the technical analysis prepared for the Procedural Memoranda utilized a newer version of HEC-RAS modeling software (ver. 6.2) than the modeling performed in 2015. This newer work effort took into consideration three principal considerations:

1. Better and more accurate topographic mapping,
2. Two Dimensional (2D) Flood Hydraulic Analysis Landside of the Breach Formation
3. More realistic breach formation determinations (within HEC-RAS) based on the more accurate landside topographic mapping.

### County Comments

The County's comments on the two Procedural/Technical Memoranda mentioned above did not require formal responses as they were advisory in nature. However, the County's comments suggested that it would be appropriate to review modeling results that used modeling assumptions that were identical in nature to those used for the 2015 Evacuation Plan to facilitate identification of material differences in modeling results between 2015 and the current modeling effort. Notwithstanding the technical adequacy of the prior modeling effort and the conclusions contained in the 2022 Procedural Memoranda, it was for this reason that Grandpark and Upper Westside chose to update the modeling performed for the 2022 Procedural/Technical Memoranda using the same set of modeling assumptions that were used in the 2015 modeling effort. The differences in modeling assumptions are summarized in this Technical Memorandum.

### Findings of TM 0040A

Bringing about consistency in levee breach assumptions when using the improved modeling software resulted in slightly greater elapsed time to one-foot of flooding at critical locations along the evacuation routes. Basically, the 2024 modeling analysis performed for this Technical Memorandum found that the resulting timing for flood inundation propagation from each of the seven breach

locations were relatively consistent with those found in the 2015 flood mapping analysis.

Specifically, the key findings of this supplemental analysis are listed below:

1. The addition of a scour pit allowed the levee breach to form to the full depth and height in all simulated locations. However, this change in the modeling assumption did not increase the amount of flow significantly to the interior of the basin.

2. The review of landside nearby lowest elevations that the breach could flow to as an exit from the weir location did contribute to some higher flow rates in a few of the analysis.

3. The addition of a scour pit delayed some flow delivery and reduced overall peak flows. This is likely because during the breach formation, the scour pit would form at a water surface below the exterior river water surface as there are head losses for the flow passing through the breach. The lower water surface elevation of the scour pit delivering water to the landside terrain would have less potential energy to drive the flood waters to spill over the terrain. Also, because the scour pit flood elevation is above the terrain elevations, the head to drive flood waters through which the breach operates was less when the breach is near submergence.

4. The changes to the model generally resulted in less flooding depths and longer flood timings for all breach locations studied. This suggests that for total flow and timing, the importance of the breach formation depths was not as significant as the elevations of the landside terrain the flood waters eventually must pass over after passing through a breach and scour pit.

5. Finally, the changes in timings in the two 2D models (Existing Conditions and Cumulative Conditions) stayed similar to the previous analysis and was not sensitive the issues raised in the GEI Comments.

**RESPONDING TO:**

GEI Consultants prepared a review of Technical Memorandum's 39 and 40 for the Grandpark and Upper Westside projects on November 2, 2023. The purpose of their review was "to provide a third party review of the reports regarding inundation floodplain mapping from hypothetical levee failures in the Natomas Basin". These Technical Memorandum's included analysis for 7 levee breach locations along the Natomas levee protection system, under different project circumstances.

**GEI Concluded:**

> *1) The full Sacramento River system model geometry and hydrology used for the GP/UWS evaluation is acceptable. The water levels in the surrounding river system (Sacramento River, American River, Cross Canal, NEMDC) are acceptable and do not need adjusting for the levee failure evaluation.* ***Figure 1*** *shows the full system model and* ***Figure 2*** *shows the proposed Natomas basin breach locations for this evaluation.*
>
> *2) A notable change between the 2015 GEI hypothetical levee breach openings and the 2022 GP/UWS hypothetical levee breach opening was assuming if scour would occur for longer duration flood events. For the 27 levee failure maps dated 2015, the city and county requested each of the levee failures to*

*assume an extra scour hole depth below the levee toe of approximately 10-20 feet because of unknown soil conditions. The deeper scour hole depth assumption causes a wider opening which increases the breach flow entering into the Natomas Basin. The breach open criteria (Width = 50 x Distance from water level to land toe) is based on recommendations from the Corps of Engineers and the State of California Department of Water Resources (CADWR).*
*Because there have been no actual levee failures in the Sacramento River levee systems, the breach opening assumptions provided by the GP and UWS evaluations are not unreasonable.*

*3) Breach 6 showed a significantly reduced floodplain in the Natomas basin for both the GP and UWS evaluation compared to the 2015 city inundation maps. The GP/UWS maps are reasonable, but the 2015 maps are more conservative because the evaluation assumed a deep scour hole could form which would increase breach flows. The scour hole assumption was based on a request from the City.*

*4) The inundation mapping dated 2015 does not include flows from the Sankey Gap. This was discussed with the City and County of Sacramento but was decided only to include breach flows from the adjacent streams.*

*5) A significant change between the 2015 and the 2022 analysis was the new Corps of Engineers Hydraulics Program (HEC-RAS) version 6.0 which includes a new approach for routing overland flows.*

*a. The new program improves the overland flow routing by using two-dimensional grids which uses the physical terrain as opposed to storage areas which occurred with the previous program developing the 2015 maps. Storage areas in the hydraulic model are lake like regions which fill as a bowl.*

*b. As shown in the GP and UWS TMs, the updated 1D/2D HEC-RAS program showed there was not a significant change in the travel time between the two model program approaches. However, using the updated 1D/2D HEC-RAS program is recommended.*

## PURPOSE OF RESPONSE

The purpose of this Technical Memorandum is to respond to GEI's conclusions numbers 2 and 3 with additional technical analysis. In this technical memorandum we have revised the technical analysis for all 7 breach locations to include a scour pit formation to occur adjacent to the existing levee where the breach would form. This would allow the full breach shape to form, rather than only the partial breach depth formed in a few locations in our previous analysis. In addition, we re-assessed land side elevations of the weir connection from the scour pit to the 2D model areas inside the basin.

By performing this additional investigation, we intend to address any concerns that different conclusions might occur if these modeling changes were performed.

## DESCRIPTION OF MODELING CHANGES:

At each breach location, a storage area was added to represent a scour pit formation on the land side of the levee breach location. The flows entering the breach would spill into the scour pit, and have to fill it before these flows would connect to the 2D flood areas. The scour pit was set to be 16 feet

deep, and roughly 6 acres at the landside ground level[1]. The scour pit depth allows the full formation in depth and width of each levee breach[2]. Previously, the scour pit depth of formation was limited to the landside existing ground elevations directly adjacent to the levee breach.

Connecting each scour pit to the 2D Natomas floodplain is a lateral weir set based on the landside existing ground elevations near the levee breach. These were re-evaluated with this analysis to try and find the lowest near adjacent grades, to permit the maximum flood flow exchange.

All other model development assumptions remain the same as described in the applicable sections of TM 0039 and TM 0040. Some instabilities did occur when attempting to run this version of the models, which were addressed by adding a 10 cfs base flow in the NEMDC, which was consistently added in all of the analysis.

## ELEVATION DATUM

All Elevations shown in this TM are in NAVD 88 Vertical Datum.

## USE OF "SACRAMENTO-COMBINED" HEC-RAS MODEL FROM GEI

GEI provided CESI the 2015 HEC-RAS One-Dimensional (1D) modeling that the existing Natomas Basin Levee Breach analysis was performed with for the seven (7) perimeter levee breach locations previously chosen by the City and County of Sacramento for the GEI analysis in 2015. The updated modeling is run for the same total duration of analysis as the original GEI model. This modeling was used for this analysis except for changes described below.

The results of the previous Breach Analysis are posted at the following link:

https://waterresources.saccounty.net/stormready/Pages/Natomas-Area-Flood-Map.aspx

The results presented in this Technical Memorandum focus on two analyses:

1. Time to Fill to 1-foot of depth at Evacuation Route locations, and
2. Maximum Depth of Inundation measured in the modeling.

The previous Breach Analysis Maps were published by the County at the link above to present the results of the GEI modeling.

The original model was performed in HEC-RAS version 4.1.3. In consultation with Chris Ferrari of GEI Consultants, CESI updated the 2015 modeling. Specifically, CESI updated the model to HEC-RAS 6.2 and further modified the model as described below. This required

[1] These dimensions are based on State DWR analyses of empirical data from several historical levee breach events in the Sacramento-San Joaquin Delta. Based on DWR analysis, these dimensions appear to be typical of the levee breaches that would form within the vicinity of the Natomas Basin. Scour Pits are typically 6 acres in surface area and 16-feet deep. Levee breach widths are typically 50 times the distance from the water level in the external river to the land side toe elevation.

[2] Full formation of breach size (width and height) as defined in the original 2016 analysis for each formation location.

modification for errors in the geometry file detected by the current version of HEC-RAS that were not evident in the previous version. Typically, these errors occurred where HTAB table definitions started below the invert of a channel, or storage area starting elevations below the lowest elevation in the storage area.

Version 6.2 of HEC-RAS generates a warning at some breach locations that the specified minimum elevation of the breach is below the adjacent ground elevations. When this occurs, HEC-RAS Version 6.2 will limit the breach weir formation elevation to the adjacent lowest ground elevation.

The original model analyzed flood distribution within the basin by including a set of storage areas connected by weirs and culverts. This method discounts the impact of local ground features and the time it takes for flood waters to cross the storage areas, as HEC-RAS views a storage area as equally distributing the inflow to the entirety of the storage area instantaneously.

CESI decided for the current analysis, it would be better to analyze the breach flooding over Two Dimensional (2D) surfaces using the Version 6.2 capabilities of HEC-RAS. Digital terrain models (topographic models) of the Natomas Basin were not provided by GEI when the original model was transferred to CESI.

Accordingly, CESI generated a cumulative conditions topographic model for the Natomas Basin and utilized HEC-RAS Version 6.2 to generate a digital terrain model surface for the existing conditions. CESI then developed digital terrain models based on the current land use plans and drainage plan documents (where available – See TM 0039) and then added these terrain models for the reasonably foreseeable development projects for the Cumulative Conditions modeling.[3]

The following development areas were included in the Cumulative Conditions:

- GRANDPARK (Conceptual Grading Plan – April 20, 2022).[4]

[3] For this analysis, a version 6.05 terrain surface was created for the Cumulative development scenario. The 6.04 and 6.05 Terrains were based on 2 feet by 2 feet pixel size, and, at locations where the terrain did not include hydraulic reinforced data (invert data at bridge and culvert crossings, this data was added by interpolating a section from upstream grades to downstream grades in the LiDAR data set).

[4] The 2022 Grandpark Conceptual Grading Plan was used in this analysis. This conceptual grading plan is an update of the conceptual grading plan used in TM 0007 (Grandpark Land Use Plan 08F) as it reflects the elimination of the "Lennar" parcels as a development site and instead leaves this property as an undeveloped open space parcel. Additionally, the 2022 Conceptual Grading Plan reconfigured the Grand Parkway from a water feature intensive open space plan into a more natural floodplain with a central drainage channel and overbank flood storage areas without significant water features. Lastly, the 2022 Conceptual Grading Plan redistributed the required flood storage volumes within the Grand Parkway in order to (1) meet County design standards relating to avoiding water surface level impacts to upstream and downstream properties, (2) achieve a condition where post development peak flow rates do not exceed predevelopment levels upstream and downstream of Grandpark, and (3) achieve an equitable allocation of flood storage volumes between the various property owners within the area of the Grandpark Specific Plan.

- SUTTER POINTE (Appendix E Drainage Master Plan and Appendix B Land Use and Development Code).
- SAFCA "Sankey Road Gap Closure Project Basis of Design Report".
- GREENBRIAR (used land use plan and documentation from the January 5, 2017, Environmental Checklist (online version)).
- PANHANDLE (Preliminary Grading Plan by MacKay & Somps).
- UPPER WESTSIDE (land use plan from Staff Presentation February 2022).
- SACRAMENTO INTERNATIONAL AIRPORT (Master Plan January 2017), including Airport South Industrial project (using the layout included in the Airport Master Plan)

It should be noted that the ultimate buildout of Metro Airpark is included in the Existing Conditions terrain models per the request of Sacramento County DWR Staff.

It's important to note that the grading input for all of the projects added in the Cumulative conditions models is for the finished grade surfaces only and does not include any structures which will be built. Additionally, the friction is not adjusted at these locations for the resistance to flows that may occur post development from fences and structures.

CESI then prepared 4 different analyses for each breach location as follows:

- **GEI Existing Conditions 1D Analysis.** The GEI existing conditions 1-dimensional (1D) storage-area based analysis was re-run in HEC-RAS 6.2.[5] Based on a visual comparison of the results from this re-run of the GEI existing conditions 1D in 2D analysis with the GEI published 1D results, the two sets of results were found to be similar.

  Upon completion of this modeling exercise, CESI again consulted with GEI to report on the efforts to update the 2015 model and the results from this modeling existing conditions analysis when using the newer HEC-RAS software. During this consultation, both GEI and CESI agreed the updated model was producing results similar to those obtained from the 2015 model in terms of the duration of time to 1-foot depth of flooding over the critical locations along the major evacuation routes, and the maximum depth of flooding within the Basin.

- **Existing Conditions Analysis with Storage Areas Converted to 2D**. The addition of a scour pit landside of the levee allowed the full formation of the breach width and depth to match the specifications of the original GEI analysis. From the scour pit flows are spread over the existing ground grades and dispersed into the 2D domains for the interior areas of the Natomas Basin.

[5] The HEC-RAS Version 6.2 is recognized by the engineering community for its superior capabilities to more accurately analyze flooding using 2D terrain surfaces as compared to HEC-RAS Version 4.1.3 that only utilized 1D terrain models.

Compared to the GEI 1D modeling which fills each storage area with flood volumes from the lowest elevation upward regardless of the distance, terrain and flow impediments within the storage area, the 2D analysis models the water flowing from the breach location through overland paths before entering into the main system of canals.

- "**With Grandpark" Analysis (also using 2D)**. This alternative is discussed in TM 0039 and is specific to the Grandpark project, and not part of this Cumulative Analysis.
- **Cumulative Conditions Analysis (also using 2D)**. Similar to the Existing Conditions 2D analysis: The addition of a scour pit landside of the levee allowed the full formation of the breach width and depth to match the specifications of the original GEI analysis. From the scour pit flows are spread over the existing ground grades and dispersed into the 2D domains for the interior areas of the Natomas Basin.

  Compared to the GEI 1D modeling which fills each storage area with flood volumes from the lowest elevation upward regardless of the distance, terrain and flow impediments within the storage area, the 2D analysis models the water flowing from the breach location through overland paths before entering into the main system of canals.

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## TIME TO FILL TO 1-FOOT DEPTH AT EVACUATION ROUTE LOCATIONS:

As explained in TM 0039 and TM 0040, the duration of time to inundation of 1-foot of flooding over critical roadway locations along the regional evacuation routes within the Natomas Basin during a catastrophic levee breach is analyzed in each breach model. The criteria of 1-foot of inundation is considered the critical factor in moving the public from places of relative danger to locations of relative safety during a flooding event. Using the 2015 assumption set for levee breach formation, this analysis reevaluated the timing to 1-foot of inundation at the eighteen (18) critical evacuation routes within the Natomas Basin that were evaluated in TMs 0039 and 0040.

Oversized exhibits are included at the end of this technical memorandum which present the results of these analyses for each of the 4 alternatives studies for each breach location. They are plotted on top of the original GEI exhibits from the original Study.

For each Evacuation Route location identified in the original mapping, CESI identified the location where the depth would reach 1 foot of inundation depth earliest (the lowest point of the roadway stretch) and retrieved the time to 1-foot of inundation depth for each scenario and breach in hours. The results are summarized in the following tables (Tables 1 through 7) for each of the seven breach locations. These results are also shown on the oversized exhibits included with this TM (Note: On the oversized exhibits, if flooding to a depth of 1 foot over the roadway was not demonstrated in the analysis, the point was removed from the exhibit).

## LEVEE BREACH ANALYSIS RESULTS

In general, the change from 1D to 2D modeling was to provide a more accurate estimate of the timing and depths of flows arriving. The 2D modeling requires the flood flows to travel overland spatially in order to move throughout the basin, whereas the storage area based previous models do not physically model the movement of the flood, except through the connections of the storage areas.

Below are the individual results for the levee breach analyses using the same breach and scour pit assumptions used in the preparation of the 2015 City/county Evacuation Plan.

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## BREACH 1

The results of the modeling exercise for Breach 1 are summarized in Table 1 and the text following the table.

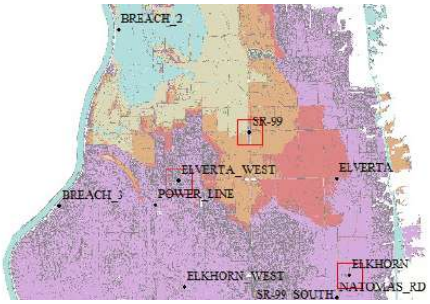
**Table 1**

***BREACH 1: (Natomas Cross Canal Levee Breach Location – C+P Conditions)***

| Evacuation Route Location: | Time to 1ft for 1D GEI Exist Cond. Model (hrs) | Time to 1 ft for 2D Existing Cond. Model (hrs) | Time to 1ft for 2D Cumulative Model (hrs) | Improvement in Timing of 1ft Depth (hrs) |
|---|---|---|---|---|
| SR-99 | 89 | 140 | 127 | -13 |
| ELVERTA | 47 | 99 | 121 | +22 |
| ELKHORN | 38 | 74 | 90 | +16 |
| DEL PASO | 22 | 60 | 69 | +9 |
| I-80 EAST | 31 | 82 | 99 | +17 |
| I-5 CENTRAL | 106 | 170 | 172 | +2 |
| I-5 JUNCTION | 79 | 147 | 155 | +8 |
| I-5 WEST | 73 | 141 | 149 | +8 |
| I-80 WEST | 63 | 112 | 123 | +11 |
| ELKHORN WEST | 73 | 139 | 147 | +8 |
| SR-99 NORTH | 98 | 138 | 115 | -23 |
| SR-99 SOUTH | 135 | 208 | 209 | +1 |
| POWER LINE | 92 | 161 | 167 | +6 |
| ELVERTA WEST | 106 | 157 | 149 | -8 |
| SAN JUAN | 36 | 80 | 115 | +35 |
| EL CAMINO | 36 | 81 | 97 | +16 |
| I-80 CENTRAL | 58 | 103 | 115 | +12 |
| NATOMAS RD | 28 | 55 | 67 | +12 |

1D to 2D model:

For all of the points reviewed there was an increase in the time to the flood depth of 1 foot. The addition of storage contained within the "Scour Pit" directly adjacent to the breach location alters some timing as the scour pit needs to be filled before flooding of the remainder of the Natomas Basin will occur. This filling of the scour pits act to dampen the flow propagation from the levee breach to the land side terrain.




2D to 2D Cumulative Model Changes:

In general, most of the data points show that there is an increased delay in the propagation of the breach flood wave timing as a result of the Cumulative Conditions improvements in the Natomas Basin for Breach 1.

The following three points identify reductions in timing to the depth of 1 foot:

1. SR-99: SR-99 is located near a low point in SR-99 near the northern boundary of the proposed Grandpark project. A reduction in flood depth timing at this location of 13 hours is identified in the modeling (140 hours to 127 hours). The reduction in flood time results from the reduced flood volumes in the northern part of the basin due to the embankments placed for the Sankey Gap storage basin proposed by SAFCA to be constructed with the Sutter Pointe project.

   Also, the proposed culvert crossings within the Grandpark development under Elverta Road restrict how fast flows lower than the street overtopping levels can progress from north of the Grandpark project to south of the project. These culverts are sized for properly reducing potential flooding changes both downstream and upstream of the Grandpark project in the 100-year and 200-year design storms with and without Climate Change being factored, in order to meet Sacramento County and RD-1000 peak flood mitigation requirements.

2. SR-99 NORTH: A reduction in 1 foot flood depth timing at this location of 23 hours is identified in the modeling (138 hours to 115 hours). This roadway low point is at a slightly lower elevation than surrounding data points, so it sees flooding sooner in the Cumulative Event analysis as a result of the Sankey Gap Storage Facility Embankments and Grandpark proposed project culverts under Elverta Road at its crossing of the East Drainage Canal.
3. ELVERTA WEST. A reduction in 1 foot flood depth timing at this location of 8 hours is identified in the modeling (157 hours to 149 hours). This data point is affected by the Sankey Gap storage facility embankments.

The three data points noting a meaningful change in 1 foot flood depth arrival time are in the Northwest quadrant of the basin, where the breach occurs.

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## BREACH 2

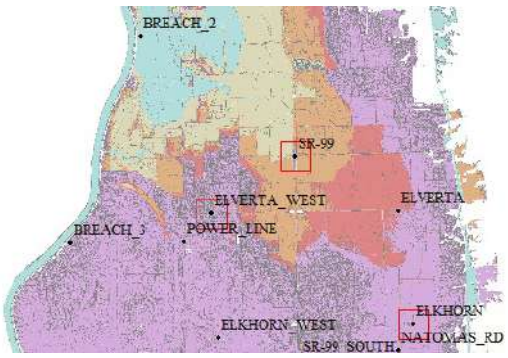
The results of the modeling exercise for Breach 2 are summarized in Table 2 and the text following the table.

**Table 2**
***BREACH 2 (North Sacramento River Breach Location C+P Conditions)***

| Evacuation Route Location: | Time to 1ft for 1D GEI Exist | Time to 1 ft for 2D Existing Cond. Model (hrs) | Time to 1ft for 2D Cumulative Model (hrs) | Improvement in Timing of 1ft Depth (hrs) |
|---|---|---|---|---|
| SR-99 | 3 | 169 | 65 | -104 |
| ELVERTA | 2 | 39 | 45 | +6 |
| ELKHORN | 2 | 36 | 46 | +10 |
| DEL PASO | 1 | 37 | 47 | +10 |
| I-80 EAST | 1 | 50 | 59 | +9 |
| I-5 CENTRAL | 5 | 166 | 166 | 0 |
| I-5 JUNCTION | 4 | 99 | 111 | +12 |
| I-5 WEST | 4 | 93 | 102 | +9 |
| I-80 WEST | 3 | 66 | 75 | +9 |
| ELKHORN WEST | 4 | 91 | 98 | +7 |
| SR-99 NORTH | 1 | 41 | 41 | 0 |
| SR-99 SOUTH | 8 | 70 | 70 | 0 |
| POWER LINE | 5 | 124 | 136 | +12 |
| ELVERTA WEST | 4 | 187 | 187 | 0 |
| SAN JUAN | 2 | 49 | 58 | +9 |
| EL CAMINO | 2 | 49 | 59 | +10 |
| I-80 CENTRAL | 3 | 61 | 59 | -2 |
| NATOMAS RD | 1 | 33 | 49 | +16 |

1D to 2D model:

For all of the points reviewed there was an increase in the time to the flood depth of 1 foot The addition of storage contained within the "Scour Pit" directly adjacent to the breach location alters some timing as the scour pit needs to be filled before flooding of the remainder of the Natomas Basin will occur. This filling of the scour pit acts to dampen the flow propagation from the levee breach to the land side terrain.




2D to 2D Cumulative Model Changes:

This breach analysis identifies 2 locations where moderate adverse changes to the timing of 1 foot inundation of the evacuation routes would occur at: SR-99 and I-80 CENTRAL.

The breach location is similar to the location of Breach 1, discharging into the Northwest Quadrant of the basin. As a result, the future Sankey Gap storage area reduces available storage in this area below the embankment overtopping elevations. This is demonstrated in the "SR-99" reduced timing to 1 foot of depth. Proposed project culverts in Grandpark also slow the progression of the initial flood wave below Elverta Road overtopping elevations, resulting in a modest acceleration of the flood timing within the northwest quadrant. This is demonstrated in the "I-80 Central" reduced timing to 1ft of depth. The proposed Grandpark project culverts are sized for properly reducing potential flooding changes both downstream and upstream of the Grandpark project in the 100-year and 200-year design storms with and without Climate Change being factored, in order to meet Sacramento County and RD-1000 peak flood mitigation requirements.

Also, adverse timing of 1-hour (-1 hour) is less than the accuracy of this model and, therefore, this reduction in timing to 1-feet depth of flooding is not considered material.

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**BREACH 3**

The results of the modeling exercise for Breach 3 are summarized in Table 3 and the text following the table.

**Table 3**

***BREACH 3(Sacramento River Levee Near Elverta Road – C+P Conditions)***

| Evacuation Route Location: | Time to 1ft for 1D GEI Exist Cond. Model (hrs) | Time to 1 ft for 2D Existing Cond. Model (hrs) | Time to 1ft for 2D Cumulative Model (hrs) | Improvement in Timing of 1ft Depth (hrs) |
|---|---|---|---|---|
| SR-99 | 66 | 137 | 137 | 0 |
| ELVERTA | 47 | 78 | 105 | 27 |
| ELKHORN | 43 | 72 | 70 | -2 |
| DEL PASO | 33 | 51 | 53 | +2 |
| I-80 EAST | 40 | 82 | 83 | +1 |
| I-5 CENTRAL | 67 | 170 | 170 | 0 |
| I-5 JUNCTION | 10 | 19 | 19 | 0 |
| I-5 WEST | 9 | 9 | 9 | 0 |
| I-80 WEST | 23 | 37 | 40 | 3 |
| ELKHORN WEST | 4 | 12 | 12 | 0 |
| SR-99 NORTH | 75 | 169 | 167 | -2 |
| SR-99 SOUTH | 129 | 74 | 74 | 0 |
| POWER LINE | 17 | 7 | 7 | 0 |
| ELVERTA WEST | 79 | 191 | 194 | +3 |
| SAN JUAN | 30 | 36 | 54 | +18 |
| EL CAMINO | 30 | 53 | 54 | +1 |
| I-80 CENTRAL | 17 | 36 | 36 | 0 |
| NATOMAS RD | 38 | 64 | 65 | +1 |

1D to 2D model:

POWERLINE And SR-99 SOUTH are the only 2 points with reductions in time to 1 foot for the change from the original 1-D modeling of the existing conditions, to using a 2-D model. These reductions result from flow from the scour location traveling faster to these points than the 1D model showed it took for the storage areas at these locations to fill to above the elevations near these locations.

For all of the remaining points reviewed there was an increase or no change in the time to the flood depth. The addition of storage contained within the "Scour Pit" directly adjacent to the breach location alters some timing as the scour pit needs to be filled before flooding of the remainder of the Natomas Basin will occur. This filling of the scour pit acts to dampen the flow propagation from the levee breach to the land side terrain.

2D to 2D Cumulative Model Changes:

For this breach location scenario, the Cumulative Condition produces similar results to the Existing Conditions model at all locations. The largest reduction in time to flood 1 foot is at ELKHORN and SR-99 NORTH where a 2-hour reduction occurs (72 to 70 hours, and 169 to 167 respectively).

Also, adverse timing of 1-hour (-1 hour) is less than the accuracy of this model and, therefore, this reduction in timing to 1-feet depth of flooding is not considered material.

**BREACH 4**

The results of the modeling exercise for Breach 4 are summarized in Table 4 and the text following the table.

**Table 4**
***BREACH 4 (Sacramento River Levee South of I-5- C+P Conditions)***

| Evacuation Route Location: | Time to 1ft for 1D GEI Exist | Time to 1 ft for 2D Existing Cond. Model (hrs) | Time to 1ft for 2D Cumulative Model (hrs) | Improvement in Timing of 1ft Depth (hrs) |
|---|---|---|---|---|
| SR-99 | 7 | 102 | 102 | 0 |
| ELVERTA | 5 | 75 | 88 | +13 |
| ELKHORN | 4 | 66 | 65 | -1 |
| DEL PASO | 3 | 46 | 48 | +2 |
| I-80 EAST | 4 | 49 | 51 | +2 |
| I-5 CENTRAL | 6 | 93 | 88 | -5 |
| I-5 JUNCTION | 9 | 13 | 14 | +1 |
| I-5 WEST | 6 | 8 | 8 | 0 |
| I-80 WEST | 2 | 32 | 34 | +2 |
| ELKHORN WEST | 9 | 11 | 10 | -1 |
| SR-99 NORTH | 7 | 110 | 115 | +5 |
| SR-99 SOUTH | 1 | 144 | 143 | -1 |
| POWER LINE | 2 | 29 | 28 | -1 |
| ELVERTA WEST | 8 | 112 | 112 | 0 |
| SAN JUAN | 3 | 31 | 30 | -1 |
| EL CAMINO | 3 | 47 | 49 | +2 |
| I-80 CENTRAL | 1 | 31 | 30 | -1 |
| NATOMAS RD | 4 | 58 | 60 | +2 |

1D to 2D model:

For all of the points reviewed there was an increase in the time to the flood depth from the original 1D based analysis to the 2-D based analysis. The increase in timing is the result of the flow having to travel overland to fill areas, as opposed to instantly filling storage areas. The addition of storage contained within the "Scour Pit" directly adjacent to the breach location alters some timing as the scour pit needs to be filled before flooding of the remainder of the Natomas Basin will occur. This filling of the scour pit acts to dampen the flow propagation from the levee breach to the land side terrain.

2D to 2D Cumulative Model Changes:

For this breach location scenario, the Cumulative Conditions produce similar results to the Existing Conditions model at all locations. The largest reduction in time to flood 1 foot is at I-5 CENTRAL

where a 5-hour reduction occurs (93 to 88 hours). This is in an area near the breach location, in which flood storage volumes are reduced by the Sankey Gap storage area embankments.

All other minor changes noted by the analysis are less than 1 hour, which is approximately the rounding error in the results. Also, adverse timing of 1-hour (-1 hour) is less than the accuracy of this model and, therefore, this reduction in timing to 1-feet depth of flooding is not considered material.

## BREACH 5

The results of the modeling exercise for Breach 5 are summarized in Table 5 and the text following the table.

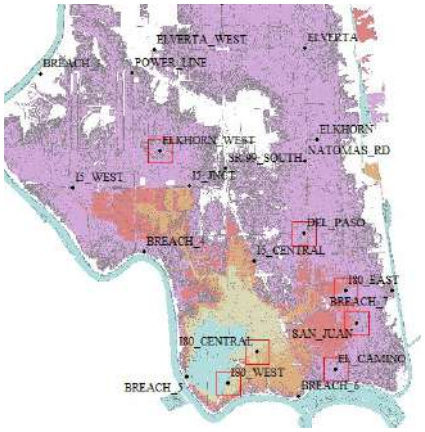
**Table 5**
***BREACH 5 (Sacramento River Levee Near I-80 – C+P Conditions)***

| Evacuation Route Location: | Time to 1ft for 1D GEI Exist Cond. Model (hrs) | Time to 1 ft for 2D Existing Cond. Model (hrs) | Time to 1ft for 2D Cumulative Model (hrs) | Improvement in Timing of 1ft Depth (hrs) |
|---|---|---|---|---|
| SR-99 | 84 | 282 | 282 | 0 |
| ELVERTA | 50 | 123 | 147 | +24 |
| ELKHORN | 39 | 81 | 67 | -14 |
| DEL PASO | 21 | 32 | 30 | -2 |
| I-80 EAST | 21 | 43 | 39 | -4 |
| I-5 CENTRAL | 100 | N/A | N/A | N/A |
| I-5 JUNCTION | 27 | 57 | 67 | +10 |
| I-5 WEST | 19 | 47 | 53 | +6 |
| I-80 WEST | 9 | 12 | 5 | -7 |
| ELKHORN WEST | 57 | 42 | 45 | +3 |
| SR-99 NORTH | 22 | N/A | N/A | N/A |
| SR-99 SOUTH | 99 | N/A | N/A | N/A |
| POWER LINE | 46 | 111 | 111 | 0 |
| ELVERTA WEST | 112 | N/A | N/A | N/A |
| SAN JUAN | 19 | 34 | 34 | 0 |
| EL CAMINO | 19 | 39 | 34 | -5 |
| I-80 CENTRAL | 9 | 12 | 11 | -1 |
| NATOMAS RD | 30 | 55 | 51 | -4 |

N/A= These points do not flood to a depth of 1 foot within the model analysis duration.

1D to 2D model:

For the location of "ELKHORN WEST", the difference in timing of the 1 foot of depth was from 57 hours in the original 1-D analysis to 42 hours in the 2-D analysis. The reduction results from the proximity of the breach to this location, and that flows overland reach this point before all areas within the storage area/2D domain are filled to the elevation that produces 1 foot of depth at this location.



For all of the remaining points reviewed there was an increase in the time to the flood depth. The addition of storage contained within the "Scour Pit" directly adjacent to the breach location alters some timing as the scour pit needs to be filled before flooding of the remainder of the Natomas Basin will occur. This filling of the scour pit acts to dampen the flow propagation from the levee breach to the land side terrain.

2D to 2D Cumulative Model Changes:

The Breach location near the I-80 crossing of the Sacramento River generally shows a small reduction in response time to a 1-foot depth along the I-80 corridor within the southern areas of the basin (Data Points: ELKHORN, DEL PASO, I-80 EAST, I-80 WEST, EL CAMINO, I-80 CENTRAL and NATOMAS RD).




Of note would be the low points in Interstate 80 at I-80 WEST, and I-80 CENTRAL where the response time to flood 1 foot reduces from 12-hours to a 5-hours, and 12 hours to 11-hours respectively, between the 2D Existing and 2D Cumulative Conditions models. The models show there are 2 reasons for the reduction in timing. The most important is that for the 2D Cumulative Condition, the model shows the full breach formation 1 hour and 10 minutes sooner than in the 2D Existing and the 2D Cumulative Conditions per the graph to the right. This generally affects all points and accounts for the general reduction between 1 and 2 hours seen in many of the data point locations.

The second reason which additionally affects the 2 I-80 points nearest the breach (I-80 EAST and I-80 CENTRAL) appears to result from the proposed grading at the Upper Westside project. The breach flows would spread out from the breach through the generally flat grades proposed and through the streets which are at lower grades. The result is an overland flooding path to these locations sooner in the event. The Breach 5 location just happens to be directly adjacent to the southern end of the Upper Westside project.

The 2D Cumulative Models do not account for the resistance to the flow spreading effect that would occur due to the construction of buildings, fences and the planting of vegetation and trees. An average friction value is applied over the surface. These future condition items cannot be included in the current modeling as they are still unknown. It is likely that if structures, fences and vegetation are built similar to other developments, they would slow the spread effect.

## BREACH 6

The results of the modeling exercise for Breach 6 are summarized in Table 6 and the text following the table.

**Table 6**

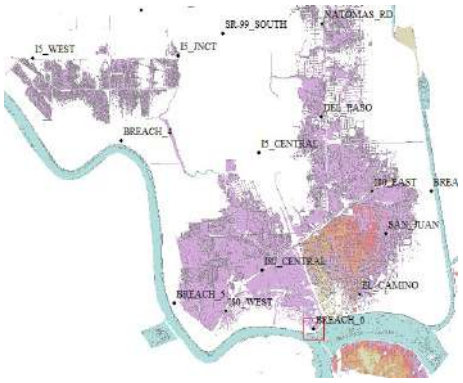
***BREACH 6 (American River Levee Near Confluence With Sacramento River- C+P Conditions)***

| Evacuation Route Location: | Time to 1ft for 1D GEI Exist Cond. Model (hrs) | Time to 1 ft for 2D Existing Cond. Model (hrs) | Time to 1ft for 2D Cumulative Model (hrs) | Improvement in Timing of 1ft Depth (hrs) |
|---|---|---|---|---|
| SR-99 | 53 | 279 | 279 | 0 |
| ELVERTA | 29 | 144 | 144 | 0 |
| ELKHORN | 21 | 9 | 9 | 0 |
| DEL PASO | 10 | 53 | 50 | -3 |
| I-80 EAST | 6 | 72 | 64 | -8 |
| I-5 CENTRAL | 57 | N/A | N/A | N/A |
| I-5 JUNCTION | 17 | 110 | 110 | 0 |
| I-5 WEST | 11 | 76 | 86 | +10 |
| I-80 WEST | 141 | 8 | 8 | 0 |
| ELKHORN WEST | 14 | 67 | 68 | +1 |
| SR-99 NORTH | 61 | N/A | N/A | N/A |
| SR-99 SOUTH | 133 | N/A | N/A | N/A |
| POWER LINE | 31 | 108 | 108 | 0 |
| ELVERTA WEST | 65 | N/A | N/A | N/A |
| SAN JUAN | 4 | 55 | 51 | -4 |
| EL CAMINO | 4 | 57 | 52 | -5 |
| I-80 CENTRAL | 137 | 5 | 4 | -1 |
| NATOMAS RD | 16 | 100 | 88 | -12 |

Note: "N/A" means that the breach event did not report flooding in excess of 1 foot at the data point throughout the model event duration (typical for all Tables).

1D to 2D model:

Three points show reduced timing changes in model for the time to the 1 foot depth. ELKHORN[6] from 21 hours to 9 hours, I-80 WEST from 141 hours to 8 hours, and I-80 CENTRAL from 137 hours to 5 hours. The proximity of the breach location to these locations shows that flooding to a depth of 1 foot would occur due to flood waters propagating to these locations overland before the volumes of the entire storage area/2-D domain fill to the required




[6] ELKHORN as a critical evacuation route appears to have a significantly shorter time to 1 foot than previously analyzed by GEI, Note that this is based on the existing conditions roadway elevations low point. The Grandpark project intends to raise the elevation of this roadway with the project construction such that it would continue to provide adequate evacuation timing.

depth as was analyzed in the original 1-D analysis.

For all of the remaining points reviewed there was an increase in the time to the flood depth. The addition of storage contained within the "Scour Pit" directly adjacent to the breach location alters some timing as the scour pit needs to be filled before flooding of the remainder of the Natomas Basin will occur. This filling of the scour pit acts to dampen the flow propagation from the levee breach to the land side terrain.

2D Existing to 2D Cumulative Model Changes:

For this breach location scenario, the Cumulative Conditions produce similar results to the Existing Conditions model at all locations. The largest reduction in time to flood 1 foot is at NATOMAS ROAD where a 12-hour reduction occurs (100 to 88 hours). This is in an area near to and north of the breach location. All points which show reductions in timing to 1 foot depth are in the south area of the basin, and near where the breach location overland flooding controls the timing to the 1 foot depth instead of the timing to fill all of the storage area/2-D area up to the elevation.

All other minor changes noted by the analysis are less than 1 hour, which is approximately the rounding error in the results.

Also, adverse timing of 1-hour (-1 hour) is less than the accuracy of this model and, therefore, this reduction in timing to 1-feet depth of flooding is not considered material.

**BREACH 7**

The results of the modeling exercise for Breach 7 are summarized in Table 7 and the text following the table.

**Table 7**
***BREACH 7 (NEMDC Levee Near I-80 – C+P Conditions)***

| Evacuation Route Location: | Time to 1ft for 1D GEI Exist Cond. Model (hrs) | Time to 1 ft for 2D Existing Cond. Model (hrs) | Time to 1ft for 2D Cumulative Model (hrs) | Improvement in Timing of 1ft Depth (hrs) |
|---|---|---|---|---|
| SR-99 | 53 | 280 | 295 | +15 |
| ELVERTA | 29 | 57 | 160 | +103 |
| ELKHORN | 21 | 30 | 25 | -5 |
| DEL PASO | 10 | 15 | 15 | 0 |
| I-80 EAST | 6 | 3 | 3 | 0 |
| I-5 CENTRAL | 57 | 31 | N/A | N/A |
| I-5 JUNCTION | 17 | 93 | 89 | -4 |
| I-5 WEST | 11 | 86 | 80 | -6 |
| I-80 WEST | 141 | 48 | 40 | -8 |
| ELKHORN WEST | 14 | 83 | 76 | -7 |
| SR-99 NORTH | 61 | 58 | N/A | N/A |
| SR-99 SOUTH | 133 | 86 | N/A | N/A |
| POWER LINE | 31 | 134 | 124 | -10 |
| ELVERTA WEST | 65 | 55 | N/A | N/A |
| SAN JUAN | 4 | 4 | 3 | -1 |
| EL CAMINO | 4 | 6 | 6 | 0 |
| I-80 CENTRAL | 137 | 36 | 30 | -6 |
| NATOMAS RD | 16 | 22 | 22 | 0 |

Note: "N/A" means that the breach event did not report flooding in excess of 1 foot at the data point throughout the model event duration (typical for all Tables).

This beach location is located along the Natomas East Main Drainage Canal Levee, north of the American River.

1D to 2D model:

Seven points show reduced timing changes in model for the time to the 1 foot depth. I-80 EAST (6 to 3 hours), I-5 CENTRAL(57 to 31 hours), I-80 WEST(141 to 48 hours), SR-99 NORTH(61 to 58 hours), SR-99 SOUTH (133 to 86 hours), ELVERTA WEST(65 to 55 hours), and I-80 CENTRAL(137 to 36 hours).

The I-80 EAST location is close to the model breach location and the difference can be

explained by the previous use of storage areas methodology compared to the overland 2D flooding methodology. In the previous methodology all of the above ground storage within a storage area has to be filled by the breach flows to a certain elevation. In the 2D model, the flood propagates overland, and the flood flows themselves have depth as the flood wave is spread throughout the basin. In this case the breach flows themselves achieve the 1 foot depth at these locations well before low areas in this quadrant are filled.

The other locations are similarly showing changes as a result of improved flow path analysis of the 2D model v. the storage fills from the bottom up previous methodology.

For all of the remaining points reviewed there was an increase in the time to the flood depth. The addition of storage contained within the "Scour Pit" directly adjacent to the breach location alters some timing as the scour pit needs to be filled before flooding of the remainder of the Natomas Basin will occur. This filling of the scour pit acts to dampen the flow propagation from the levee breach to the land side terrain.

2D to 2D Cumulative Model Changes:

In general, the Cumulative analysis shows a reduction in flood response timing to a depth of 1 foot in the southern areas of the basin. Along the I-80 corridor, for example, reductions of 86 to 80 hours (I-5 WEST), 48 to 40 hours (I-80 WEST) and 36 to 30 hours(I-80 CENTRAL) are estimated by the modeling. Later in the event, points ELKHORN, I-5 JCNT, ELKHORN WEST, POWER LINE and SAN JUAN ROAD show similar reductions in timing.

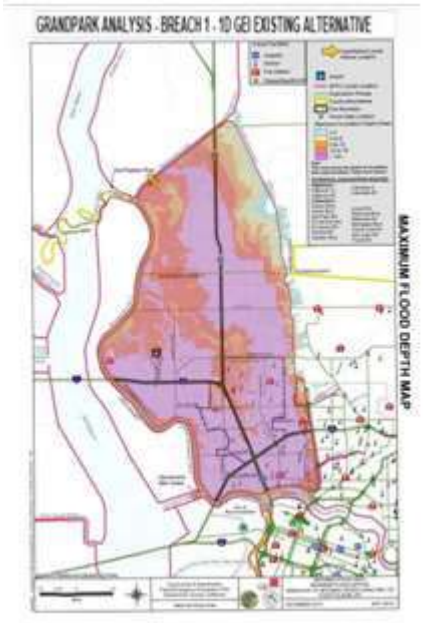
These changes result from the proposed Grandpark project culverts under Elverta Road restricting low flows below their roadway overtopping elevations along the East Drainage Canal in a South to North direction These culverts are sized for properly reducing potential flooding changes both downstream and upstream of the Grandpark project in the 100-year, 200-year design storms with and without Climate Change being factored, in order to meet Sacramento County and RD-1000 peak flood mitigation requirements.

Also, adverse timing of 1-hour (-1 hour) is less than the accuracy of this model and, therefore, this reduction in timing to 1-feet depth of flooding is not considered material.

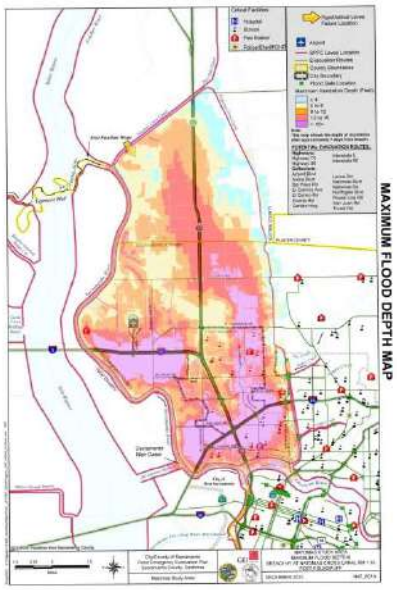
## MAXIMUM INUNDATION DEPTH:

Following is a comparison of the Maximum Inundation Depth computed for each breach scenario under each analysis. Oversized versions of these exhibits are presented at the end of this Technical Memorandum.

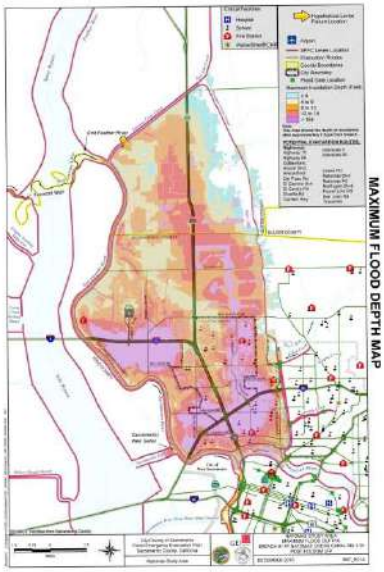
### BREACH 1: (Cross Canal Levee Breach Location- C+P Conditions)




BREACH 1 – 1D EX MAX DEPTH




BREACH 1 – 2D EX MAX DEPTH

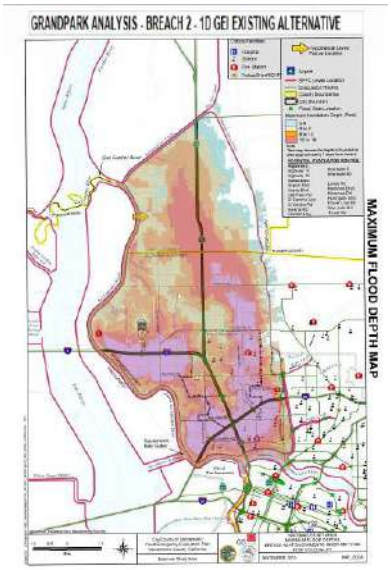



BREACH 1 – 2D CUMUL MAX DEPTH

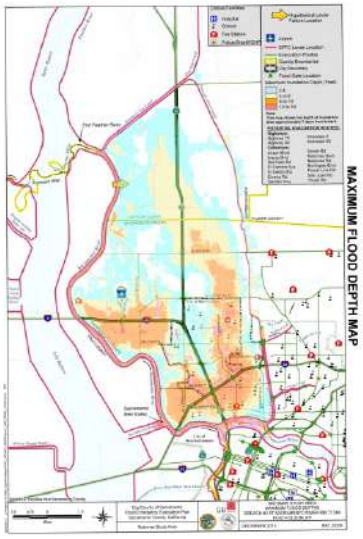
For the Breach 1 scenario, the results are similar except as follows:

- The 1D analysis floods to a greater depth than the 2D analysis.
- The existing conditions 1D analysis does not show the Sankey Gap spill path. This is because of how storage areas are represented in the 1D model.
- Grading for the embankments at the Sankey Gap flood storage facility block the flood progression until the embankments are overtopped. This causes the northwest quadrant to have less flood volume initially than the existing conditions analysis.
- Grading within the Cumulative developments shows some differences, such as lower depths where embankments are proposed and higher depths at proposed detention basins.

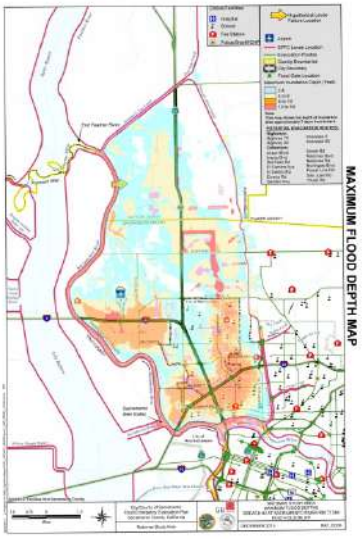
**BREACH 2: (North Sacramento River Breach Location- C+P Conditions)**




BREACH 2 – 1D EX MAX DEPTH




BREACH 2 – 2D EX MAX DEPTH



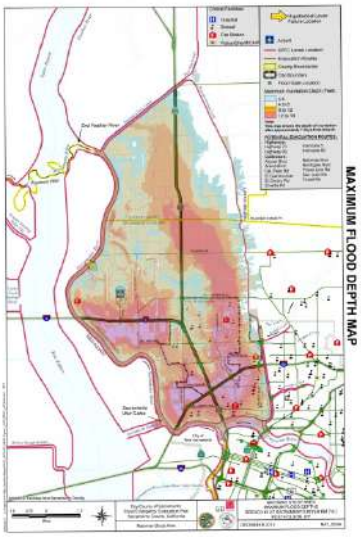

BREACH 2 – 2D CUMUL MAX DEPTH

For the Breach 2 scenario, all results report a similar final flooding depth with the exception of:

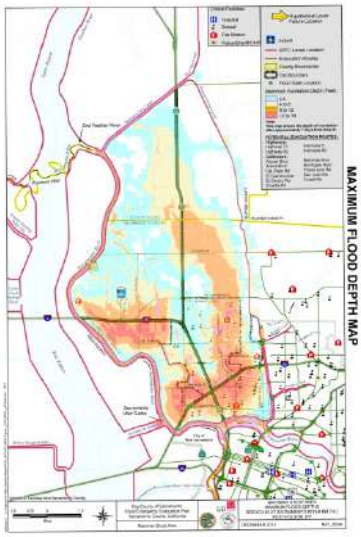
- The 1D analysis floods to a greater depth than the 2D analysis
- The existing conditions 1D analysis does not show the Sankey Gap spill path. This is because of how storage areas are represented in the 1D model.
- Grading for the embankments at the Sankey Gap flood storage facility block the flood progression until the embankments are overtopped. This causes the northwest quadrant to have less flood volume initially than the existing conditions analysis.
- Grading within the Cumulative developments shows some differences, such as lower depths where embankments are proposed and higher depths at proposed detention basins.

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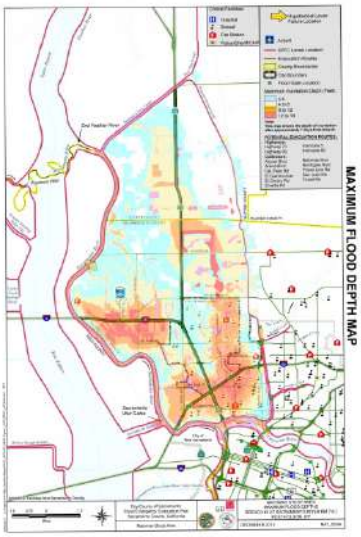
**BREACH 3: (Sacramento River Levee Near Elverta Road- C+P Conditions)**




BREACH 3 – 1D EX MAX DEPTH




BREACH 3 – 2D EX MAX DEPTH

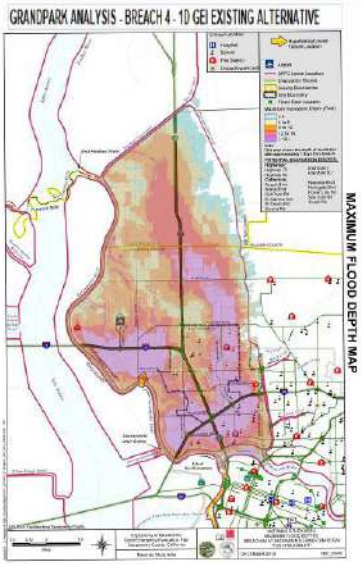
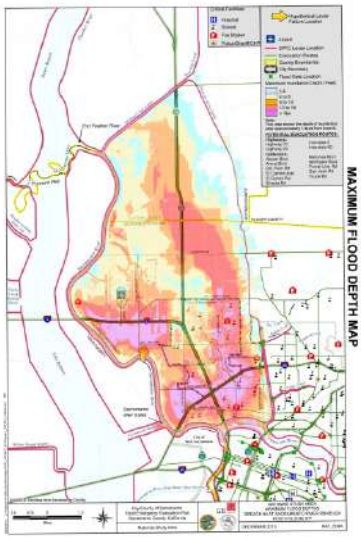
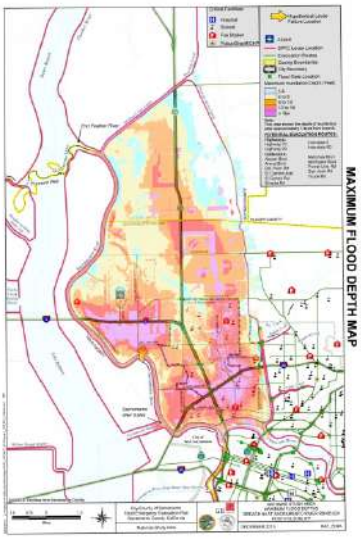



BREACH 3 – 2D CUMUL MAX DEPTH

For the Breach 3 scenario, all results report a similar final flooding depth with the exception of:

- The 1D analysis floods to a greater depth than the 2D analysis.
- The existing conditions 2D analysis showed similar maximum flooding depth as shown in the 1D analysis. Since the depth of the breach in the 2D analysis is somewhat less than that shown in the 1D analysis, the resulting breach flows are not materially less than those shown in the 2D analysis, and the resulting maximum depth of flooding is relatively unchanged from the 1D to the 2D analysis.
- The existing conditions 1D analysis does not show the Sankey Gap spill path. This is because of how storage areas are represented in the 1D model.
- Grading for the embankments at the Sankey Gap flood storage facility block the flood progression until the embankments are overtopped. This causes the northwest quadrant to have less flood volume initially than the existing conditions analysis.
- Grading within the Cumulative Developments shows some differences, such as lower depths where embankments are proposed and higher depths at proposed detention basins.

**BREACH 4: (Sacramento River Levee South of I-5- C+P Conditions)**

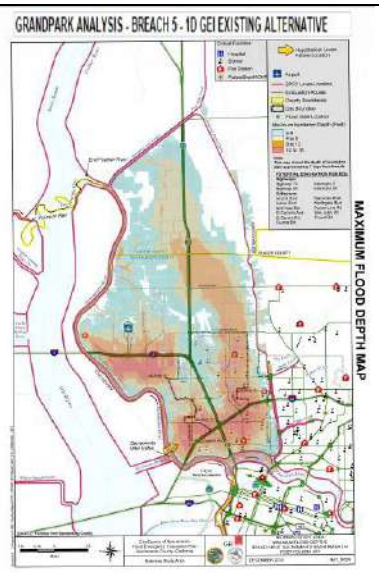
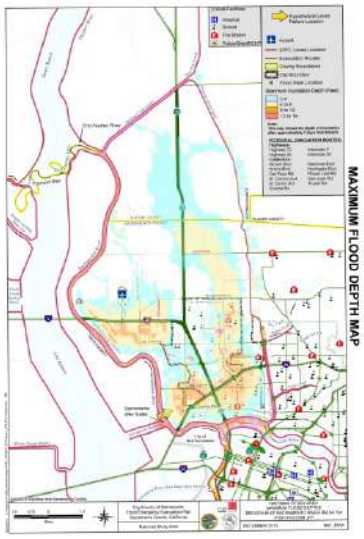
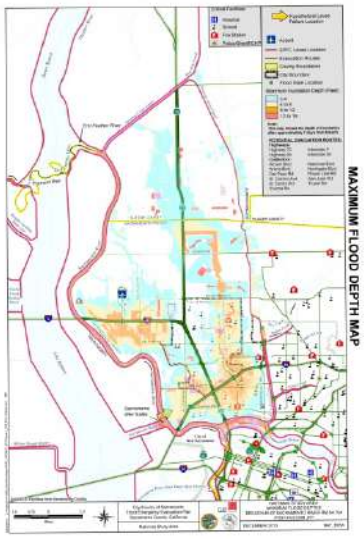
| | | |
|---|---|---|
|  |  |  |
| BREACH 4 – 1D EX MAX DEPTH | BREACH 4 – 2D EX MAX DEPTH | BREACH 4 – 2D CUMUL MAX DEPTH |

For the Breach 4 scenario, all results report a similar final flooding depth with the exception of:

- The 1D analysis floods to a greater depth than the 2D analysis.
- The existing conditions 1D analysis does not show the Sankey Gap spill path. This is because of how storage areas are represented in the 1D model.
- Grading within the Cumulative developments shows some differences, such as lower depths where embankments are proposed and higher depths at proposed detention basins.

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**BREACH 5: (Sacramento River Levee Near I-80 - C+P Conditions)**

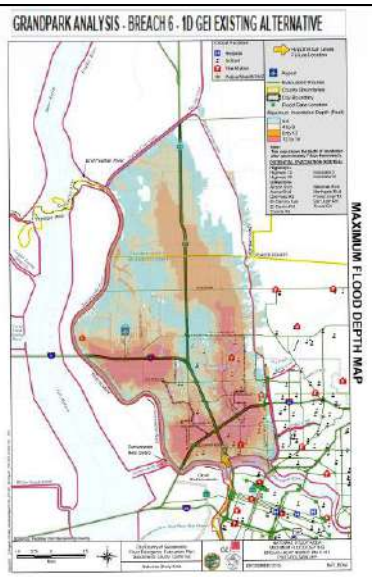
| | | |
|---|---|---|
|  |  |  |
| BREACH 5 – 1D EX MAX DEPTH | BREACH 5 – 2D EX MAX DEPTH | BREACH 5 – 2D CUMUL MAX DEPTH |

For the Breach 5 scenario, all results report a similar final flooding depth with the exception of:

- The 1D analysis floods to a greater depth than the 2D analysis
- The existing conditions 1D analysis does not show the Sankey Gap spill path. This is because of how storage areas are represented in the 1D model.
- Grading within the Cumulative developments shows some differences, such as lower depths where embankments are proposed and higher depths at proposed detention basins.

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**BREACH 6 (American River Levee Near Confluence With Sacramento River – C+P Conditions):**

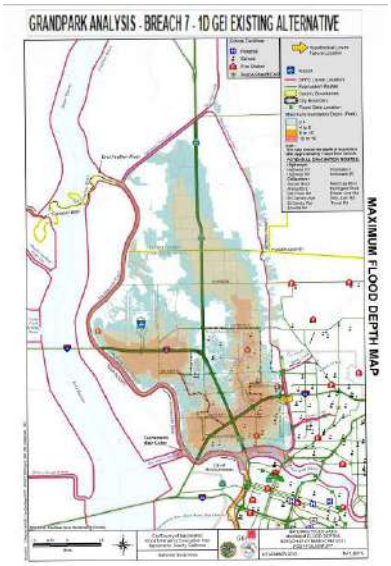
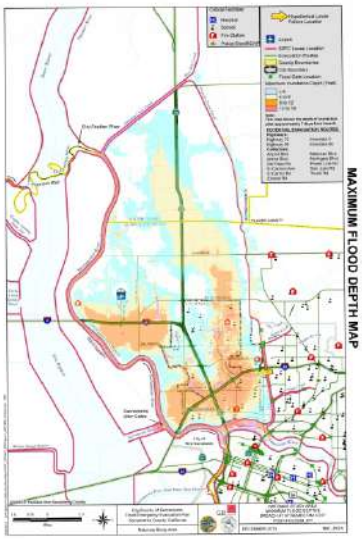
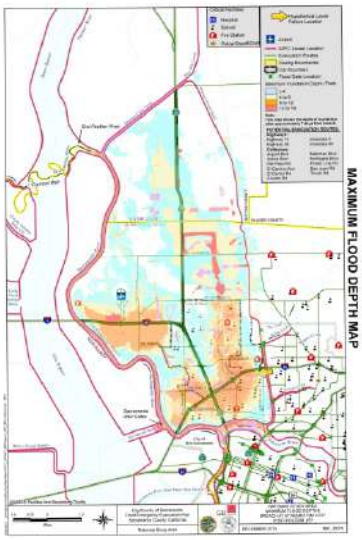
| | | |
|---|---|---|
|  |  |  |
| BREACH 6 – 1D EX MAX DEPTH | BREACH 6 – 2D EX MAX DEPTH | BREACH 6 – 2D CUMUL MAX DEPTH |

For the Breach 6 scenario, for the 2D analyses report a similar final flooding depth. However:

- The 1D analysis floods to a greater depth than the 2D analysis.
- The existing conditions 1D analysis showed a much higher maximum flooding depth than the 2D analysis. This is result of greater breach flows being allowed through a deeper breach in the 1D model as compared to the 2D model resulting in the reduced maximum depth of flooding from the 2D analysis.
- The existing conditions 1D analysis does not show the Sankey Gap spill path. This is because of how storage areas are represented in the 1D model.
- Grading within the Cumulative developments shows some differences, such as lower depths where embankments are proposed and higher depths at proposed detention basins.
- Due to available flood capacity within the Grand Parkway, lower maximum flood depths occur within the southwestern areas and areas north of Elkhorn Blvd.

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## BREACH 7 (NEMDC Levee Near I-80 – C+P Conditions)

| | | |
|---|---|---|
|  |  |  |
| BREACH 7 – 1D EX MAX DEPTH | BREACH 7 – 2D EX MAX DEPTH | BREACH 7 – 2D CUMUL MAX DEPTH |

For the Breach 7 scenario, all results report a similar final flooding depth with the exception of:

- The 2D analysis floods to a slightly greater depth than the 1D Analysis (0.10 feet to 0.15 feet greater depth depending upon location within the Natomas Basin. This slight increase is within modeling tolerances and is not deemed material for purposes of this analysis).
- The existing conditions 1D analysis does not show the Sankey Gap spill path. This is because of how storage areas are represented in the 1D model.
- Grading within the Cumulative developments shows some differences, such as lower depths where embankments are proposed and higher depths at proposed detention basins.

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## MAXIMUM STAGE OF FLOODING COMPARISON

A comparison of Maximum Flooding Water Surface Elevations for the Grandpark and Upper Westside Development Areas, by breach scenario is shown in Table 8. For this table the location of the East Drainage Canal Crossing of Elverta Road was selected for the Grandpark project, and a central point within the Upper Westside project was selected.

**TABLE 8**
**Maximum Flooding Water Surface Elevations**
(Existing v. Cumulative Conditions)

| BREACH SCENARIO | GEI 1D Existing | UWS Existing | UWS Cumulative | Grandpark Existing | Grandpark Cumulative |
|---|---|---|---|---|---|
| 1 – Natomas Cross Canal | 37.56 | 31.66 | 31.66 | 31.66 | 31.66 |
| 2 – Sac. River North | 31.80 | 23.81 | 23.84 | 23.81 | 23.84 |
| 3 – Sac River North Central | 29.19 | 24.95 | 24.96 | 24.95 | 24.96 |
| 4 – Sac River Central. | 32.28 | 29.60 | 29.61 | 29.60 | 29.61 |
| 5 – Sac River South | 26.29 | 20.64 | 20.91 | 20.64 | 20.91 |
| 6 – American River | 27.06 | 18.21 | 18.38 | 18.21 | 18.38 |
| 7 – NEMDC | 23.16 | 23.29 | 23.31 | 23.29 | 23.31 |

As shown in Table 8, one can easily conclude that, for all intents and purposes, grading of the Upper Westside and Grandpark projects (and other Cumulative projects included in the analysis) is generally accomplished on a "net-zero" impact basis to total potential flooding in a levee breach. That is to say, grading of the project will result in "balanced" on-site grading plans – with little or no import or export of dirt from or into the Natomas Basin thus having minimal adverse effect on the maximum flood stage within the Natomas Basin.

Accordingly, flood storage volumes and their aerial distribution within the Natomas Basin have and will remain relatively unchanged over time. While localized, minor changes in the aerial extent of catastrophic flooding may occur on a project-by-project basis, the distribution of maximum depth of flooding on a basin-wide basis will not vary measurably over time.

The peak timing of the maximum depth of flooding within the basin will sometimes occur at a time closer to the peak timing of the flood outside the basin. Sometimes, these two peaks will occur at times more distant. The peak flooding of the all breach scenarios occurs after the peak flooding in the exterior river system in all breach scenarios studied herein. Thus when the timing becomes shorter, a higher peak stage in the basin will occur and when the peak timing within the basin is more delayed the peak stage inside the basin at equilibrium with the exterior rivers will show as being reduced.

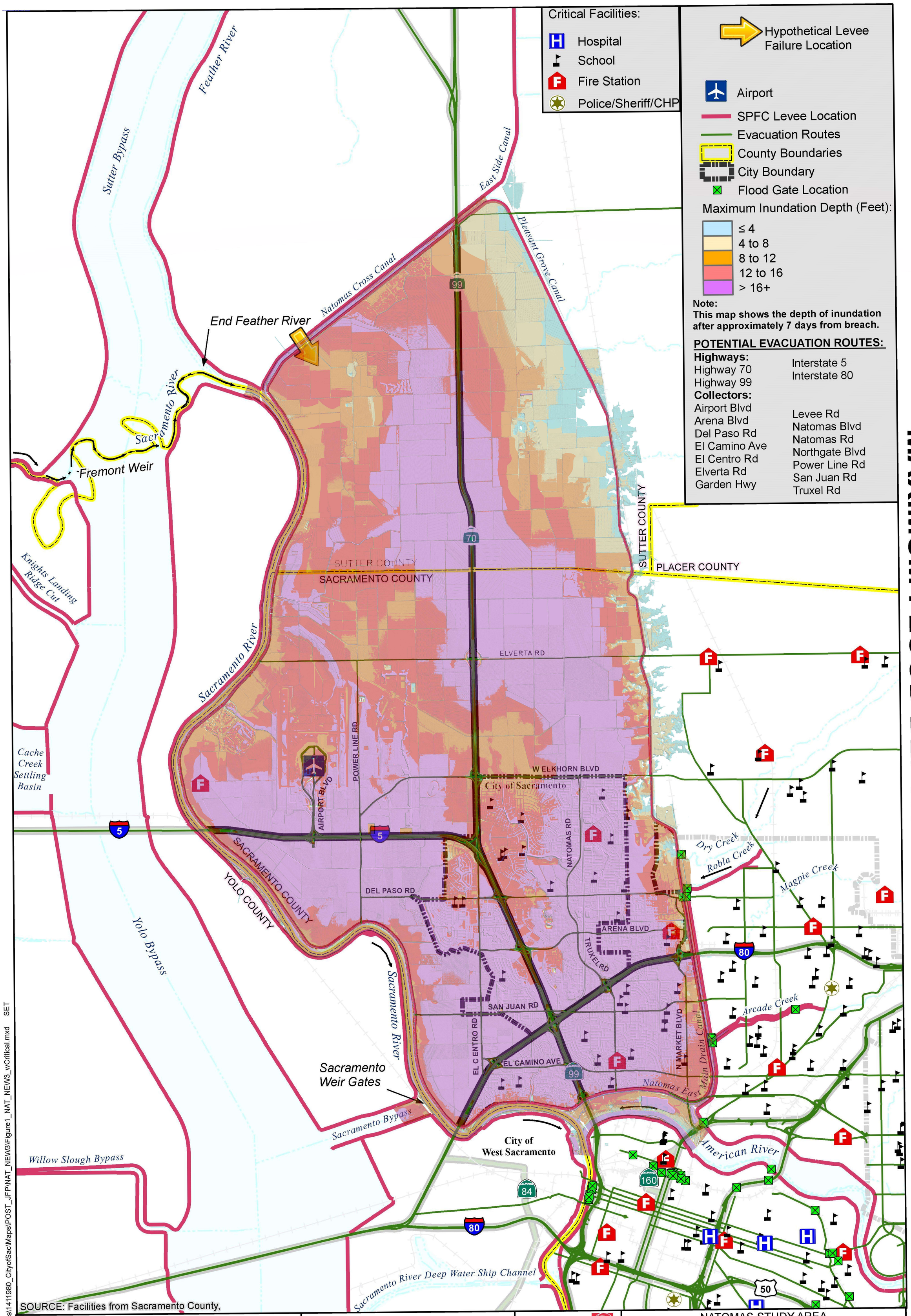
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**CONCLUSIONS:**

1. The addition of a scour pit did allow the levee breach to form to the full depth and height. However, this change in the model did not increase the amount of flow significantly to the interior of the basin.
2. The review of landside nearby lowest elevations that the breach could flow to as an exit from the weir location did contribute to some higher flow rates in a few areas.
3. The addition of a scour pit delayed some flow delivery and reduced overall peak flows. This is likely because during the breach formation, the scour pit would form at a water surface below the exterior river water surface as there are head losses for the flow passing through the breach. The lower water surface elevation of the scour pit delivering water to the landside terrain therefore had less potential energy to drive the flood waters to spill over the terrain. Also because the scour pit flood elevation is above the adjacent terrain elevations, the head differential from outside the basin to the inside basin (at the Scour Pit) is reduced (less than the difference from the outside water surface to the lowest elevation in the storage area. Also, because the scour pit flood elevation is above the terrain elevations, the head to drive flood waters through which the breach operates was less than when near submergence was modeled
4. The changes to the model generally resulted in less flooding depths and longer flood timings for all breach locations studied. This suggests that for total flow and timing, the importance of the breach formation depths was not as significant as the elevations of the landside terrain the flood waters eventually have to pass over after passing through a breach and scour pit.
5. Finally the changes in timing in the two 2D models, Existing Conditions and Cumulative Conditions stayed similar to the previous analysis and was not sensitive the issues raised in the GEI Comments.

# OVERSIZED EXHIBITS

# BREACH 1 - 1D - EXISTING




SOURCE: Facilities from Sacramento County,

1.5 0.75 0 1.5
Miles

N W E S

City/County of Sacramento
Flood Emergency Evacuation Plan
Sacramento County, California

Natomas Study Area

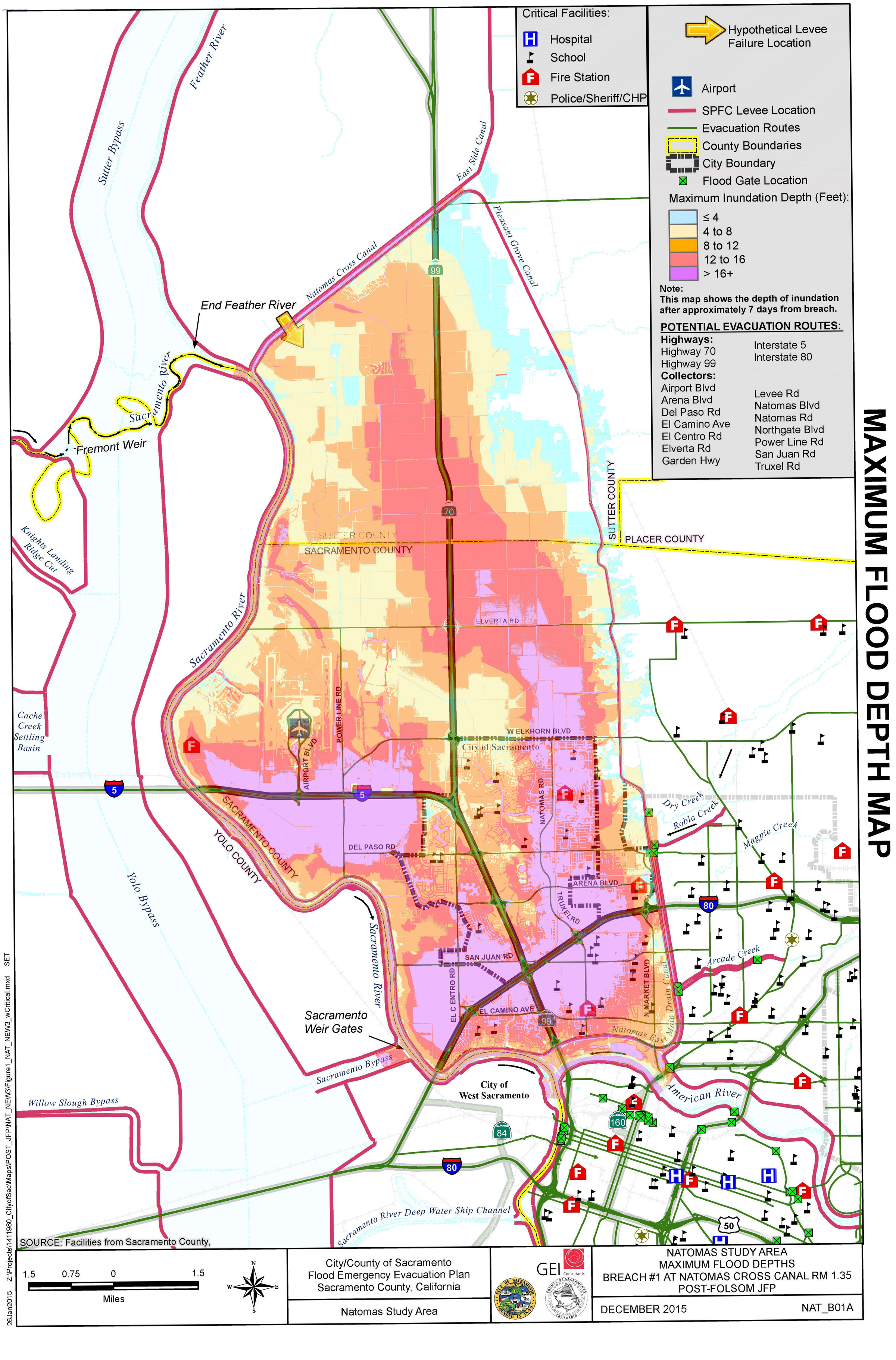
GEI Consultants

NATOMAS STUDY AREA
MAXIMUM FLOOD DEPTHS
BREACH #1 AT NATOMAS CROSS CANAL RM 1.35
POST-FOLSOM JFP

DECEMBER 2015 NAT_B01A

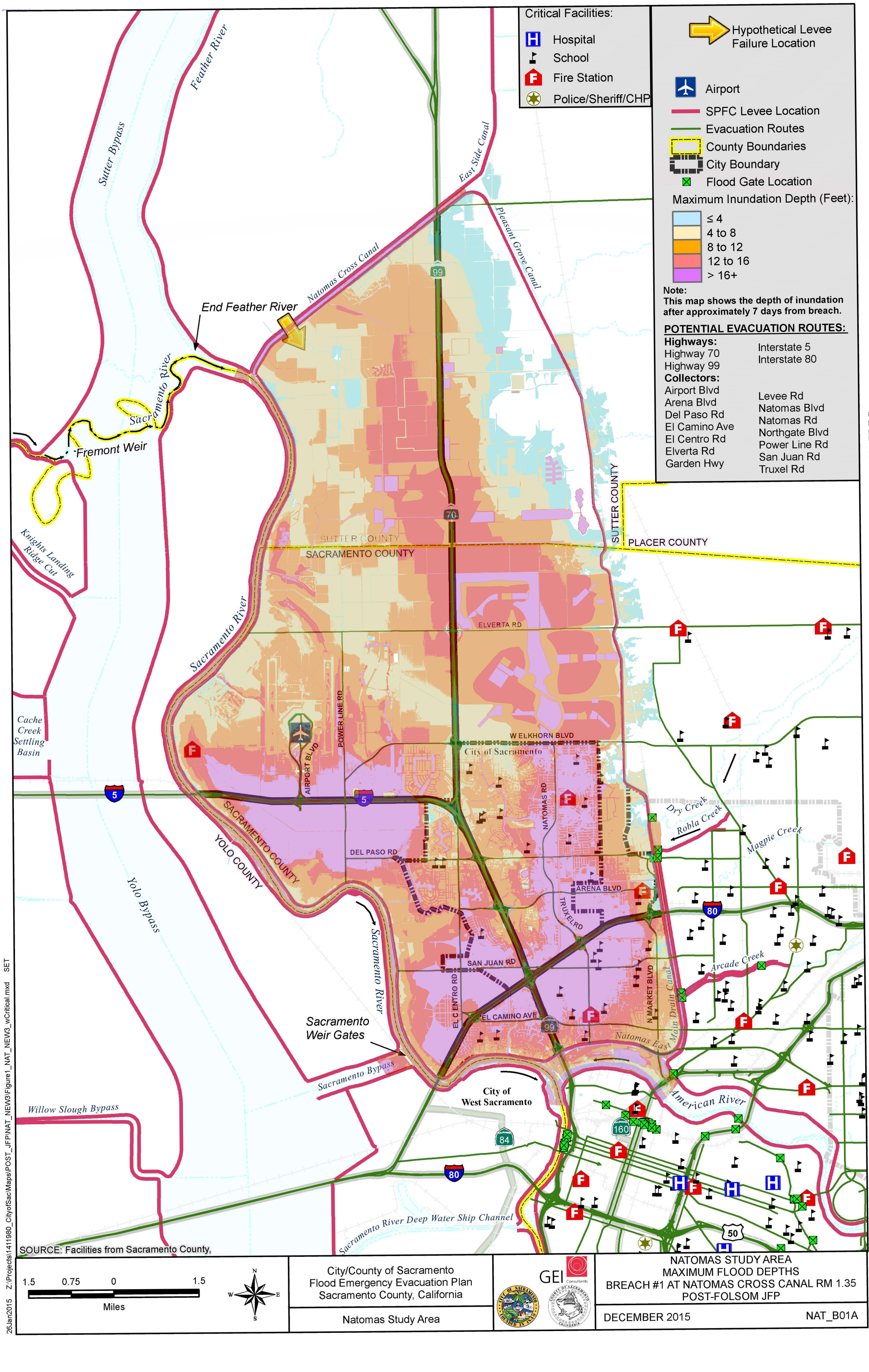
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# BREACH 1 - 2D - EXISTING

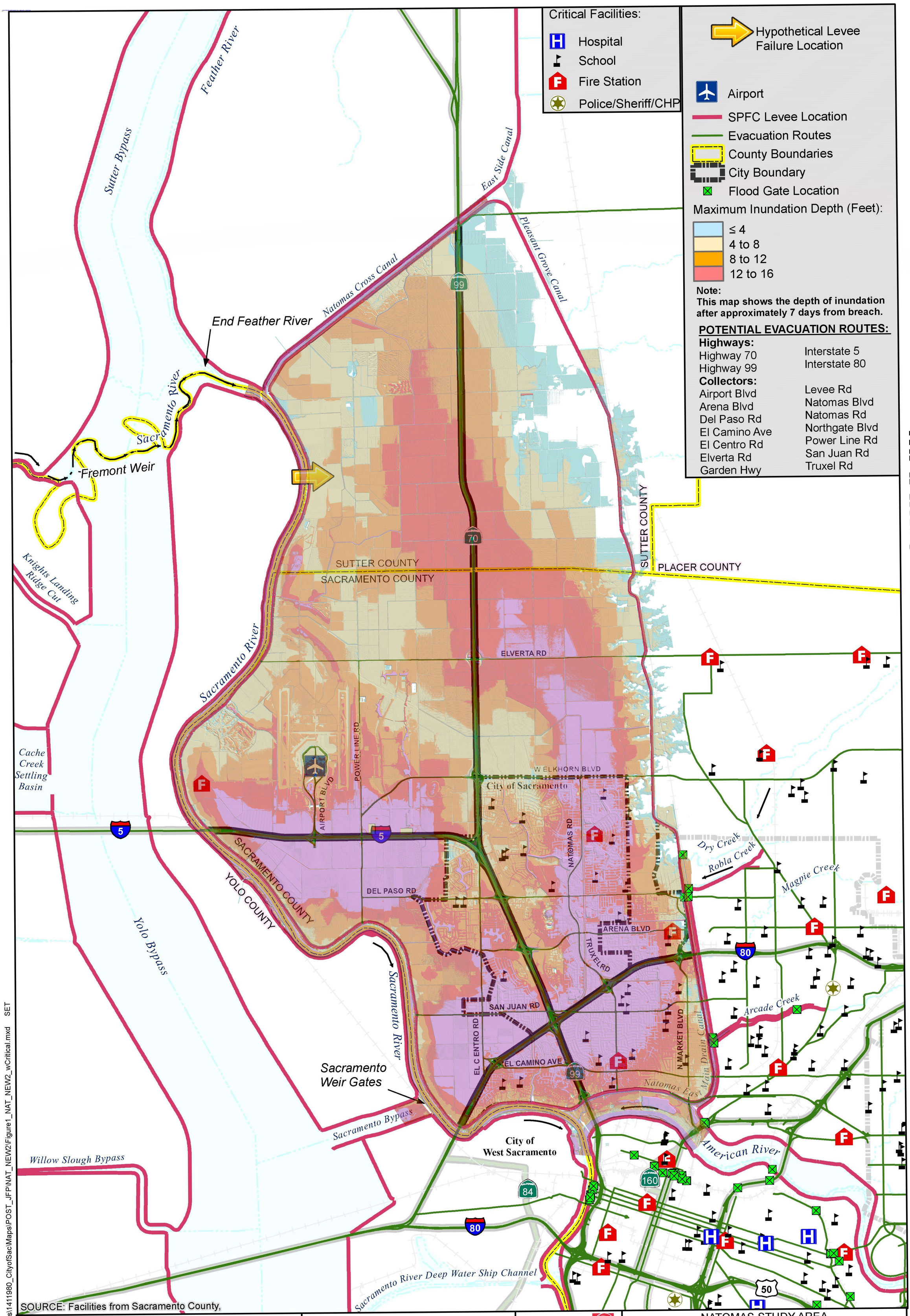



MAXIMUM FLOOD DEPTH MAP

# BREACH 1 - 2D - CUMULATIVE



# BREACH 2 - 1D - EXISTING




MAXIMUM FLOOD DEPTH MAP

SOURCE: Facilities from Sacramento County,

1.5 0.75 0 1.5
Miles

N W E S

City/County of Sacramento
Flood Emergency Evacuation Plan
Sacramento County, California

Natomas Study Area

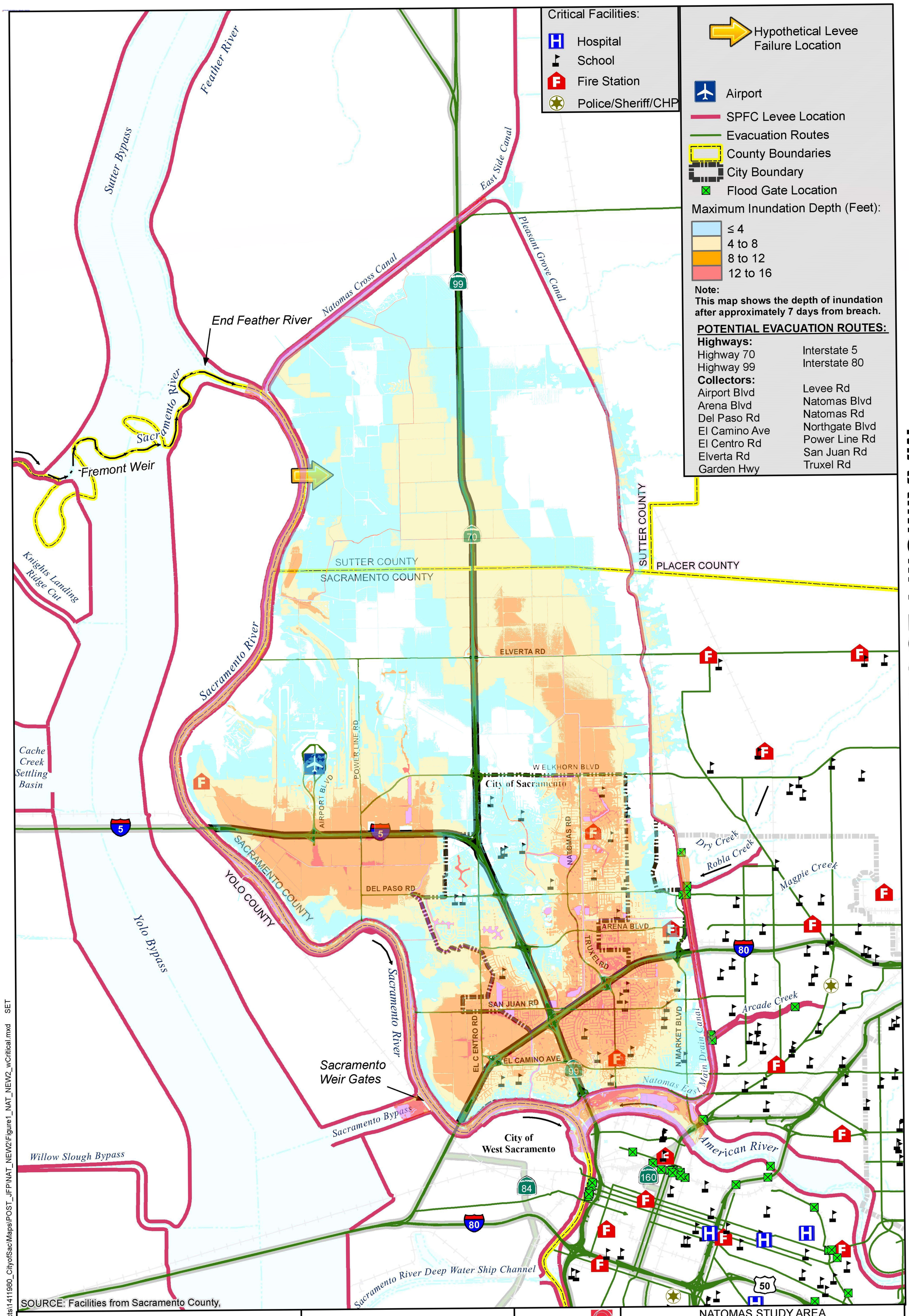
GEI Consultants

NATOMAS STUDY AREA
MAXIMUM FLOOD DEPTHS
BREACH #2 AT SACRAMENTO RIVER RM 77.584
POST-FOLSOM JFP

DECEMBER 2015 NAT_B02A

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# BREACH 2 - 2D - EXISTING




MAXIMUM FLOOD DEPTH MAP

SOURCE: Facilities from Sacramento County,

1.5 0.75 0 1.5
Miles

N W E S

City/County of Sacramento
Flood Emergency Evacuation Plan
Sacramento County, California

Natomas Study Area

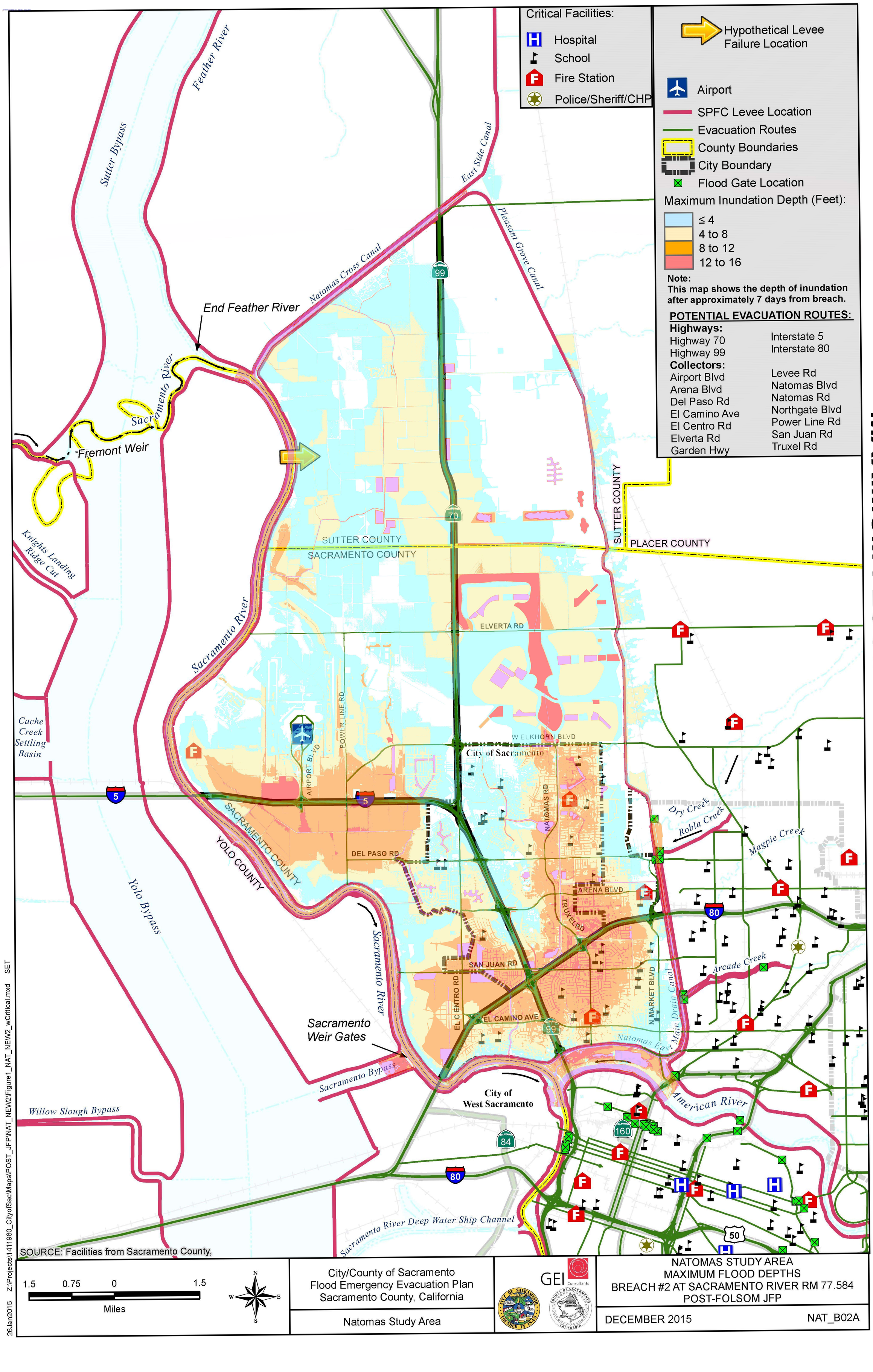
GEI Consultants

NATOMAS STUDY AREA
MAXIMUM FLOOD DEPTHS
BREACH #2 AT SACRAMENTO RIVER RM 77.584
POST-FOLSOM JFP

DECEMBER 2015 NAT_B02A

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# BREACH 2 - 2D - CUMULATIVE




MAXIMUM FLOOD DEPTH MAP

SOURCE: Facilities from Sacramento County,

1.5 0.75 0 1.5
Miles

N W E S

City/County of Sacramento
Flood Emergency Evacuation Plan
Sacramento County, California

Natomas Study Area

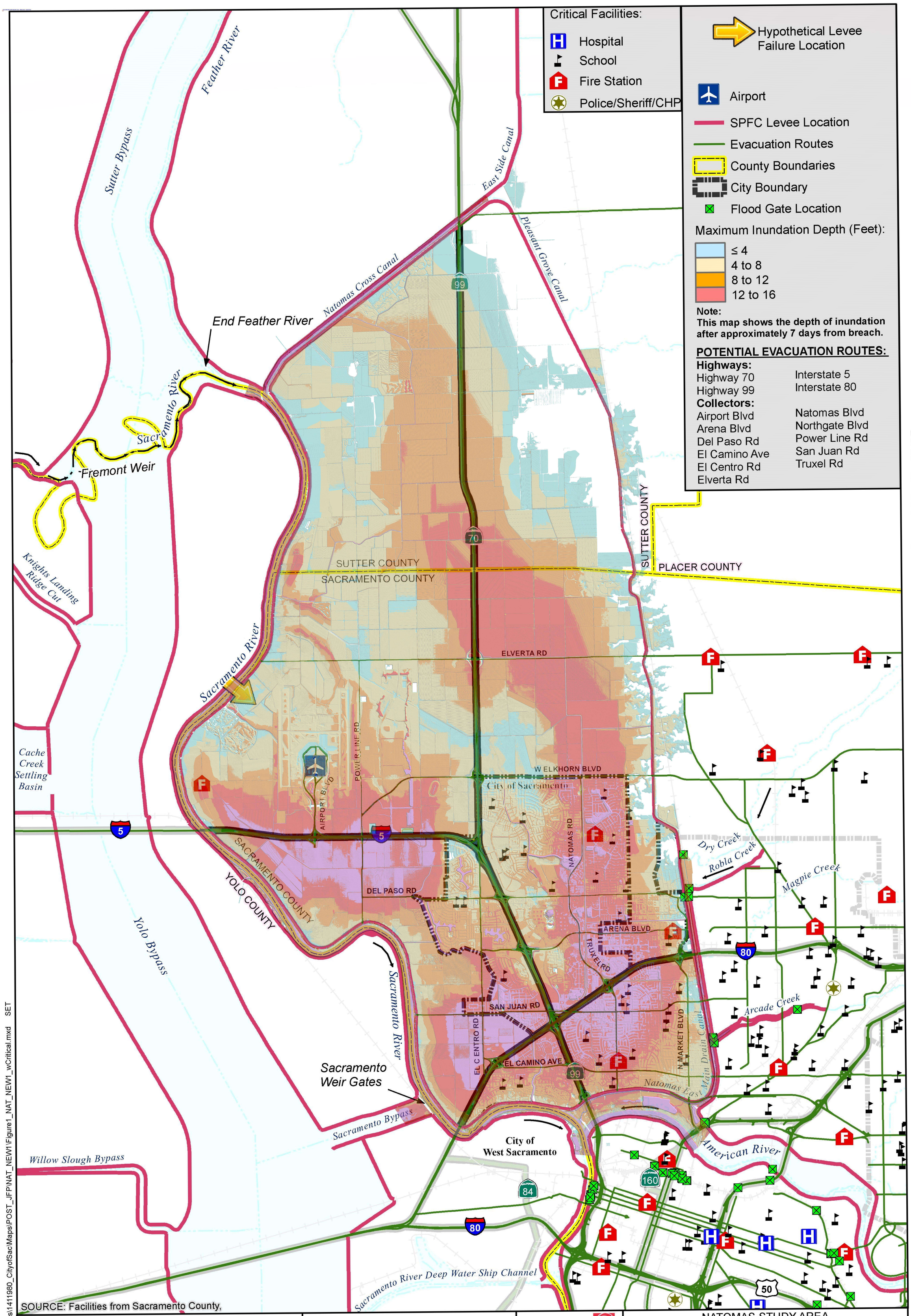
GEI Consultants

NATOMAS STUDY AREA
MAXIMUM FLOOD DEPTHS
BREACH #2 AT SACRAMENTO RIVER RM 77.584
POST-FOLSOM JFP

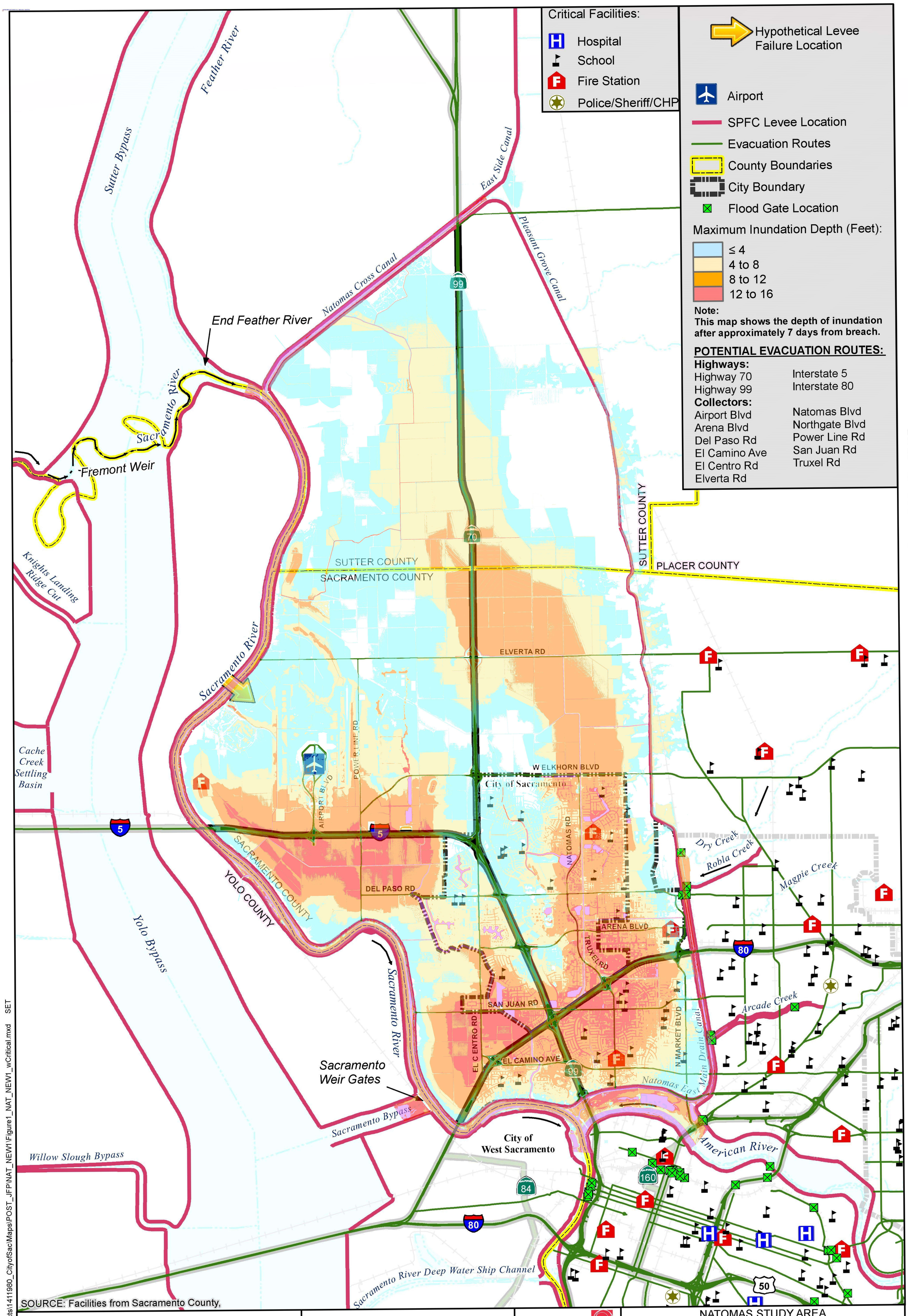
DECEMBER 2015 NAT_B02A

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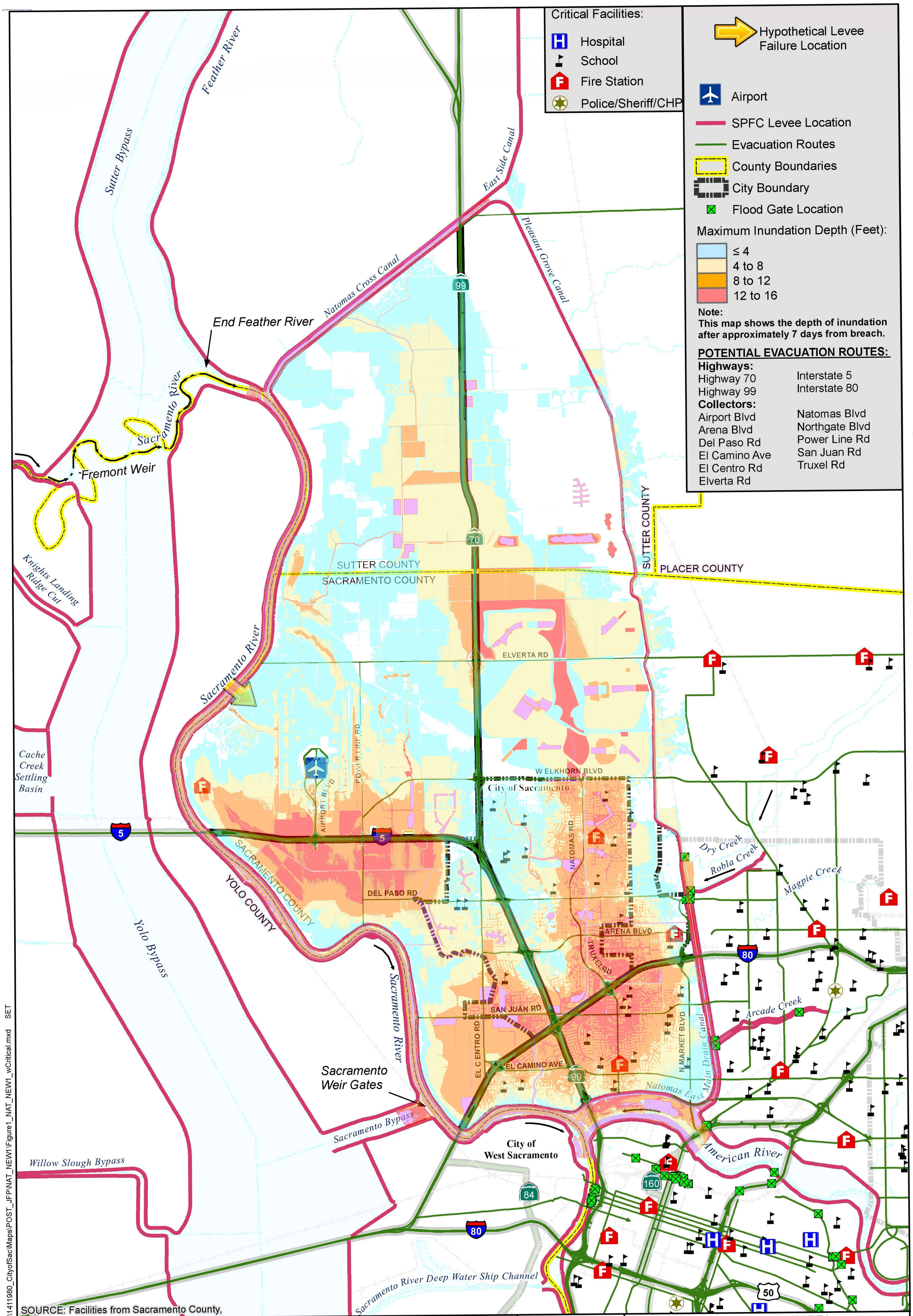


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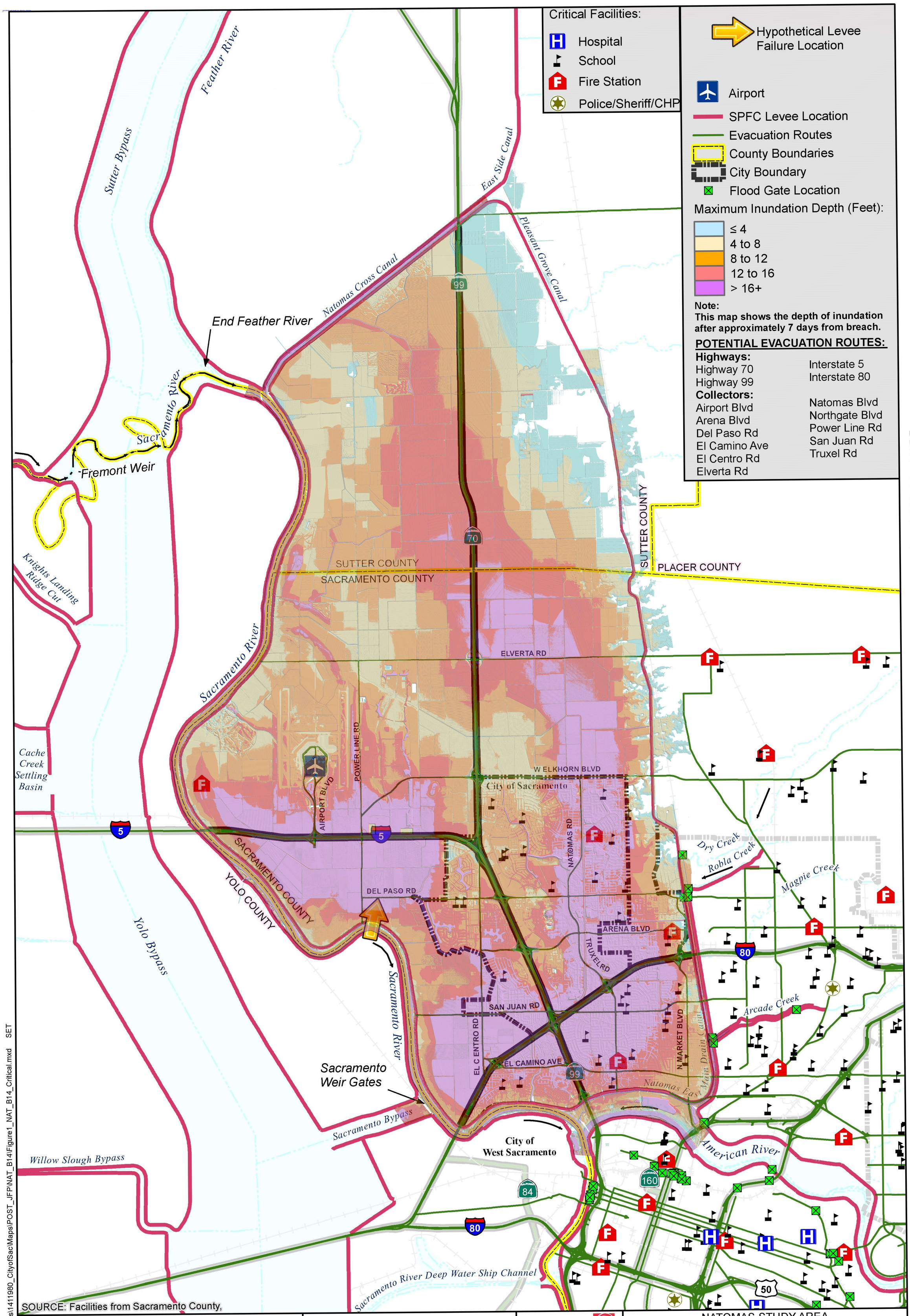



MAXIMUM FLOOD DEPTH MAP

# BREACH 3 - 2D - CUMULATIVE



# BREACH 4 - 1D - EXISTING




MAXIMUM FLOOD DEPTH MAP

SOURCE: Facilities from Sacramento County,

1.5 0.75 0 1.5
Miles

N W E S

City/County of Sacramento
Flood Emergency Evacuation Plan
Sacramento County, California

Natomas Study Area

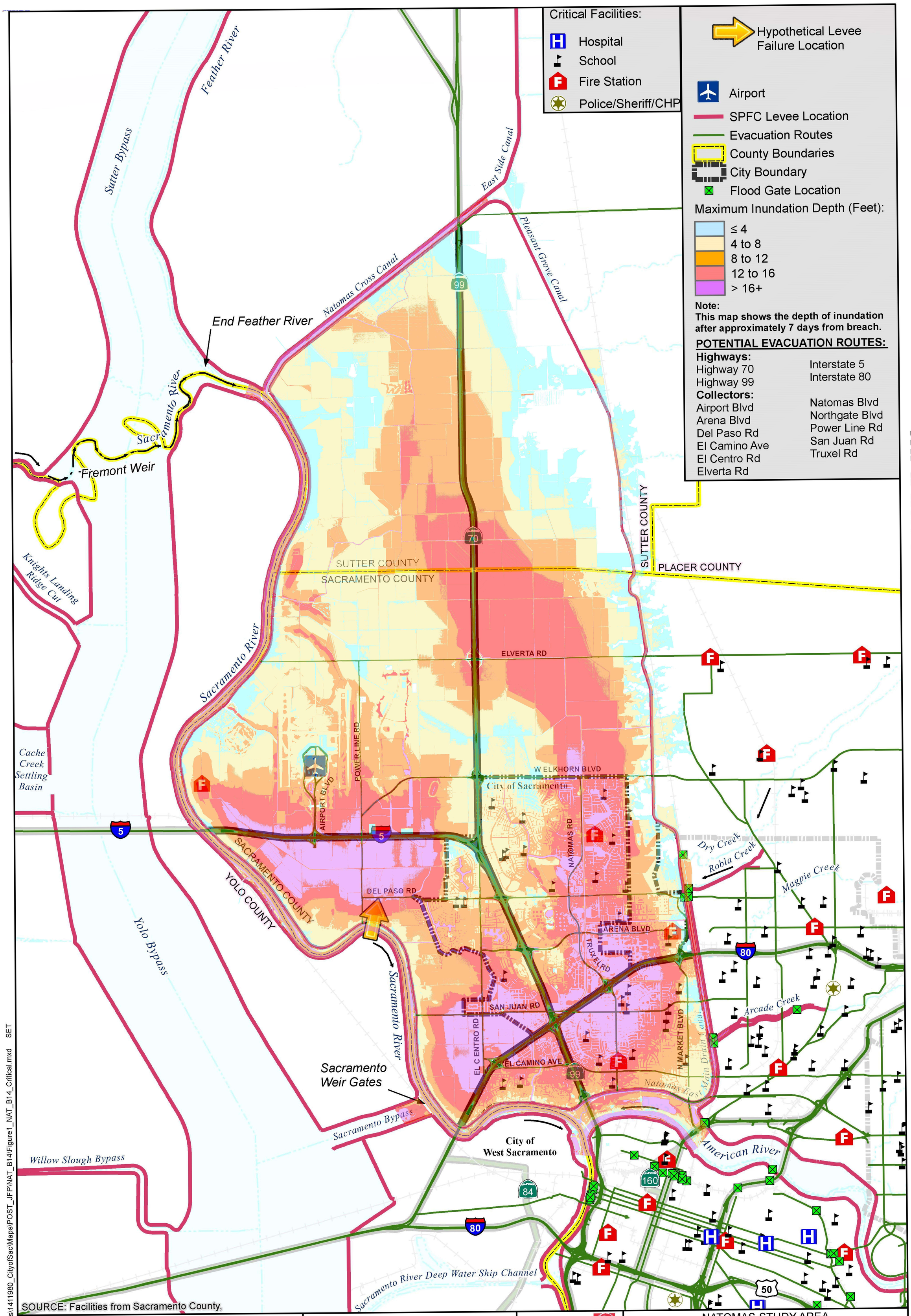
GEI Consultants

NATOMAS STUDY AREA
MAXIMUM FLOOD DEPTHS
BREACH #4 AT SACRAMENTO RIVER RM 66.924
POST-FOLSOM JFP

DECEMBER 2015 NAT_B04A

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# BREACH 4 - 2D - EXISTING




MAXIMUM FLOOD DEPTH MAP

SOURCE: Facilities from Sacramento County,

1.5 0.75 0 1.5
Miles

N W E S

City/County of Sacramento
Flood Emergency Evacuation Plan
Sacramento County, California

Natomas Study Area

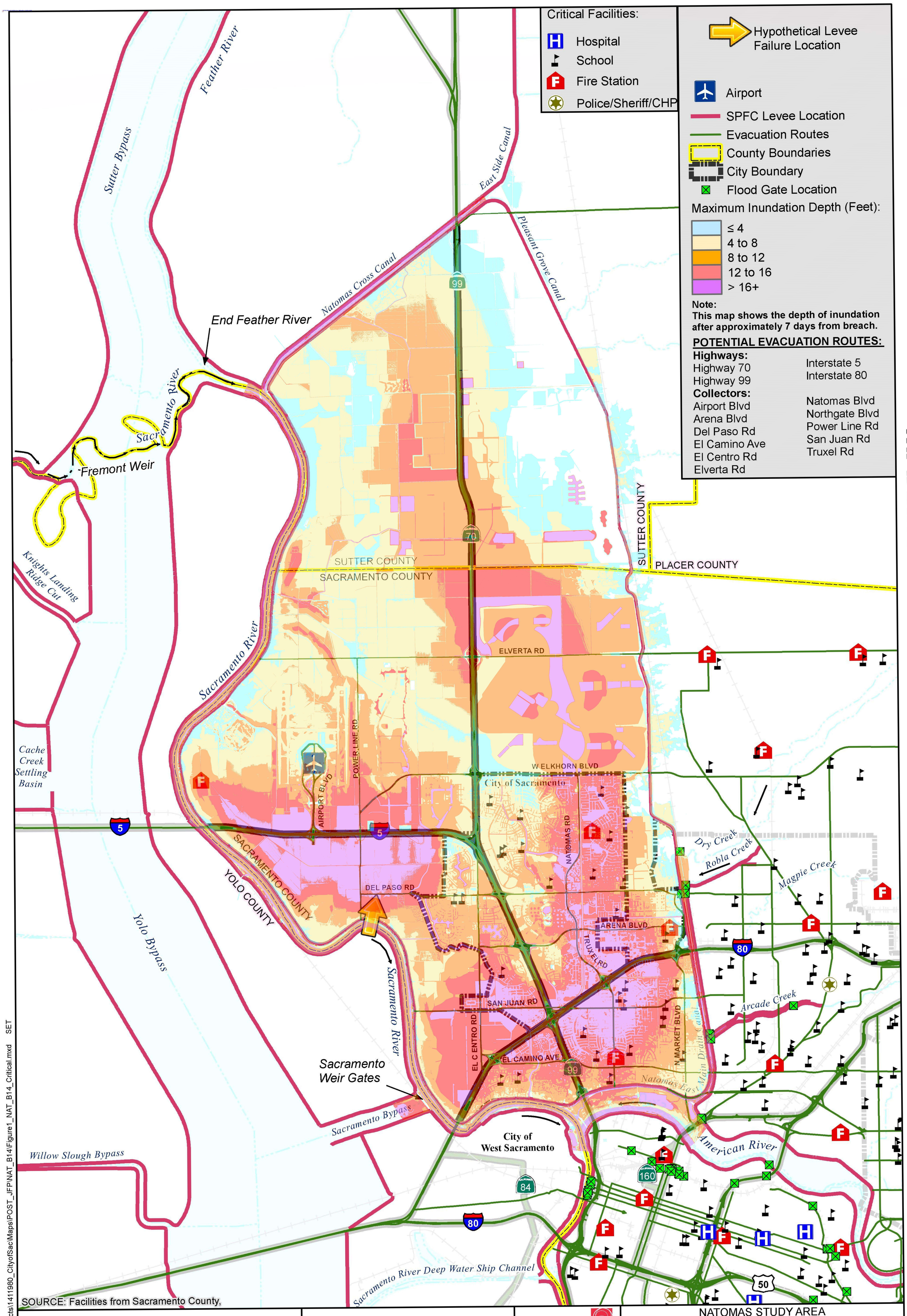
GEI Consultants

NATOMAS STUDY AREA
MAXIMUM FLOOD DEPTHS
BREACH #4 AT SACRAMENTO RIVER RM 66.924
POST-FOLSOM JFP

DECEMBER 2015 NAT_B04A

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# BREACH 4 - 2D - CUMULATIVE




MAXIMUM FLOOD DEPTH MAP

SOURCE: Facilities from Sacramento County,

1.5 0.75 0 1.5
Miles

N W E S

City/County of Sacramento
Flood Emergency Evacuation Plan
Sacramento County, California

Natomas Study Area

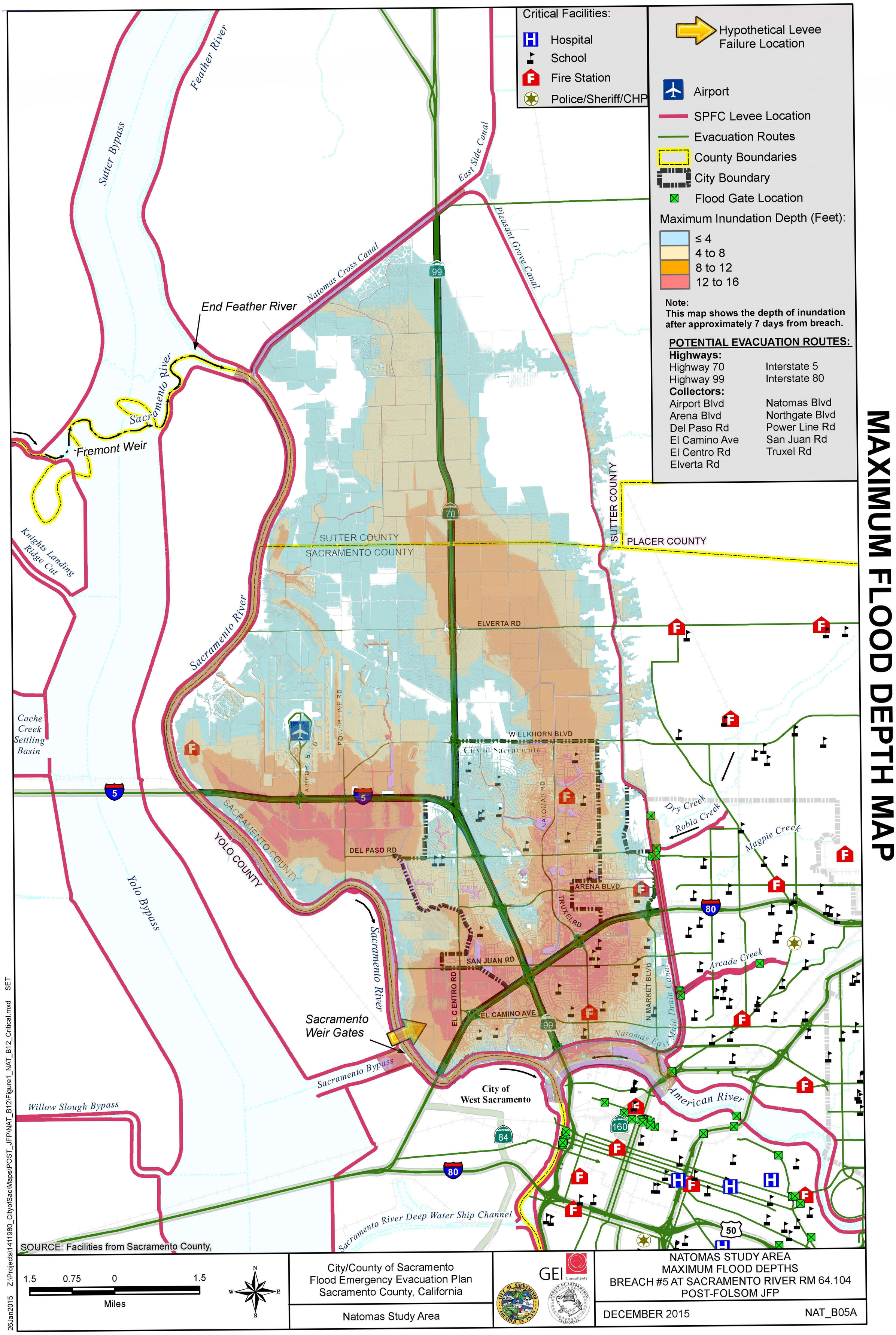
GEI Consultants

NATOMAS STUDY AREA
MAXIMUM FLOOD DEPTHS
BREACH #4 AT SACRAMENTO RIVER RM 66.924
POST-FOLSOM JFP

DECEMBER 2015 NAT_B04A

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# BREACH 5 - 1D - EXISTING




MAXIMUM FLOOD DEPTH MAP

SOURCE: Facilities from Sacramento County,

1.5 0.75 0 1.5
Miles

N W E S

City/County of Sacramento
Flood Emergency Evacuation Plan
Sacramento County, California

Natomas Study Area

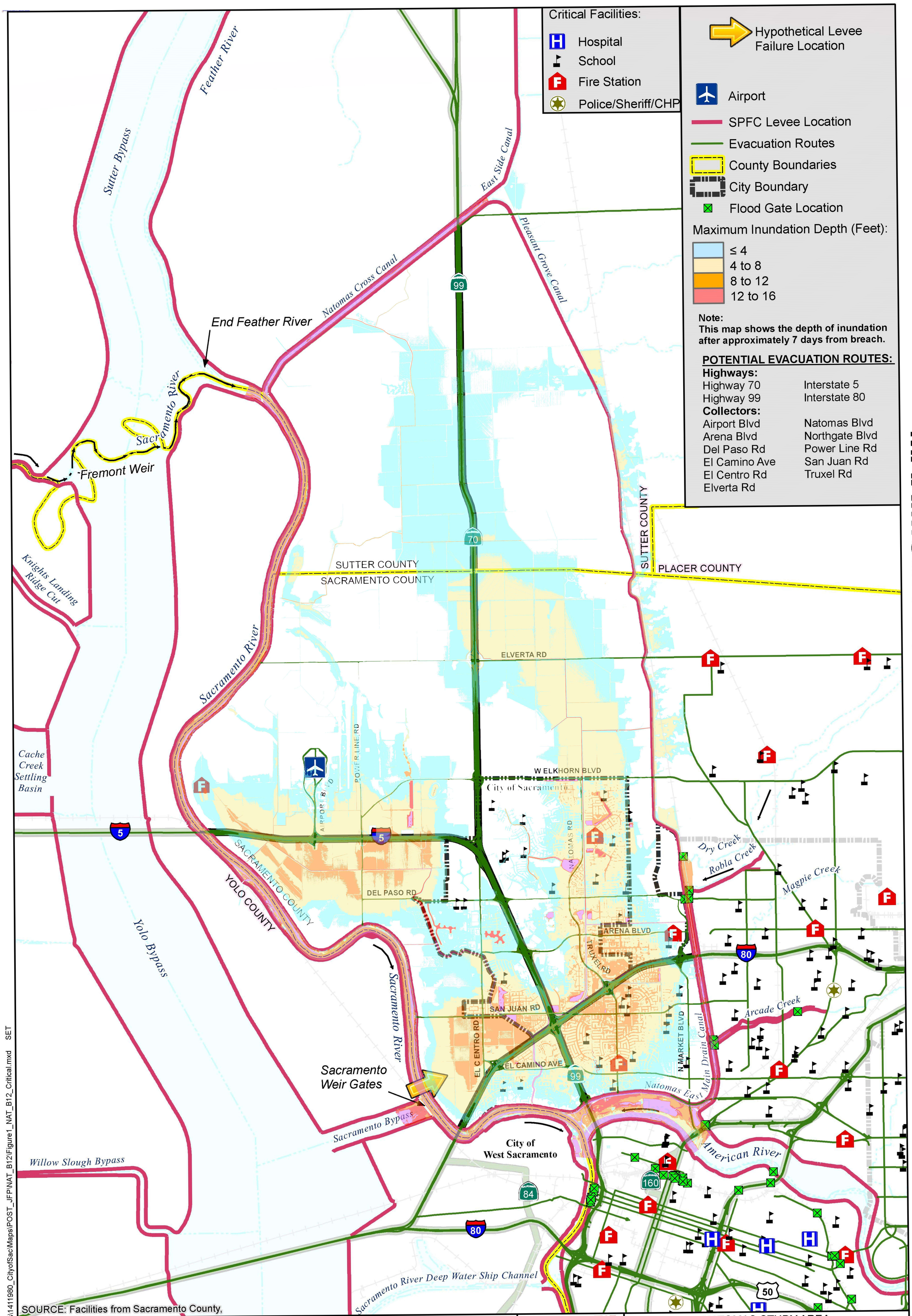
GEI Consultants

NATOMAS STUDY AREA
MAXIMUM FLOOD DEPTHS
BREACH #5 AT SACRAMENTO RIVER RM 64.104
POST-FOLSOM JFP

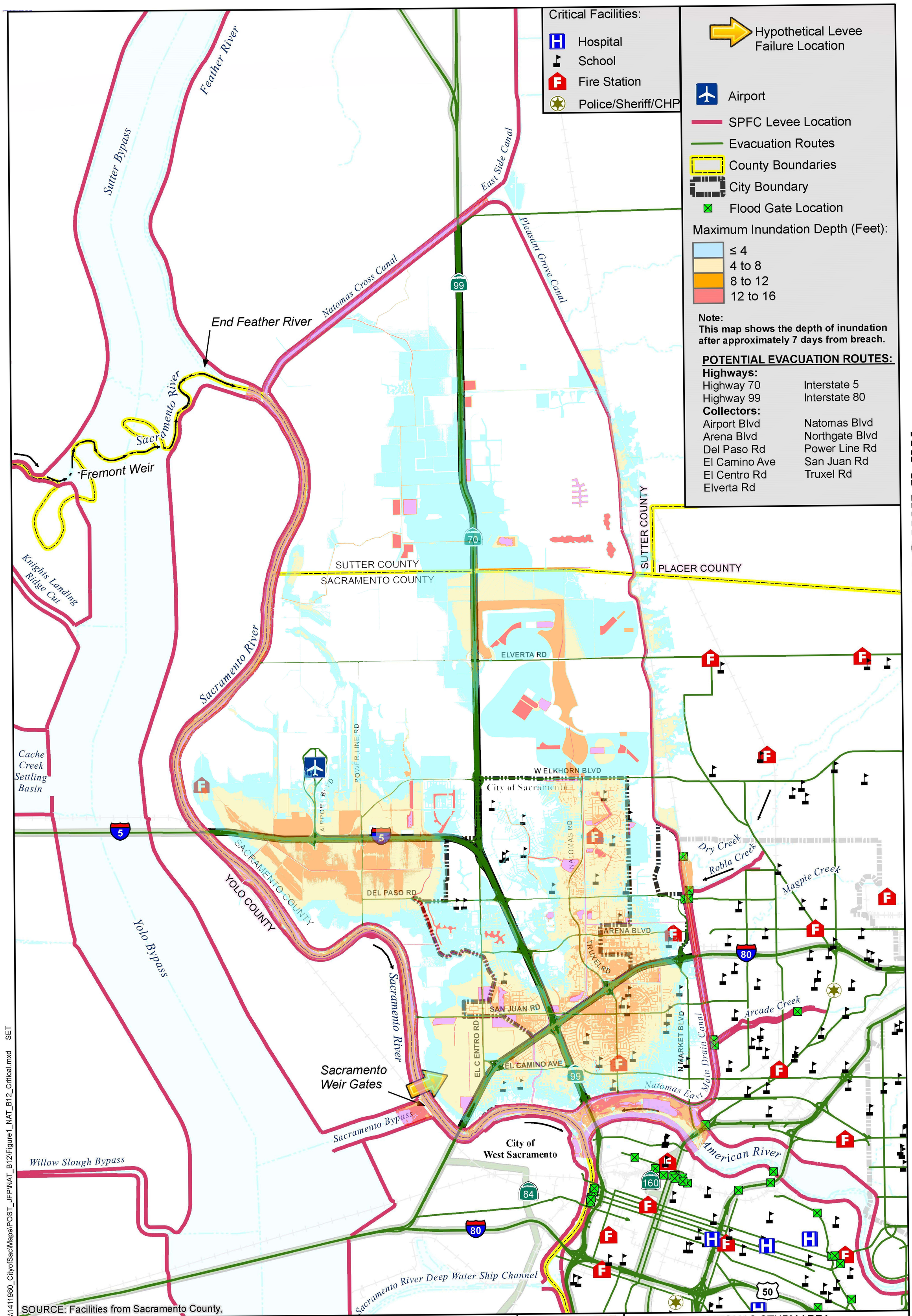
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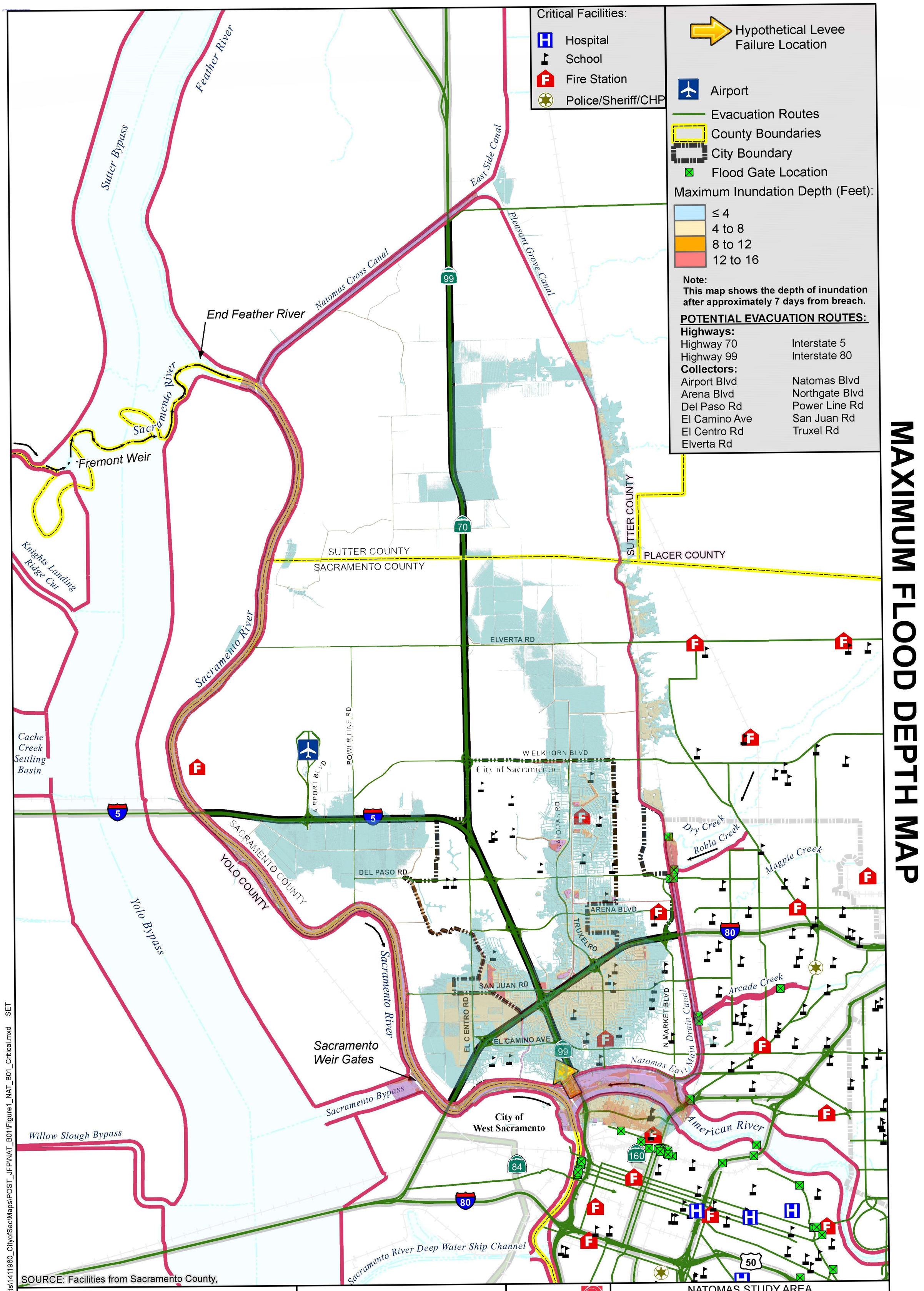
# BREACH 5 - 2D - EXISTING



# BREACH 5 - 2D - CUMULATIVE



# BREACH 6 - 1D - EXISTING




MAXIMUM FLOOD DEPTH MAP

City/County of Sacramento
Flood Emergency Evacuation Plan
Sacramento County, California

Natomas Study Area

GEI Consultants

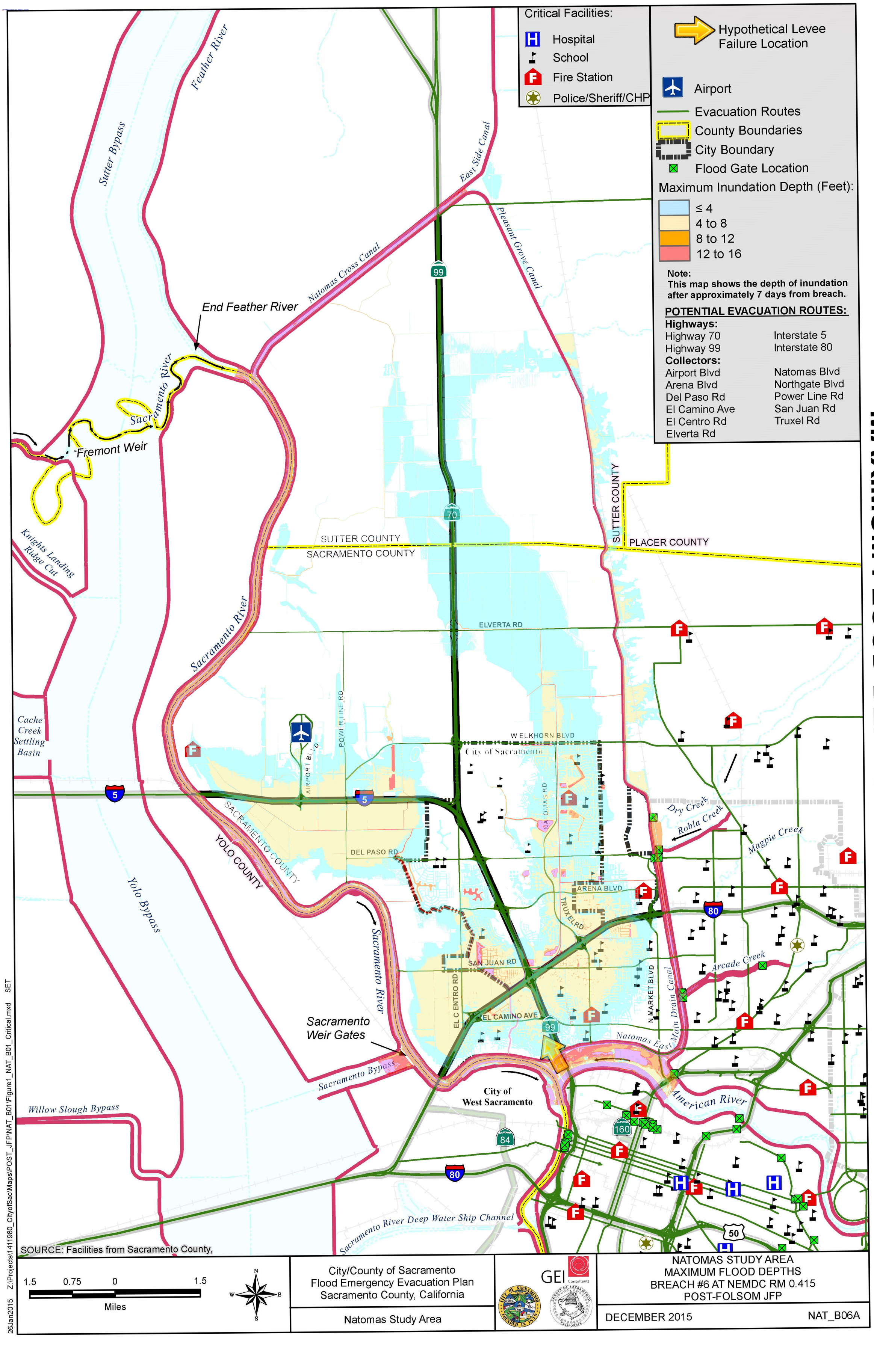
NATOMAS STUDY AREA
MAXIMUM FLOOD DEPTHS
BREACH #6 AT NEMDC RM 0.415
POST-FOLSOM JFP

DECEMBER 2015

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# BREACH 6 - 2D - EXISTING




MAXIMUM FLOOD DEPTH MAP

SOURCE: Facilities from Sacramento County,

1.5 0.75 0 1.5
Miles

N W E S

City/County of Sacramento
Flood Emergency Evacuation Plan
Sacramento County, California

Natomas Study Area

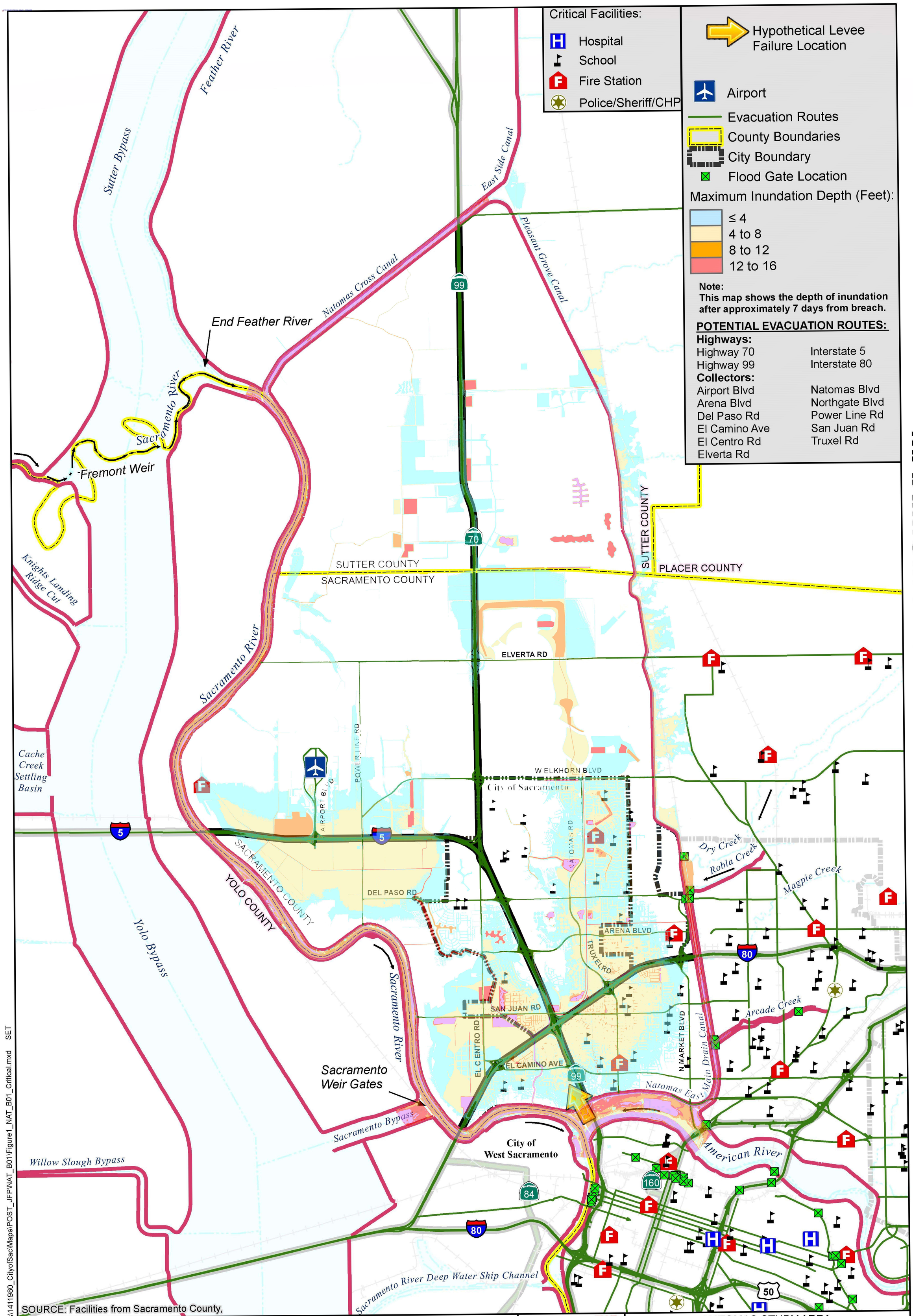
GEI Consultants

NATOMAS STUDY AREA
MAXIMUM FLOOD DEPTHS
BREACH #6 AT NEMDC RM 0.415
POST-FOLSOM JFP

DECEMBER 2015 NAT_B06A

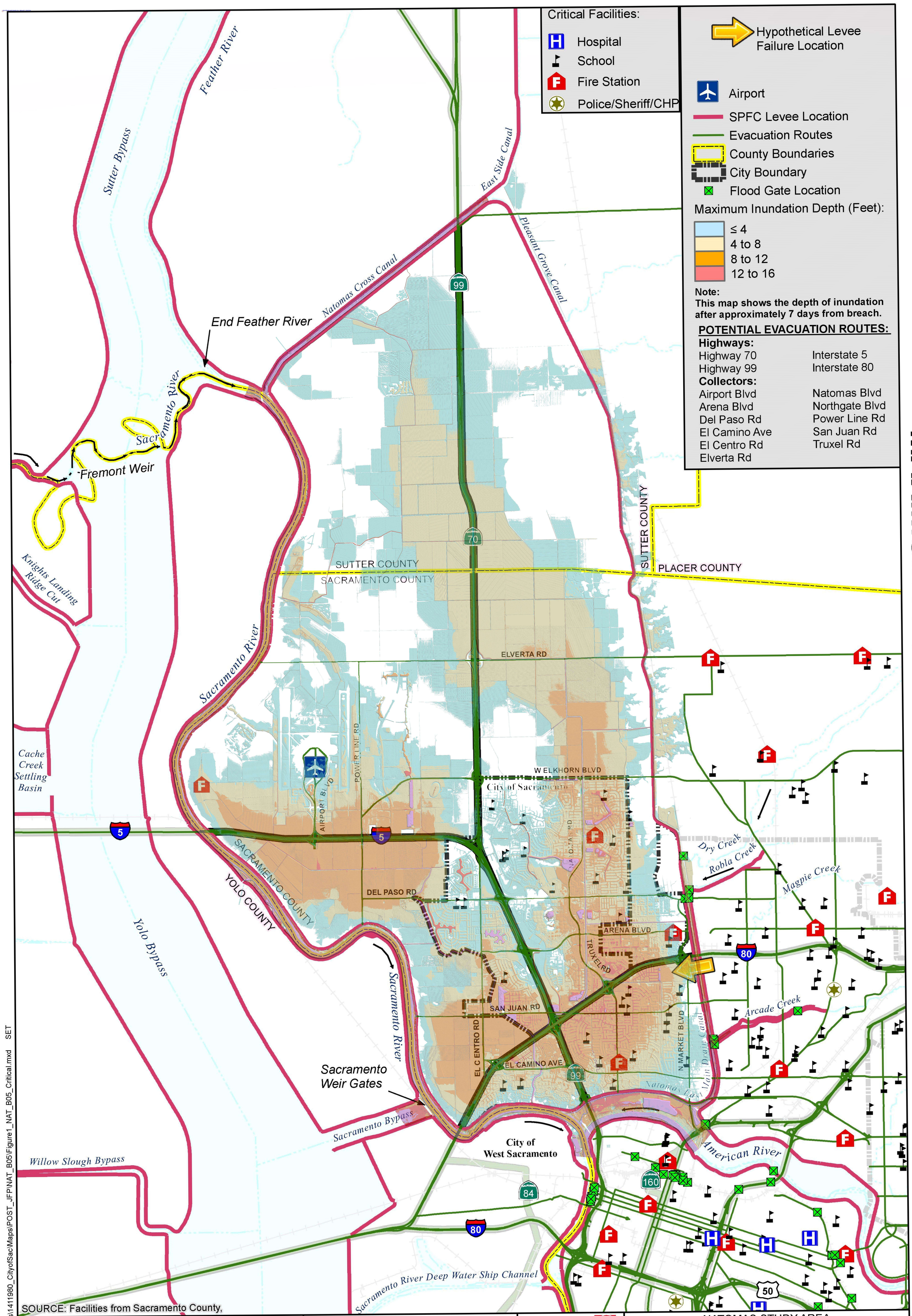
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# BREACH 6 - 2D - CUMULATIVE

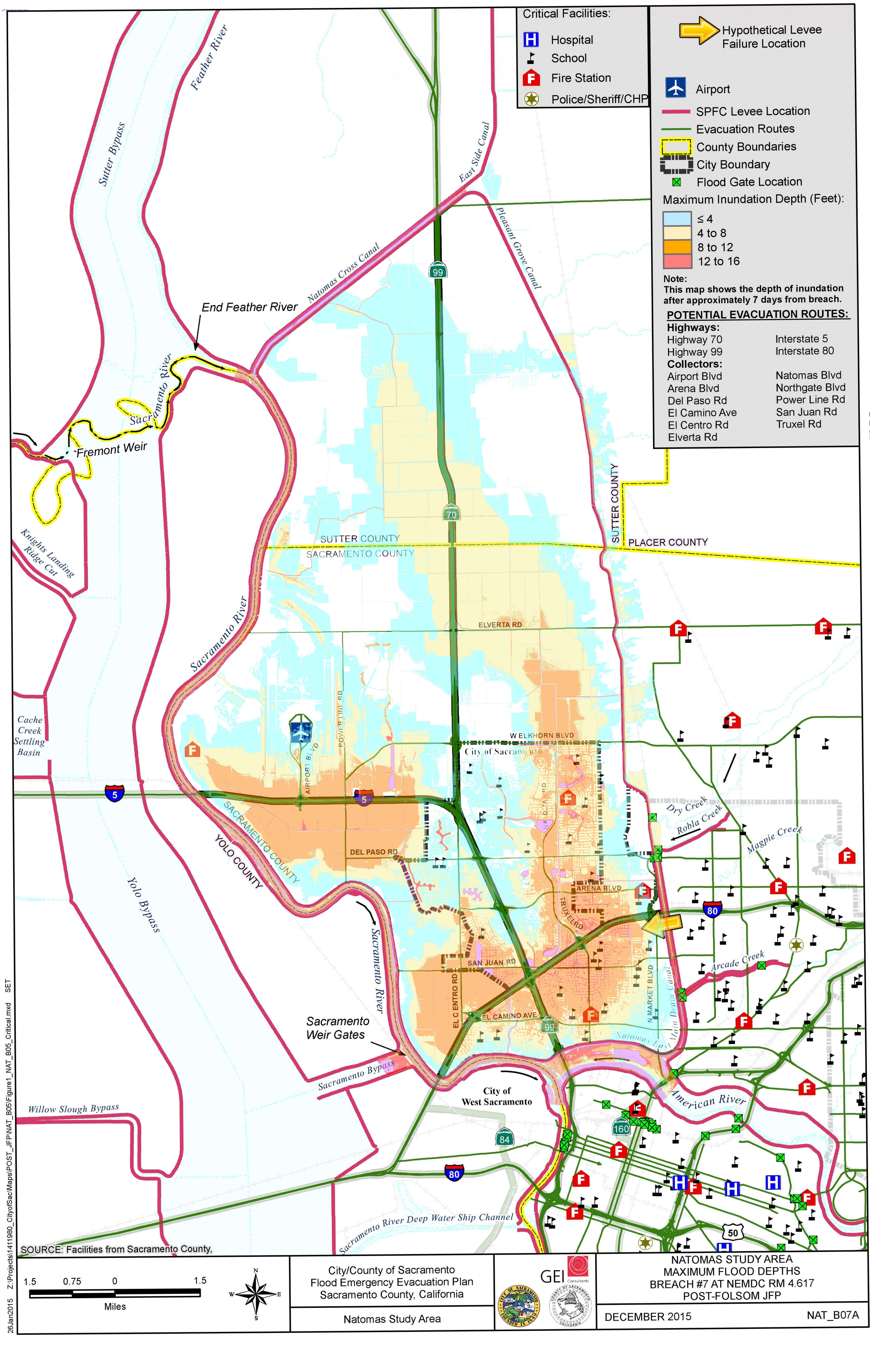



MAXIMUM FLOOD DEPTH MAP

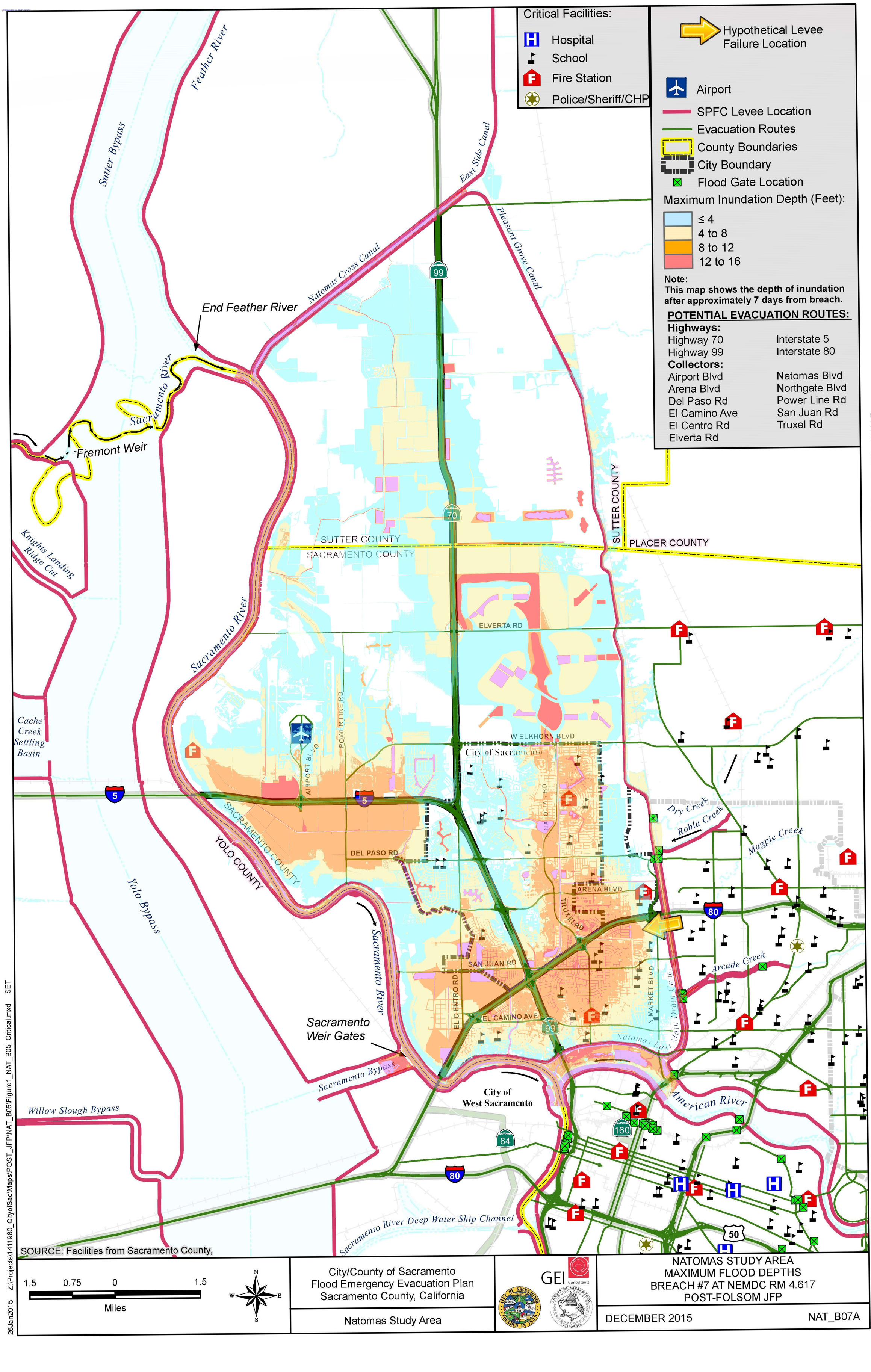
# BREACH 7 - 1D - EXISTING



# BREACH 7 - 2D - EXISTING



# BREACH 7 - 2D - CUMULATIVE



# RECOMMENDED EVACUATION ROUTES

**Legend**

**Arrival Time**
**2 Hour Inindation/Refuge**
Area 1FT Deep in Less than 2 Hours

**Arrival Time**
**2 Hour Inindation/Refuge**
Refuge - Greaater than 2-hours to 1ft deep
Comparison Points

Hypothetical Levee Failure Location

Estimated time for evacuation route subject to 1 foot of flood inundation after breach.

Evacuation route is outside flood inundation area.

Airport
SPFC Levee Location
Evacuation Routes
County Boundaries
City Boundary
Flood Gate Location
Breach Failure Limits

Primary Evacuation Area:
The water has the potential of reaching a depth of 1 foot after 2 hours from the time of levee failure within breach failure limits.

Secondary Evacuation Area:
After 7 days from the time of levee failure, the depth is estimated to range from 16 feet at the deepest point to 1 foot at the flood boundary.

**POTENTIAL EVACUATION ROUTES:**

| | |
|---|---|
| **Highways:** | |
| Highway 70 | Interstate 5 |
| Highway 99 | Interstate 80 |
| **Collectors:** | |
| Airport Blvd | Levee Rd |
| Arena Blvd | Natomas Blvd |
| Del Paso Rd | Natomas Rd |
| El Camino Ave | Northgate Blvd |
| El Centro Rd | Power Line Rd |
| Elverta Rd | San Juan Rd |
| Garden Hwy | Truxel Rd |

BREACH_1
EX 1D Time(1FT)=0
EX 2D Time(1FT)=0
CUM 2D Time(1FT)=0

SR-99_NORTH
EX 1D Time(1FT)=98
EX 2D Time(1FT)=138
CUM 2D Time(1FT)=115

SR-99
EX 1D Time(1FT)=89
EX 2D Time(1FT)=140
CUM 2D Time(1FT)=127

ELVERTA_WEST
EX 1D Time(1FT)=106
EX 2D Time(1FT)=157
CUM 2D Time(1FT)=149

POWER_LINE
EX 1D Time(1FT)=92
EX 2D Time(1FT)=161
CUM 2D Time(1FT)=167

ELVERTA
EX 1D Time(1FT)=47
EX 2D Time(1FT)=99
CUM 2D Time(1FT)=121

ELKHORN_WEST
EX 1D Time(1FT)=73
EX 2D Time(1FT)=139
CUM 2D Time(1FT)=147

ELKHORN
EX 1D Time(1FT)=36
EX 2D Time(1FT)=74
CUM 2D Time(1FT)=90

SR-99_SOUTH
EX 1D Time(1FT)=135
EX 2D Time(1FT)=208
CUM 2D Time(1FT)=209

I5_WEST
EX 1D Time(1FT)=73
EX 2D Time(1FT)=141
CUM 2D Time(1FT)=149

I5_JNCT
EX 1D Time(1FT)=73
EX 2D Time(1FT)=147
CUM 2D Time(1FT)=155

DEL_PASO
EX 1D Time(1FT)=22
EX 2D Time(1FT)=60
CUM 2D Time(1FT)=69

I5_CENTRAL
EX 1D Time(1FT)=106
EX 2D Time(1FT)=170
CUM 2D Time(1FT)=172

I80_EAST
EX 1D Time(1FT)=31
EX 2D Time(1FT)=82
CUM 2D Time(1FT)=99

SAN_JUAN
EX 1D Time(1FT)=36
EX 2D Time(1FT)=80
CUM 2D Time(1FT)=115

I80_CENTRAL
EX 1D Time(1FT)=58
EX 2D Time(1FT)=103
CUM 2D Time(1FT)=115

I80_WEST
EX 1D Time(1FT)=63
EX 2D Time(1FT)=112
CUM 2D Time(1FT)=123

EL_CAMINO
EX 1D Time(1FT)=36
EX 2D Time(1FT)=81
CUM 2D Time(1FT)=97

Feather River
Sutter Bypass
End Feather River
Sacramento River
Fremont Weir
Knights Landing Ridge Cut
Cache Creek Settling Basin
Yolo Bypass
Willow Slough Bypass
Sacramento Weir Gates
Sacramento Bypass
Natomas Cross Canal
Pleasant Grove Canal
Dry Creek
Robla Creek
Magpie Creek
Arcade Creek
American River
Sacramento River Deep Water Ship Channel
SUTTER COUNTY
SACRAMENTO COUNTY
YOLO COUNTY
City of West Sacramento
ELVERTA RD
DEL PASO RD
ARENA BLVD
SAN JUAN RD
POWER LINE RD
EL C ENTRO RD
TRUXEL RD
NATOMAS RD
99
70
5
80
84
160
50
12 Hrs
6 Hrs
1 Day
2 Days

SOURCE: Facilities from Sacramento County,

1.5 0.75 0 1.5
Miles

City/County of Sacramento
Flood Emergency Evacuation Plan
Sacramento County, California

Natomas Study Area

GEI Consultants

NATOMAS STUDY AREA
EVACUATION ROUTES MAP
BREACH #1 AT NATOMAS CROSS CANAL RM 1.35
POST-FOLSOM JFP

DECEMBER 2015 NAT_B01D

26Jan2015 Z:\Projects\1411980_CityofSacMaps\POST_JFP\NAT_NEW3\Figure4_NAT_NEW3.mxd SET

# RECOMMENDED EVACUATION ROUTES

**Legend**

**Arrival Time**
**2 Hour Inindation/Refuge**
Area 1FT Deep in Less than 2 Hours

**Arrival Time**
**2 Hour Inindation/Refuge**
Refuge - Greaater than 2-hours to 1ft deep
Comparison Points

Hypothetical Levee Failure Location

Estimated time for evacuation route subject to 1 foot of flood inundation after breach.

Evacuation route is outside flood inundation area.

Airport
SPFC Levee Location
Evacuation Routes
County Boundaries
City Boundary
Flood Gate Location
Breach Failure Limits

Primary Evacuation Area:
The water has the potential of reaching a depth of 1 foot after 2 hours from the time of levee failure within breach failure limits.

Secondary Evacuation Area:
After 7 days from the time of levee failure, the depth is estimated to range from 16 feet at the deepest point to 1 foot at the flood boundary.

**POTENTIAL EVACUATION ROUTES:**

| | |
|---|---|
| **Highways:** | |
| Highway 70 | Interstate 5 |
| Highway 99 | Interstate 80 |
| **Collectors:** | |
| Airport Blvd | Levee Rd |
| Arena Blvd | Natomas Blvd |
| Del Paso Rd | Natomas Rd |
| El Camino Ave | Northgate Blvd |
| El Centro Rd | Power Line Rd |
| Elverta Rd | San Juan Rd |
| Garden Hwy | Truxel Rd |

BREACH_2
EX 1D Time(1FT)=0
EX 2D Time(1FT)=0
CUM 2D Time(1FT)=0

SR-99_NORTH
EX 1D Time(1FT)=12
EX 2D Time(1FT)=41
CUM 2D Time(1FT)=41

SR-99
EX 1D Time(1FT)=35
EX 2D Time(1FT)=169
CUM 2D Time(1FT)=65

ELVERTA_WEST
EX 1D Time(1FT)=43
EX 2D Time(1FT)=187
CUM 2D Time(1FT)=187

ELVERTA
EX 1D Time(1FT)=25
EX 2D Time(1FT)=39
CUM 2D Time(1FT)=45

POWER_LINE
EX 1D Time(1FT)=55
EX 2D Time(1FT)=124
CUM 2D Time(1FT)=136

ELKHORN_WEST
EX 1D Time(1FT)=45
EX 2D Time(1FT)=91
CUM 2D Time(1FT)=98

ELKHORN
EX 1D Time(1FT)=20
EX 2D Time(1FT)=36
CUM 2D Time(1FT)=46

NATOMAS_RD
EX 1D Time(1FT)=17
EX 2D Time(1FT)=33
CUM 2D Time(1FT)=49

SR-99_SOUTH
EX 1D Time(1FT)=87
EX 2D Time(1FT)=70
CUM 2D Time(1FT)=70

I5_WEST
EX 1D Time(1FT)=44
EX 2D Time(1FT)=93
CUM 2D Time(1FT)=102

I5_JNCT
EX 1D Time(1FT)=
EX 2D Time(1FT)=99
CUM 2D Time(1FT)=111

DEL_PASO
EX 1D Time(1FT)=14
EX 2D Time(1FT)=37
CUM 2D Time(1FT)=47

I5_CENTRAL
EX 1D Time(1FT)=53
EX 2D Time(1FT)=166
CUM 2D Time(1FT)=166

I80_EAST
EX 1D Time(1FT)=18
EX 2D Time(1FT)=50
CUM 2D Time(1FT)=59

SAN_JUAN
EX 1D Time(1FT)=22
EX 2D Time(1FT)=49
CUM 2D Time(1FT)=58

I80_CENTRAL
EX 1D Time(1FT)=34
EX 2D Time(1FT)=61
CUM 2D Time(1FT)=59

I80_WEST
EX 1D Time(1FT)=32
EX 2D Time(1FT)=66
CUM 2D Time(1FT)=75

EL_CAMINO
EX 1D Time(1FT)=22
EX 2D Time(1FT)=49
CUM 2D Time(1FT)=59

Feather River
Sutter Bypass
End Feather River
Natomas Cross Canal
Pleasant Grove Canal
East
Sacramento River
Fremont Weir
Knights Landing Ridge Cut
Cache Creek Settling Basin
Yolo Bypass
Sacramento Weir Gates
Sacramento Bypass
Willow Slough Bypass
Sacramento River Deep Water Ship Channel
Dry Creek
Robla Creek
Magpie Creek
Arcade Creek
Natomas East Main Drain Canal
American River
City of West Sacramento
SUTTER COUNTY
SACRAMENTO COUNTY
YOLO COUNTY
SACRAMENTO COUNTY
ELVERTA RD
DEL PASO RD
SAN JUAN RD
POWER LINE RD
EL C ENTRO RD
NATOMAS RD
NATOMAS BLVD
ARENA BLVD
99
70
5
80
84
160
50
2 Days
1 Day
12 Hrs
6 Hrs

SOURCE: Facilities from Sacramento County,

1.5 0.75 0 1.5
Miles

N W E S

City/County of Sacramento
Flood Emergency Evacuation Plan
Sacramento County, California

Natomas Study Area

GEI Consultants

NATOMAS STUDY AREA
EVACUATION ROUTES MAP
BREACH #2 AT SACRAMENTO RIVER RM 77.584
POST-FOLSOM JFP

DECEMBER 2015 NAT_B02D

26Jan2015 Z:\Projects\1411980_CityofSacMaps\POST_JFP\NAT_NEW2\Figure4_NAT_NEW2.mxd SET

# RECOMMENDED EVACUATION ROUTES

**Legend**

**Arrival Time**
**2 Hour Inindation/refuge**
Area 1FT Deep in Less than 2 Hours

**Arrival Time**
**2 Hour Inindation/refuge**
Refuge - Greaater than 2-hours to 1ft deep
Comparison Points

Hypothetical Levee Failure Location

Estimated time for evacuation route subject to 1 foot of flood inundation after breach.

Evacuation route is outside flood inundation area.

Airport
SPFC Levee Location
Evacuation Routes
County Boundaries
City Boundary
Flood Gate Location
Breach Failure Limits

Primary Evacuation Area:
The water has the potential of reaching a depth of 1 foot after 2 hours from the time of levee failure within breach failure limits.

Secondary Evacuation Area:
After 7 days from the time of levee failure, the depth is estimated to range from 16 feet at the deepest point to 1 foot at the flood boundary.

**POTENTIAL EVACUATION ROUTES:**

**Highways:**
Highway 70
Highway 99
Interstate 5
Interstate 80

**Collectors:**
Airport Blvd
Arena Blvd
Del Paso Rd
El Camino Ave
El Centro Rd
Elverta Rd
Natomas Blvd
Northgate Blvd
Power Line Rd
San Juan Rd
Truxel Rd

SR-99_NORTH
EX 1D Time(1FT)=75
EX 2D Time(1FT)=169
CUM 2D Time(1FT)=167

SR-99
EX 1D Time(1FT)=66
EX 2D Time(1FT)=137
CUM 2D Time(1FT)=137

ELVERTA_WEST
EX 1D Time(1FT)=79
EX 2D Time(1FT)=191
CUM 2D Time(1FT)=194

ELVERTA
EX 1D Time(1FT)=47
EX 2D Time(1FT)=78
CUM 2D Time(1FT)=105

BREACH_3
EX 1D Time(1FT)=0
EX 2D Time(1FT)=0
CUM 2D Time(1FT)=0

POWER_LINE
EX 1D Time(1FT)=17
EX 2D Time(1FT)=7
CUM 2D Time(1FT)=7

ELKHORN_WEST
EX 1D Time(1FT)=4
EX 2D Time(1FT)=12
CUM 2D Time(1FT)=12

ELKHORN
EX 1D Time(1FT)=43
EX 2D Time(1FT)=72
CUM 2D Time(1FT)=70

NATOMAS_RD
EX 1D Time(1FT)=38
EX 2D Time(1FT)=64
CUM 2D Time(1FT)=65

SR-99_SOUTH
EX 1D Time(1FT)=129
EX 2D Time(1FT)=74
CUM 2D Time(1FT)=74

I5_JNCT
EX 1D Time(1FT)=19
EX 2D Time(1FT)=19
CUM 2D Time(1FT)=19

I5_WEST
EX 1D Time(1FT)=9
EX 2D Time(1FT)=9
CUM 2D Time(1FT)=9

DEL_PASO
EX 1D Time(1FT)=33
EX 2D Time(1FT)=51
CUM 2D Time(1FT)=53

I5_CENTRAL
EX 1D Time(1FT)=67
EX 2D Time(1FT)=170
CUM 2D Time(1FT)=170

I80_EAST
EX 1D Time(1FT)=40
EX 2D Time(1FT)=82
CUM 2D Time(1FT)=83

SAN_JUAN
EX 1D Time(1FT)=30
EX 2D Time(1FT)=36
CUM 2D Time(1FT)=54

I80_CENTRAL
EX 1D Time(1FT)=17
EX 2D Time(1FT)=36
CUM 2D Time(1FT)=36

I80_WEST
EX 1D Time(1FT)=23
EX 2D Time(1FT)=37
CUM 2D Time(1FT)=40

EL_CAMINO
EX 1D Time(1FT)=30
EX 2D Time(1FT)=53
CUM 2D Time(1FT)=54

Feather River
Sutter Bypass
End Feather River
Natomas Cross Canal
Pleasant Grove Canal
Sacramento River
Fremont Weir
Knights Landing Ridge Cut
Cache Creek Settling Basin
Yolo Bypass
Sacramento Weir Gates
Willow Slough Bypass
Sacramento River Deep Water Ship Channel
Dry Creek
Robla Creek
Magpie Creek
Arcade Creek
Natomas East Main Drain Canal
American River
SUTTER COUNTY
SACRAMENTO COUNTY
YOLO COUNTY
City of West Sacramento
ELVERTA RD
POWER LINE RD
DEL PASO RD
SAN JUAN RD
EL C ENTRO RD
NATOMAS RD
ARENA BLVD
2 Days
1 Day
16 Hrs
12 Hrs
6 Hrs
2 Hrs

SOURCE: Facilities from Sacramento County,

1.5 0.75 0 1.5
Miles

City/County of Sacramento
Flood Emergency Evacuation Plan
Sacramento County, California

Natomas Study Area

GEI Consultants

NATOMAS STUDY AREA
EVACUATION ROUTES MAP
BREACH #3 AT SACRAMENTO RIVER RM 74.0
POST-FOLSOM JFP

DECEMBER 2015 NAT_B03D

26Jan2015 Z:\Projects\1411980_CityofSacMaps\POST_JFP\NAT_NEW1\Figure4_NAT_NEW1.mxd SET

# RECOMMENDED EVACUATION ROUTES

**Legend**

**Arrival Time**
**2 Hour Inindation/Refuge**
Area 1FT Deep in Less than 2 Hours

**Arrival Time**
**2 Hour Inindation/Refuge**
Refuge - Greaater than 2-hours to 1ft deep
Comparison Points

Hypothetical Levee Failure Location

Estimated time for evacuation route subject to 1 foot of flood inundation after breach.

Evacuation route is outside flood inundation area.

Airport
SPFC Levee Location
Evacuation Routes
County Boundaries
City Boundary
Flood Gate Location
Breach Failure Limits

Primary Evacuation Area:
The water has the potential of reaching a depth of 1 foot after 2 hours from the time of levee failure within breach failure limits.

Secondary Evacuation Area:
After 7 days from the time of levee failure. the depth is estimated to range from 16 feet at the deepest point to 1 foot at the flood boundary.

**POTENTIAL EVACUATION ROUTES:**

**Highways:**
Highway 70
Highway 99
Interstate 5
Interstate 80

**Collectors:**
Airport Blvd
Arena Blvd
Del Paso Rd
El Camino Ave
El Centro Rd
Elverta Rd
Natomas Blvd
Northgate Blvd
Power Line Rd
San Juan Rd
Truxel Rd

Sutter Bypass
Feather River
End Feather River
Natomas Cross Canal
Pleasant Grove Canal
Sacramento River
Fremont Weir
Knights Landing Ridge Cut
Cache Creek Settling Basin
Yolo Bypass
Sacramento Weir Gates
Willow Slough Bypass
Sacramento River Deep Water Ship Channel
Dry Creek
Robla Creek
Magpie Creek
Arcade Creek
Natomas East Main Drain Canal
American River

SUTTER COUNTY
SACRAMENTO COUNTY
YOLO COUNTY
City of West Sacramento

SR-99_NORTH
EX 1D Time(1FT)=78
EX 2D Time(1FT)=110
CUM 2D Time(1FT)=115

SR-99
EX 1D Time(1FT)=70
EX 2D Time(1FT)=102
CUM 2D Time(1FT)=102

ELVERTA_WEST
EX 1D Time(1FT)=80
EX 2D Time(1FT)=112
CUM 2D Time(1FT)=112

POWER_LINE
EX 1D Time(1FT)=21
EX 2D Time(1FT)=29
CUM 2D Time(1FT)=28

ELVERTA
EX 1D Time(1FT)=52
EX 2D Time(1FT)=75
CUM 2D Time(1FT)=88

ELKHORN_WEST
EX 1D Time(1FT)=9
EX 2D Time(1FT)=11
CUM 2D Time(1FT)=10

ELKHORN
EX 1D Time(1FT)=47
EX 2D Time(1FT)=66
CUM 2D Time(1FT)=65

NATOMAS_RD
EX 1D Time(1FT)=42
EX 2D Time(1FT)=58
CUM 2D Time(1FT)=60

SR-99_SOUTH
EX 1D Time(1FT)=101
EX 2D Time(1FT)=144
CUM 2D Time(1FT)=143

I5_JNCT
EX 1D Time(1FT)=9
EX 2D Time(1FT)=13
CUM 2D Time(1FT)=14

I5_WEST
EX 1D Time(1FT)=6
EX 2D Time(1FT)=8
CUM 2D Time(1FT)=8

BREACH_4
EX 1D Time(1FT)=0
EX 2D Time(1FT)=0
CUM 2D Time(1FT)=0

DEL_PASO
EX 1D Time(1FT)=36
EX 2D Time(1FT)=46
CUM 2D Time(1FT)=48

I5_CENTRAL
EX 1D Time(1FT)=69
EX 2D Time(1FT)=93
CUM 2D Time(1FT)=88

I80_EAST
EX 1D Time(1FT)=44
EX 2D Time(1FT)=49
CUM 2D Time(1FT)=51

SAN_JUAN
EX 1D Time(1FT)=33
EX 2D Time(1FT)=31
CUM 2D Time(1FT)=30

I80_CENTRAL
EX 1D Time(1FT)=18
EX 2D Time(1FT)=31
CUM 2D Time(1FT)=30

I80_WEST
EX 1D Time(1FT)=24
EX 2D Time(1FT)=32
CUM 2D Time(1FT)=34

EL_CAMINO
EX 1D Time(1FT)=33
EX 2D Time(1FT)=47
CUM 2D Time(1FT)=49

SOURCE: Facilities from Sacramento County,

1.5 0.75 0 1.5
Miles

City/County of Sacramento
Flood Emergency Evacuation Plan
Sacramento County, California

Natomas Study Area

GEI Consultants

NATOMAS STUDY AREA
EVACUATION ROUTES MAP
BREACH #4 AT SACRAMENTO RIVER RM 66.924
POST-FOLSOM JFP

DECEMBER 2015 NAT_B04D

26Jan2015 Z:\Projects\1411980_CityofSacMaps\POST_JFP\NAT_B14\Figure4_NAT_B14.mxd SET

# RECOMMENDED EVACUATION ROUTES

**Legend**

**Arrival Time**
**2 Hour Inindation/Refuge**
Area 1FT Deep in Less than 2 Hours

**Arrival Time**
**2 Hour Inindation/Refuge**
Refuge - Greaater than 2-hours to 1ft deep
Comparison Points

Hypothetical Levee Failure Location

Estimated time for evacuation route subject to 1 foot of flood inundation after breach.

Evacuation route is outside flood inundation area.

Airport
SPFC Levee Location
Evacuation Routes
County Boundaries
City Boundary
Flood Gate Location
Breach Failure Limits

Primary Evacuation Area:
The water has the potential of reaching a depth of 1 foot after 2 hours from the time of levee failure within breach failure limits.

*Secondary Evacuation Area:*
After 7 days from the time of levee failure, the depth is estimated to range from 16 feet at the deepest point to 1 foot at the flood boundary.

**POTENTIAL EVACUATION ROUTES:**

| **Highways:** | |
|---|---|
| *Highway 70* | *Interstate 5* |
| Highway 99 | Interstate 80 |
| **Collectors:** | |
| Airport Blvd | Natomas Blvd |
| Arena Blvd | Northgate Blvd |
| Del Paso Rd | Power Line Rd |
| El Camino Ave | San Juan Rd |
| El Centro Rd | Truxel Rd |
| Elverta Rd | |

SR-99_NORTH
EX 1D Time(1FT)=22
EX 2D Time(1FT)=-999
E_GP 2D Time(1FT)=101

SR-99
EX 1D Time(1FT)=84
EX 2D Time(1FT)=282
E_GP 2D Time(1FT)=89

ELVERTA_WEST
EX 1D Time(1FT)=112
EX 2D Time(1FT)=-999
E_GP 2D Time(1FT)=118

ELVERTA
EX 1D Time(1FT)=50
EX 2D Time(1FT)=123
E_GP 2D Time(1FT)=62

POWER_LINE
EX 1D Time(1FT)=46
EX 2D Time(1FT)=111
E_GP 2D Time(1FT)=50

ELKHORN_WEST
EX 1D Time(1FT)=57
EX 2D Time(1FT)=42
E_GP 2D Time(1FT)=24

ELKHORN
EX 1D Time(1FT)=39
EX 2D Time(1FT)=81
E_GP 2D Time(1FT)=32

NATOMAS_RD
(1FT)=30
(1FT)=55
me(1FT)=28

SR-99_SOUTH
EX 1D Time(1FT)=99
EX 2D Time(1FT)=-999
E_GP 2D Time(1FT)=97

I5_WEST
EX 1D Time(1FT)=19
EX 2D Time(1FT)=47
E_GP 2D Time(1FT)=23

I5_JNCT
EX 1D Time(1FT)=27
EX 2D Time(1FT)=57
E_GP 2D Time(1FT)=30

DEL_PASO
EX 1D Time(1FT)=21
EX 2D Time(1FT)=32
E_GP 2D Time(1FT)=18

I5_CENTRAL
EX 1D Time(1FT)=100
EX 2D Time(1FT)=-999
E_GP 2D Time(1FT)=95

I80_EAST
EX 1D Time(1FT)=21
EX 2D Time(1FT)=43
E_GP 2D Time(1FT)=19

SAN_JUAN
EX 1D Time(1FT)=19
EX 2D Time(1FT)=34
E_GP 2D Time(1FT)=17

I80_CENTRAL
EX 1D Time(1FT)=9
EX 2D Time(1FT)=12
E_GP 2D Time(1FT)=7

EL_CAMINO
EX 1D Time(1FT)=19
EX 2D Time(1FT)=39
E_GP 2D Time(1FT)=17

BREACH_5
EX 1D Time(1FT)=18
EX 2D Time(1FT)=0
E_GP 2D Time(1FT)=0

I80_WEST
EX 1D Time(1FT)=9
EX 2D Time(1FT)=12
E_GP 2D Time(1FT)=6

Sutter Bypass
Feather River
End Feather River
Natomas Cross Canal
Pleasant Grove Canal
Sacramento River
Fremont Weir
Knights Landing Ridge Cut
Cache Creek Settling Basin
Yolo Bypass
Willow Slough Bypass
Sacramento Weir Gates
City of West Sacramento
Sacramento River Deep Water Ship Channel
American River
Dry Creek
Robla Creek
Magpie Creek
Arcade Creek
Natomas East Main Drain Canal
SUTTER COUNTY
SACRAMENTO COUNTY
YOLO COUNTY
DEL PASO RD
ELVERTA RD
POWER LINE RD
EL CAMINO AVE
SAN JUAN RD
NATOMAS RD
ARENA BLVD
99
70
5
80
84
160
50

SOURCE: Facilities from Sacramento County,

1.5 0.75 0 1.5
Miles

N W E S

City/County of Sacramento
Flood Emergency Evacuation Plan
Sacramento County, California

Natomas Study Area

GEI Consultants

NATOMAS STUDY AREA
EVACUATION ROUTES MAP
BREACH #5 AT SACRAMENTO RIVER RM 64.104
POST-FOLSOM JFP

DECEMBER 2015 NAT_B05D

# RECOMMENDED EVACUATION ROUTES

**Legend**

**Arrival Time**
**2 Hour Inindation/Refuge**
Area 1FT Deep in Less than 2 Hours

**Arrival Time**
**2 Hour Inindation/Refuge**
Refuge - Greaater than 2-hours to 1ft deep
Comparison Points

Hypothetical Levee Failure Location

Estimated time for evacuation route subject to 1 foot of flood inundation after breach.

Evacuation route is outside flood inundation area.

Airport
SPFC Levee Location
Evacuation Routes
County Boundaries
City Boundary
Flood Gate Location
Breach Failure Limits

Primary Evacuation Area:
The water has the potential of reaching a depth of 1 foot after 2 hours from the time of levee failure within breach failure limits.

Secondary Evacuation Area:
After 7 days from the time of levee failure, the depth is estimated to range from 16 feet at the deepest point to 1 foot at the flood boundary.

**POTENTIAL EVACUATION ROUTES:**

**Highways:**
Highway 70
Highway 99
Interstate 5
Interstate 80

**Collectors:**
Airport Blvd
Arena Blvd
Del Paso Rd
El Camino Ave
El Centro Rd
Elverta Rd
Natomas Blvd
Northgate Blvd
Power Line Rd
San Juan Rd
Truxel Rd

SR-99_NORTH
EX 1D Time(1FT)=61
EX 2D Time(1FT)=NONE
CUM 2D Time(1FT)=NONE

SR-99
EX 1D Time(1FT)=53
EX 2D Time(1FT)=279
CUM 2D Time(1FT)=279

ELVERTA_WEST
EX 1D Time(1FT)=65
EX 2D Time(1FT)=NONE
CUM 2D Time(1FT)=NONE

POWER_LINE
EX 1D Time(1FT)=31
EX 2D Time(1FT)=108
CUM 2D Time(1FT)=108

ELVERTA
EX 1D Time(1FT)=29
EX 2D Time(1FT)=144
CUM 2D Time(1FT)=144

ELKHORN_WEST
EX 1D Time(1FT)=14
EX 2D Time(1FT)=67
CUM 2D Time(1FT)=68

ELKHORN
EX 1D Time(1FT)=21
EX 2D Time(1FT)=9
CUM 2D Time(1FT)=9

I5_WEST
EX 1D Time(1FT)=11
EX 2D Time(1FT)=76
CUM 2D Time(1FT)=86

SR-99_SOUTH
EX 1D Time(1FT)=133
EX 2D Time(1FT)=NONE
CUM 2D Time(1FT)=NONE

I5_JNCT
EX 1D Time(1FT)=21
EX 2D Time(1FT)=110
CUM 2D Time(1FT)=110

DEL_PASO
EX 1D Time(1FT)=10
EX 2D Time(1FT)=53
CUM 2D Time(1FT)=50

I5_CENTRAL
EX 1D Time(1FT)=57
EX 2D Time(1FT)=NONE
CUM 2D Time(1FT)=NONE

I80_EAST
EX 1D Time(1FT)=6
EX 2D Time(1FT)=72
CUM 2D Time(1FT)=64

SAN_JUAN
EX 1D Time(1FT)=4
EX 2D Time(1FT)=55
CUM 2D Time(1FT)=51

I80_CENTRAL
EX 1D Time(1FT)=137
EX 2D Time(1FT)=5
CUM 2D Time(1FT)=4

I80_WEST
EX 1D Time(1FT)=141
EX 2D Time(1FT)=8
CUM 2D Time(1FT)=8

EL_CAMINO
EX 1D Time(1FT)=4
EX 2D Time(1FT)=57
CUM 2D Time(1FT)=52

BREACH_6
EX 1D Time(1FT)=0
EX 2D Time(1FT)=0
CUM 2D Time(1FT)=0

Feather River
Sutter Bypass
End Feather River
Natomas Cross Canal
Pleasant Grove Canal
Sacramento River
Fremont Weir
Knights Landing Ridge Cut
SUTTER COUNTY
SACRAMENTO COUNTY
YOLO COUNTY
ELVERTA RD
DEL PASO RD
ARENA BLVD
ROWER LINE RD
NATOMAS RD
EL C ENTRO RD
Cache Creek Settling Basin
Yolo Bypass
Sacramento Weir Gates
Sacramento Bypass
Willow Slough Bypass
Sacramento River Deep Water Ship Channel
City of West Sacramento
Dry Creek
Robla Creek
Magpie Creek
Arcade Creek
Natomas East Main Drain Canal
American River
99
70
5
80
84
160
50

SOURCE: Facilities from Sacramento County,

1.5 0.75 0 1.5
Miles

N W E S

City/County of Sacramento
Flood Emergency Evacuation Plan
Sacramento County, California

Natomas Study Area

GEI Consultants

NATOMAS STUDY AREA
EVACUATION ROUTES MAP
BREACH #6 AT NEMDC RM 0.415
POST-FOLSOM JFP

DECEMBER 2015 NAT_B06D

26Jan2015 Z:\Projects\1411980_CityofSac\Maps\POST_JFP\NAT_B01\Figure4_NAT_B01.mxd SET

# APPENDIX NOI-1

## ENVIRONMENTAL NOSIE AND VIBRATION REPORT

Environmental Noise & Vibration Assessment

# Upper Westside Specific Plan

Sacramento County, California

BAC Job # 2021-097

Prepared For:

**Upper West Side, LLC**

Mr. Bob Thomas, authorized representative
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Sacramento, CA 95814

Prepared By:

**Bollard Acoustical Consultants, Inc.**

Paul Bollard, President

December 1, 2022

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# Introduction

The Upper Westside Specific Plan (Project) area encompasses approximately 2,066 acres adjacent to and directly west of the communities of North and South Natomas in Sacramento County, California. The Project area is bounded by Interstate 80 (I-80) to the south and east, Witter Canal and Fisherman's Lake/Slough to the northeast, and Garden Highway to the west. The Project area is currently zoned primarily for agricultural uses. The project consists of the rezoning and development of a mixed-use community containing residential uses of various densities, commercial, commercial/residential mixed-use, school, park, agricultural and open space uses. The project area location and preliminary project land use plan are shown on Figures 1 and 2, respectively.

Bollard Acoustical Consultants, Inc. (BAC) was retained by the project applicant to prepare this noise and vibration evaluation for the project. The specific objectives of this evaluation are provided in the following section.

# Objectives of This Analysis

The objectives of this analysis are as follows:

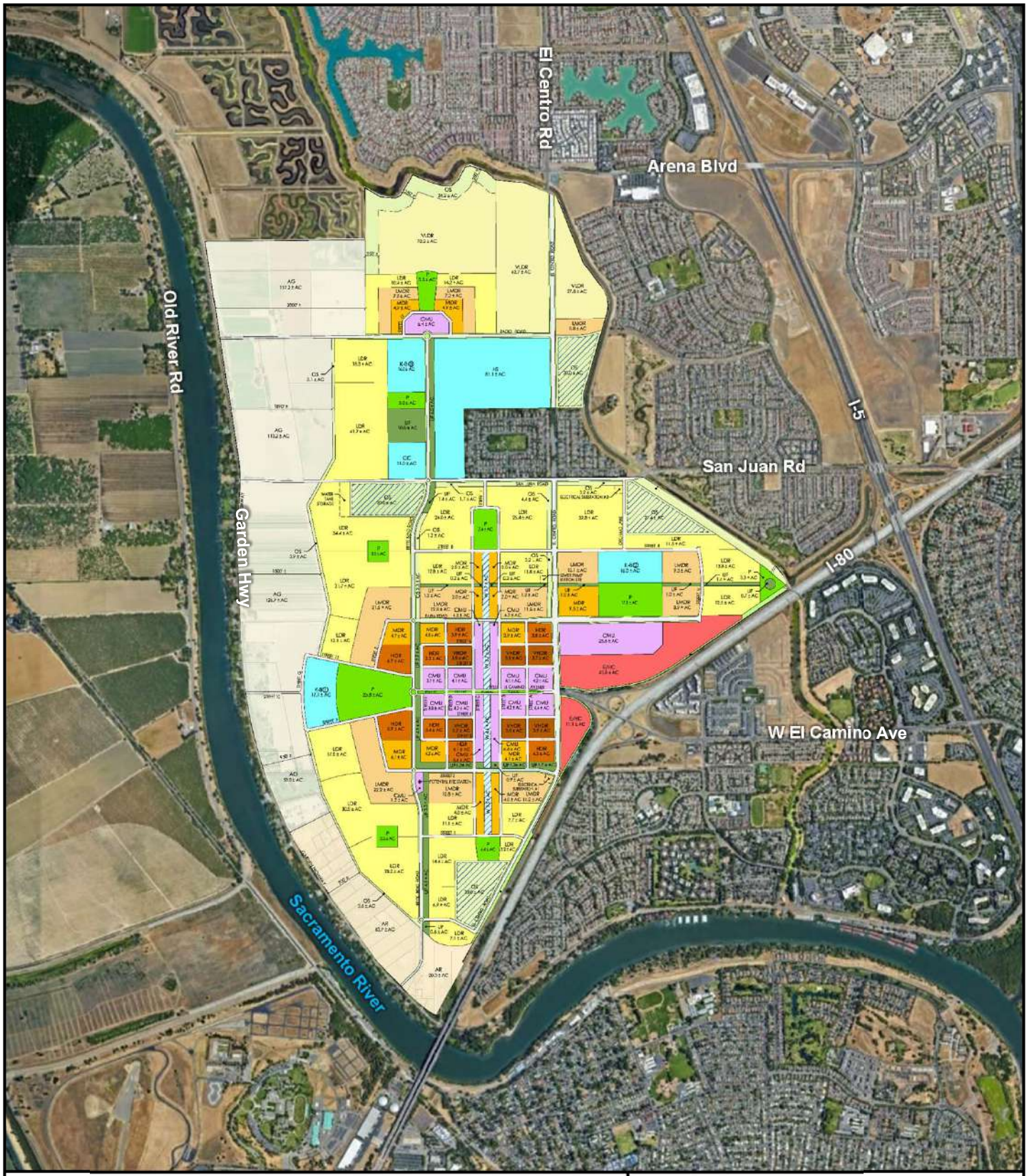
- To provide background information pertaining to the effects of noise & vibration.
- To identify existing sensitive land uses in the project area vicinity.
- To quantify existing ambient noise levels and identify ambient sources of vibration at those nearest noise-sensitive land uses.
- To identify the Sacramento County noise & vibration standards which would be most applicable to this project.
- To predict project-related noise & vibration levels at off-site sensitive areas, and to compare those levels against the applicable noise & vibration standards per California Environmental Quality Act (CEQA) guidelines.
- To evaluate consistency of the sensitive land proposed uses within the project area with Sacramento County General Plan noise and vibration standards.
- To recommend mitigation, as necessary, to ensure compliance with the applicable project noise & vibration standards.
- To summarize the results of this analysis into a report for eventual use in the development of the project environmental documents.

Figure 1
Upper Westside Project Location
Sacramento County, California




BOLLARD
Acoustical Consultants

N
Scale: miles
0 2 4




**Legend**

| | |
|---|---|
| VLDR VERY LOW DENSITY RESIDENTIAL | OS OPEN SPACE (BUFFERS & BASINS) (4) |
| LDR LOW DENSITY RESIDENTIAL | AG AG-CROPLAND (4) |
| LMDR LOW/MEDIUM DENSITY RESIDENTIAL | AR AG-RESIDENTIAL (4) |
| MDR MEDIUM DENSITY RESIDENTIAL | UF URBAN FARM/ GREEN BELT |
| HDR HIGH DENSITY RESIDENTIAL | P PARK |
| VHDR VERY HIGH DENSITY RESIDENTIAL | W WATER (CANAL) |
| CMU COMMERCIAL MIXED USE | LC LANDSCAPE CORRIDOR |
| E/HC EMPLOYMENT/HIGHWAY COMMERCIAL | MAJOR ROADS A |
| S PUBLIC/QUASI-PUBLIC | MAJOR ROADS B (WITHIN AG-BUFFER) (4) |

N

Scale (Feet)

0 750 1,500

Upper Westside Specific Plan
Sacramento County, California

## Specific Plan Area

Figure 2

BOLLARD Acoustical Consultants

# Noise Fundamentals & Terminology

## General

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard and are designated as sound. The number of pressure variations per second is called the frequency of sound and is expressed as cycles per second, or Hertz (Hz). Definitions of acoustical terminology are provided in Appendix A.

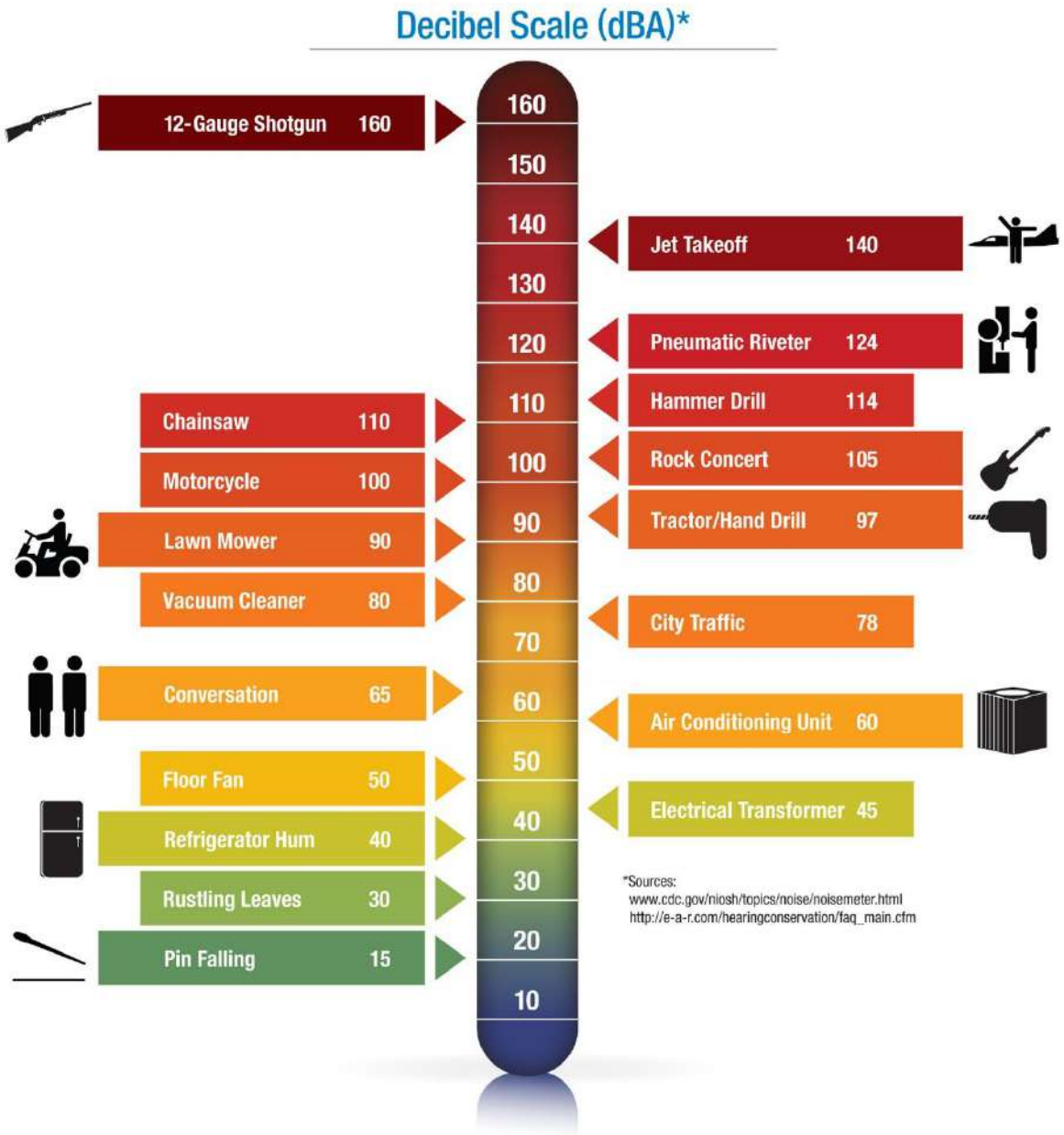
Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals of pressure) as a point of reference, defined as 0 dB. Other sound pressures are then compared to the reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB. Another useful aspect of the decibel scale is that changes in decibel levels correspond closely to human perception of relative loudness. Noise levels associated with common noise sources are provided in Figure 3.

## A-Weighting and Noise Metrics

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable and can be approximated by filtering the frequency response of a sound level meter by means of the standardized A-weighting network. There is a strong correlation between A-weighted sound levels (expressed as dBA) and community response to noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level ($L_{eq}$). The $L_{eq}$ is the foundation of the day-night average noise descriptor, DNL (or $L_{dn}$), and shows very good correlation with community response to noise. DNL is based on the average noise level over a 24-hour day, with a +10-decibel weighting applied to noise occurring during nighttime (10:00 PM to 7:00 AM) hours. The nighttime penalty is based on the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because DNL represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

**Figure 3**
**Noise Levels Associated with Common Noise Sources**




The Sacramento County General Plan utilizes DNL for the assessment of noise generated by traffic and railroad noise sources. For aircraft, the County General Plan utilizes the Community Noise Equivalent Level (CNEL), to describe noise exposure. For non-transportation noise sources, the County General Plan utilizes both median (L50) and single-event maximum ($L_{max}$) metrics.

In addition to applying the applicable County noise standards to this Project, the California Environmental Quality Act (CEQA) requires that noise impacts be assessed relative to ambient noise levels that are present without the project. As a result, ambient noise surveys were conducted, and comparisons of Project to No-Project noise levels were used to assess noise

impacts. Specifically, in additional to evaluating changes in traffic noise levels in terms of $L_{dn}$, single-event maximum ($L_{max}$) noise levels and hourly median ($L_{50}$) noise levels were compared for non-transportation noise sources, both with and without the project.

It should be noted that audibility is not a test of significance according to CEQA. If this were the case, any project which added any audible amount of noise to the environment would be considered unacceptable according to CEQA. Because every physical process creates noise, whether by the addition of a single vehicle on a roadway, or by a tractor in an agricultural field, the use of audibility alone as significance criteria would be unworkable. Under CEQA, a significant impact may occur when there is a substantial increase in noise levels, not simply an audible change. The discussion of what constitutes a substantial change in noise environments, both existing and cumulative, is provided in the Regulatory Setting section of this report.

## Effects of Noise on People

The effects of noise on people can be divided into three categories:

1. Subjective effects of annoyance, nuisance, dissatisfaction;
2. Interference with activities such as speech, sleep, and learning; and
3. Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the third category. There is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists, and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Generally, most noise is generated by transportation systems, primarily motor vehicles, aircraft, and railroads. Prominent sources of indoor noise are office equipment, factory machinery, appliances, power tools, lighting hum, and audio entertainment systems. An important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment (or ambient noise) to which one has adapted. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise levels, the following relationships occur (Caltrans, 2013):

- Under controlled conditions in an acoustics laboratory, the trained healthy human ear is able to discern changes in sound levels of 1 dBA;

- Outside such controlled conditions, the trained ear can detect changes of 2 dBA in normal environmental noise;

- It is widely accepted that the average healthy ear, however, can barely perceive noise level changes of 3 dBA;

### Noise Attenuation over Distance

Stationary "point" sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate of approximately 6+ dBA per doubling of distance from the source, depending upon environmental conditions (i.e., atmospheric conditions and noise barriers, either vegetative or manufactured, etc.). Widely distributed noises, such as a large industrial facility, spread over many acres or a street with moving vehicles (a "line" or "moving point" source), would typically attenuate at a lower rate, approximately 4 to 6 dBA per doubling distance from the source (also dependent upon environmental conditions) (Caltrans, 2013). Noise from large construction sites (with heavy equipment moving dirt and trucks entering and exiting the site daily) would have characteristics of both "point" and "line" sources, so attenuation would generally range between 4.5 and 7.5 dBA per doubling of distance. Atmospheric absorption of sound varies depending on temperature and relative humidity, as well as the frequency content of the noise source. In general, "average day" atmospheric conditions result in attenuation at a rate of approximately 1.5 dB per thousand feet of distance (SAE ARP 866A, 1975).

## Vibration Fundamentals & Terminology

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that noise is generally considered to be pressure waves transmitted through air, while vibration is usually associated with transmission through the ground or structures. As with noise, vibration consists of an amplitude and frequency. A person's response to vibration will depend on their individual sensitivity as well as the amplitude and frequency of the source.

Vibration can be described in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration in terms of velocity in inches per second peak particle velocity (IPS, PPV) or root-mean-square (VdB, RMS). Standards pertaining to perception as well as damage to structures have been developed for vibration in terms of peak particle velocity as well as RMS velocities. In terms of RMS velocities, vibration levels below approximately 65 VdB are typically considered to be below the threshold of perception.

As vibrations travel outward from the source, they excite the particles of rock and soil through which they pass and cause them to oscillate. Differences in subsurface geologic conditions and distance from the source of vibration will result in different vibration levels characterized by different frequencies and intensities. In all cases, vibration amplitudes will decrease with increasing distance.

According to the Transportation and Construction-Induced Vibration Guidance Manual (Caltrans, April 2020), operation of construction equipment and construction techniques generate ground vibration. Traffic traveling on roadways can also be a source of such vibration. At high enough amplitudes, ground vibration has the potential to damage structures and/or cause cosmetic damage. Ground vibration can also be a source of annoyance to individuals who live or work close to vibration-generating activities. However, traffic, rarely generates vibration amplitudes high enough to cause structural or cosmetic damage.

# Existing Ambient Noise Environment

## Land Uses in the Project Vicinity

Noise-sensitive land uses are generally defined as locations where people reside or where the presence of unwanted sound could adversely affect the primary intended use of the land. Places where people live, sleep, recreate, worship, and study are generally considered to be sensitive to noise because intrusive noise can be disruptive to these activities.

The nearest sensitive receptors to the project area consist primarily of residential uses to the north, east and south. However, with the exception of the existing residential development located at the intersection of San Juan and El Centro Roads, the project area is generally insulated from those areas by agricultural setbacks, Interstate 80, canals/waterways, and open space. Figure 2 illustrates the relationship of the project area to existing residential developments.

With the exception of seasonal agricultural activities, noise-generating uses located within the Plan area consist primarily of the 49er Travel Center (truck stop) at the intersection of West El Camino Avenue and El Centro Road, and heavy equipment storage yards to the immediate north of the 49er Travel Center. Other uses located within the project area consist of a hotel, fast-food restaurants, and a mini-storage facility. These uses are all located in the immediate vicinity of the intersection of West El Camino Avenue and El Centro Road.

## Noise Sources Affecting the Project Vicinity

Due to the large size of the project area the ambient noise environment in the immediate project vicinity varies considerably. Near the southern boundary of the Plan area the ambient noise environment is dominated by Interstate 80 traffic noise. The central and northern portions of the project area are affected by local surface traffic on El Centro and San Juan Roads. Aircraft operations associated with Sacramento International Airport also contribute to the ambient noise environment within the project area, but on a more intermittent basis than the more continuous traffic noise environment. Noise generated at the 49er Travel Center also contributes to the ambient noise environment in the immediate vicinity of that use, but has little effect on the majority of the project area. Finally, the project area is not appreciably affected by railroad noise. Evaluations of each of the major noise sources affecting the project vicinity and the overall ambient noise environment within the project vicinity from all sources are evaluated below.

## Existing Overall Ambient Noise Environment within the Plan area Vicinity

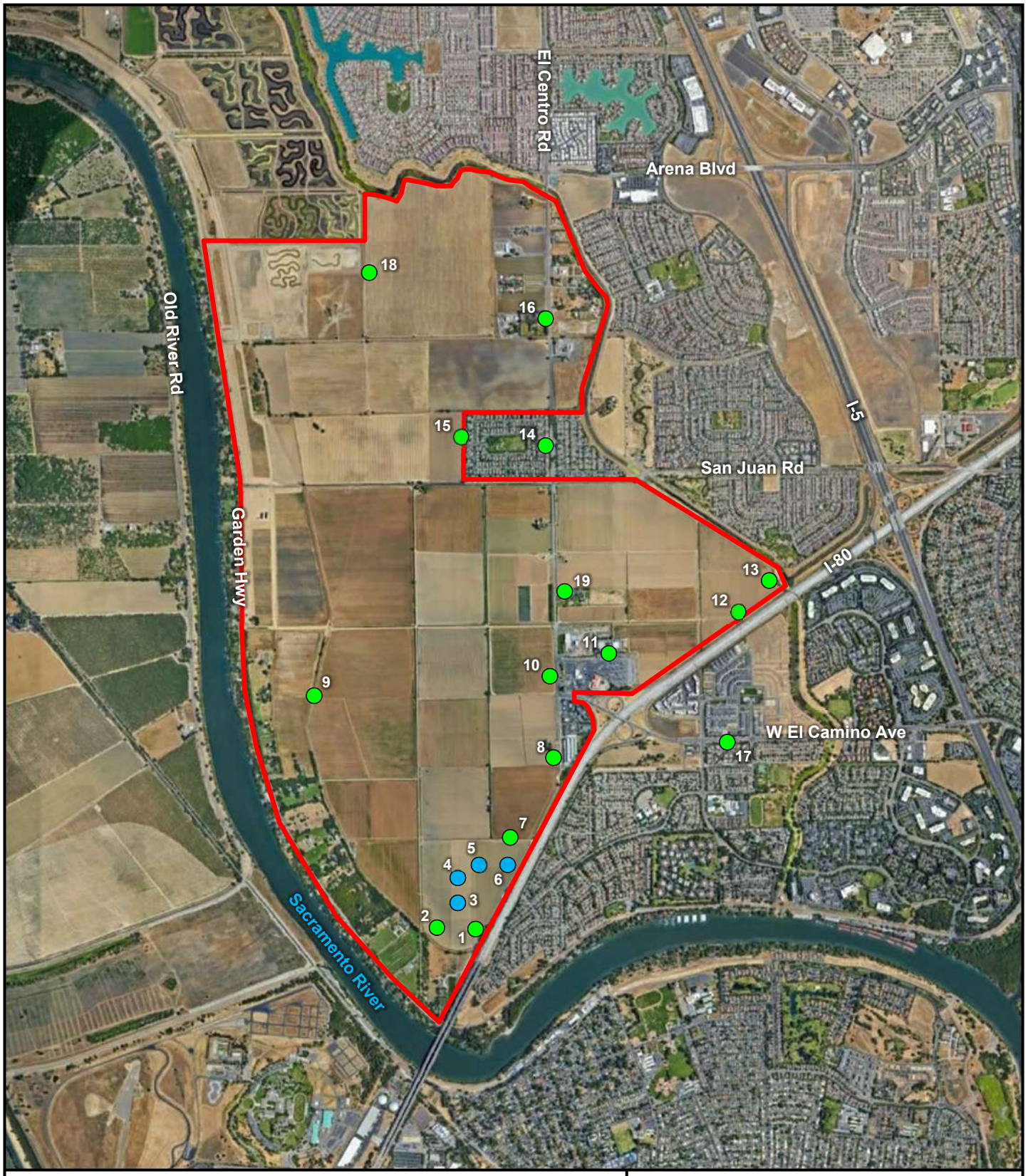
To quantify existing ambient noise environment within the Plan area and project vicinity, BAC conducted long-term (continuous) ambient noise level measurements at fifteen (15) locations between September 21-23 and September 28-30, 2021 for a 5-day monitoring period of Monday-Friday at each location. The long-term noise survey sites are shown on Figure 4. Photographs of the noise survey locations are provided in Appendix B.

Larson Davis Laboratories (LDL) Model 820 and LxT precision integrating sound level meters were used to complete the noise level measurements. The meters were calibrated immediately before and after use with an LDL Model CA200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all specifications of the American National Standards Institute requirements for Type 1 sound level meters (ANSI S1.4).

The results of the long-term ambient noise survey are shown graphically in Appendix C and are summarized in Table 1.

Upon analysis of the long-term ambient measurement data, it was determined that measured noise levels were anomalously high at some sites during a portion of the monitoring period due to local agricultural activities occurring in very close proximity to the sound level meters. As a result, the periods of time containing the anomalously elevated data were omitted from the summaries provided in Table 1. Nonetheless, ongoing agricultural operations in the Project vicinity will continue to affect the ambient noise environment on an intermittent basis.

After exclusion of the anomalous ambient noise level data as described above, the Table 1 data indicate that measured day-night average noise levels (DNL) did not vary appreciably from day to day at each site, but did vary by location within the Plan area as expected. The Table 1 data also indicate that measured day-night average noise levels were highest at sites 12 and 13, which was due to those sites having the closest proximity to I-80.




***Legend***

- Specific Plan Area Boundary (Approximate)
- Long-Term Ambient Noise Measurement Sites
- Short-Term Ambient Noise Measurement Sites
- Short-Term Ambient Vibration Measurement Sites

N

Scale (Feet)

0 750 1,500

Upper Westside Specific Plan
Sacramento County, California

Ambient Noise Monitoring Sites

Figure 4

BOLLARD Acoustical Consultants

**Table 1**
**Summary of Long-Term Ambient Noise Level Measurement Results[1]**

| Site[2] | Date | DNL | Average Measured Hourly Noise Levels (dBA) | | | |
|---|---|---|---|---|---|---|
| | | | Daytime[3] | | Nighttime[4] | |
| | | | $L_{50}$ | $L_{max}$ | $L_{50}$ | $L_{max}$ |
| 1 | Tuesday, September 21, 2021 | 69 | 63 | 73 | 61 | 70 |
| | Wednesday, September 22, 2021 | 70 | 63 | 74 | 61 | 71 |
| | Thursday, September 23, 2021 | 68 | 61 | 71 | 60 | 69 |
| 2 | Tuesday, September 21, 2021 | 64 | 55 | 66 | 57 | 66 |
| | Wednesday, September 22, 2021 | 64 | 56 | 67 | 56 | 65 |
| | Thursday, September 23, 2021 | 62 | 51 | 63 | 54 | 62 |
| 7 | Tuesday, September 21, 2021 | 70 | 60 | 70 | 63 | 72 |
| | Wednesday, September 22, 2021 | 71 | 62 | 71 | 62 | 72 |
| | Thursday, September 23, 2021 | 70 | 57 | 66 | 62 | 72 |
| 8 | Tuesday, September 21, 2021 | 71 | 61 | 72 | 63 | 75 |
| | Wednesday, September 22, 2021 | 72 | 65 | 80 | 63 | 72 |
| | Thursday, September 23, 2021 | 70 | 56 | 68 | 62 | 72 |
| 9 | Tuesday, September 28, 2021 | 55 | 50 | 66 | 40 | 57 |
| | Wednesday, September 29, 2021 | 60 | 48 | 72 | 40 | 56 |
| | Thursday, September 30, 2021 | 68 | 47 | 74 | 45 | 57 |
| 10 | Tuesday, September 21, 2021 | 67 | 59 | 76 | 58 | 73 |
| | Wednesday, September 22, 2021 | 66 | 59 | 78 | 57 | 73 |
| | Thursday, September 23, 2021 | 66 | 59 | 78 | 56 | 72 |
| 11 | Tuesday, September 21, 2021 | 68 | 62 | 77 | 61 | 70 |
| | Wednesday, September 22, 2021 | 67 | 61 | 75 | 60 | 68 |
| | Thursday, September 23, 2021 | 67 | 61 | 74 | 59 | 68 |
| 12 | Tuesday, September 21, 2021 | 76 | 69 | 80 | 67 | 80 |
| | Wednesday, September 22, 2021 | 76 | 71 | 83 | 67 | 79 |
| | Thursday, September 23, 2021 | 75 | 65 | 79 | 67 | 78 |
| 13 | Tuesday, September 21, 2021 | 74 | 67 | 76 | 66 | 77 |
| | Wednesday, September 22, 2021 | 74 | 68 | 79 | 65 | 76 |
| | Thursday, September 23, 2021 | 74 | 65 | 78 | 65 | 76 |
| 14 | Tuesday, September 21, 2021 | 70 | 63 | 86 | 48 | 81 |
| | Wednesday, September 22, 2021 | 69 | 62 | 82 | 47 | 82 |
| | Thursday, September 23, 2021 | 66 | 57 | 79 | 51 | 77 |
| 15 | Tuesday, September 28, 2021 | 55 | 50 | 64 | 42 | 56 |
| | Wednesday, September 29, 2021 | 50 | 44 | 58 | 40 | 54 |
| | Thursday, September 30, 2021 | 53 | 41 | 61 | 43 | 56 |
| 16 | Tuesday, September 28, 2021 | 71 | 62 | 86 | 44 | 82 |
| | Wednesday, September 29, 2021 | 70 | 61 | 84 | 45 | 82 |
| | Thursday, September 30, 2021 | 71 | 60 | 86 | 46 | 82 |
| 17 | Tuesday, September 28, 2021 | 69 | 63 | 84 | 58 | 80 |
| | Wednesday, September 29, 2021 | 70 | 62 | 85 | 58 | 84 |
| | Thursday, September 30, 2021 | 69 | 62 | 85 | 56 | 79 |
| 18 | Wednesday, September 29, 2021 | 57 | 50 | 71 | 39 | 52 |
| | Thursday, September 30, 2021 | 52 | 37 | 63 | 40 | 57 |
| 19 | Tuesday, September 28, 2021 | 68 | 64 | 79 | 50 | 77 |
| | Wednesday, September 29, 2021 | 67 | 63 | 78 | 50 | 73 |
| | Thursday, September 30, 2021 | 68 | 63 | 79 | 54 | 75 |

[1] Detailed summaries of the noise monitoring results are provided in graphically in Appendix C.
[2] Long-term ambient noise monitoring locations are identified on Figure 4.
[3] Daytime hours: 7:00 AM to 10:00 PM
[4] Nighttime hours: 10:00 PM to 7:00 AM
*Source: Bollard Acoustical Consultants, Inc. (2021)*

## Existing Traffic Noise Levels along Plan area Roadway Network

To predict traffic noise levels along existing roadway networks with multiple segments, modelling is commonly used rather than monitoring. Because 45 roadway segments were evaluated in this assessment, conducting noise monitoring along each segment would be impractical. In addition, because future traffic noise levels must be modelled to predict the increases in off-site traffic noise levels which result from a project, the modelling of existing levels allows a more accurate comparison to project levels.

The FHWA Traffic Noise Model (FHWA-RD-77-108) was used to quantify existing traffic noise levels at the existing sensitive land uses nearest to the project area roadway network. The Model was also used to quantify the distances to the 60, 65 and 70 dB DNL traffic noise contours for these roadways. The FHWA Model predicts hourly $L_{eq}$ values for free-flowing traffic conditions. Estimates of the hourly distribution of traffic for a typical 24-hour period were used to develop DNL values from $L_{eq}$ values.

Traffic data in the form of average daily traffic volumes (ADT) were obtained from the project transportation impact study prepared by Fehr & Peers. Other inputs were obtained from published Caltrans traffic counts, SACOG, and BAC observations and file data. The existing traffic noise levels at the distances representing the nearest sensitive land uses to the project area roadways and distances from the centerlines of selected roadways to the 60 dB, 65 dB and 70 dB DNL contours are summarized in Table 2. Appendix F contains the FHWA Model inputs for existing conditions.

In most cases, the actual distances to noise level contours may vary from the distances predicted by the FHWA Model. Factors such as roadway elevation, curvature, grade, and shielding from local topography or structures, or elevated receivers may affect actual sound propagation. Along roadways segments where existing noise barriers are present, the degree of shielding provided by those barriers was estimated and included in the Table 2 results.

**Table 2**
**Existing Traffic Noise Levels at Nearest Receptors and Distances to DNL Contours**

| # | Roadway | From | To | DNL at Nearest Sensitive Receptor | Distance to Contour (ft) | | |
|---|---|---|---|---|---|---|---|
| | | | | | 70 dB DNL | 65 dB DNL | 60 dB DNL |
| 1 | Arena Blvd | El Centro Rd | Stemmler Dr | 64 | 34 | 73 | 157 |
| 2 | Arena Blvd | Stemmler Dr | Duckhorn Dr | 66 | 43 | 92 | 197 |
| 3 | Arena Blvd | Duckhorn Dr | Interstate 5 | 68 | 79 | 169 | 365 |
| 4 | Arena Blvd | Interstate 5 | E Commerce Way | 68 | 73 | 158 | 341 |
| 5 | Arena Blvd | E Commerce Way | Truxel Rd | 69 | 66 | 143 | 307 |
| 6 | Azevedo Dr | West El Camino | San Juan Rd | 66 | 39 | 85 | 183 |
| 7 | Del Paso Rd | Power Line Rd | Hovnanian Dr | 58 | 11 | 24 | 52 |
| 8 | Del Paso Rd | Hovnanian Dr | Natomas Central Dr | 61 | 17 | 37 | 80 |
| 9 | Del Paso Rd | Natomas Central Dr | El Centro Rd | 67 | 42 | 90 | 195 |
| 10 | Del Paso Rd | El Centro Rd | Interstate 5 | 63 | 33 | 70 | 152 |
| 11 | Del Paso Rd | Interstate 5 | E Commerce Way | 68 | 108 | 232 | 500 |
| 12 | Del Paso Rd | E Commerce Way | Truxel Rd | 70 | 91 | 196 | 421 |
| 13 | El Centro Rd | Del Paso Rd | Duckhorn Dr | 65 | 44 | 96 | 206 |
| 14 | El Centro Rd | Duckhorn Dr | Manera Rica Dr | 58 | 17 | 36 | 78 |
| 15 | El Centro Rd | Manera Rica Dr | Arena Blvd | 62 | 20 | 42 | 91 |
| 16 | El Centro Rd | Arena Blvd | San Juan Rd | 61 | 19 | 41 | 89 |
| 17 | El Centro Rd | San Juan Rd | W El Camino Ave | 68 | 69 | 149 | 321 |
| 18 | El Centro Rd | West El Camino | South Terminus | 59 | 19 | 42 | 90 |
| 19 | Garden Highway | Truxel Road | Natomas Park Dr | 60 | 58 | 125 | 270 |
| 20 | Garden Highway | Natomas Park Dr | Interstate 5 | 65 | 66 | 143 | 308 |
| 21 | Garden Highway | Interstate 5 | Gateway Oaks Dr | 62 | 56 | 121 | 261 |
| 22 | Garden Highway | Gateway Oaks Dr | Orchard Lane | 63 | 20 | 42 | 92 |
| 23 | Garden Highway | Orchard Ln | Interstate 80 | 57 | 16 | 34 | 74 |
| 24 | Garden Highway | Interstate 80 | San Juan Rd | 61 | 15 | 33 | 72 |
| 25 | Garden Highway | San Juan Rd | Powerline Road | 62 | 18 | 39 | 84 |
| 26 | Natomas Central | Del Paso Rd | El Centro Rd | 61 | 14 | 31 | 67 |
| 27 | Power Line Rd | Garden Hwy | Del Paso Rd | 61 | 26 | 56 | 122 |
| 28 | Power Line Rd | Del Paso Rd | Interstate 5 | 62 | 29 | 62 | 134 |
| 29 | San Juan Rd | Garden Hwy | El Centro Rd | 64 | 25 | 53 | 115 |
| 30 | San Juan Rd | El Centro Rd | 80/5 Interchange | 64 | 31 | 66 | 143 |
| 31 | San Juan Rd | 80/5 Interchange | Truxel Rd | 69 | 59 | 127 | 273 |
| 32 | W El Camino Ave | El Centro Rd | Interstate 80 | 65 | 75 | 162 | 350 |
| 33 | W El Camino Ave | Interstate 80 | Orchard Lane | 67 | 66 | 143 | 308 |
| 34 | W El Camino Ave | Orchard Ln | Gateway Oaks Dr | 68 | 61 | 132 | 285 |
| 35 | W El Camino Ave | Gateway Oaks Dr | Interstate 5 | 67 | 67 | 144 | 310 |
| 36 | W El Camino Ave | Interstate 5 | Azevedo Dr | 68 | 76 | 165 | 355 |
| 37 | W El Camino Ave | Azevedo Dr | Truxel Rd | 66 | 51 | 110 | 236 |
| 38 | I-80 | Yolo County | W El Camino Ave | 67 | 88 | 190 | 410 |
| 39 | I-80 | West El Camino | I-5 | 65 | 85 | 184 | 396 |
| 40 | I-5 | I-80 | Arena Boulevard | 74 | 581 | 1,251 | 2,695 |
| 41 | I-5 | Arena Blvd | Del Paso | 73 | 538 | 1,158 | 2,496 |
| 42 | I-5 | Del Paso | Hwy 99 | 70 | 229 | 494 | 1,065 |
| 43 | I-5 | Hwy 99 | Airport Blvd | 69 | 164 | 353 | 761 |

*Source: FHWA-RD-77-108 with inputs from project traffic impact study. Appendix F contains FHWA model inputs.*

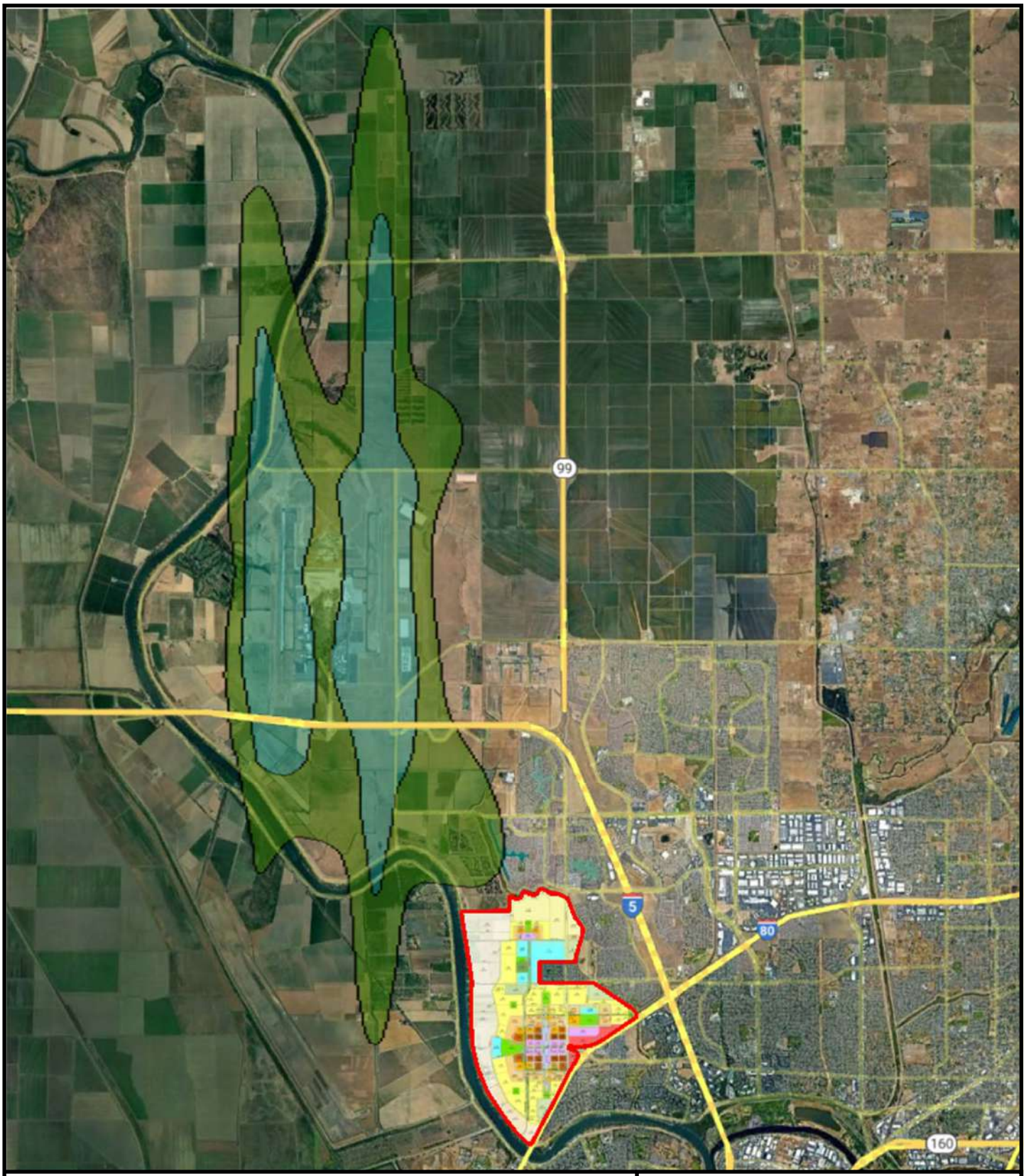
## Existing Aircraft Noise Environment

Sacramento International Airport is located approximately 2.5 miles northwest of the project area near I-5 and the Sacramento River. The airport is mostly surrounded by agricultural uses, but development of the Metro Air Center is underway to the immediate east of the airport, as is development of commercial and residential uses in the North and South Natomas areas. According to the County's General Plan the airport has about 160 scheduled daily flights at current passenger levels, serving about 20,000 passengers per day. Although the majority of the flights occur during daytime hours (7 am – 10 pm), nighttime flights do occur.

Aircraft departure heading (north or south), is primarily dependent on wind speed and direction. During south departure conditions, many aircraft either directly overfly the Plan area or occur in reasonably close proximity to the Plan area.

Ambient noise monitoring Site 18 (see Figure 4 for location) was positioned near the northern portion of the Plan area with the closest proximity to Sacramento International Airport. As indicated in Table 1, measured ambient noise levels at this location ranged from 52-57 dB DNL with maximum noise levels averaging 63-71 dB $L_{max}$ during daytime hours.

Figure 5 shows the noise contours for Sacramento International Airport. Figure 5 indicates that the Plan area is located outside of the Sacramento International Airport 60 dB CNEL noise contours, meaning that aircraft noise exposure within the Plan area is below 60 dB CNEL. This is consistent with the ambient noise monitoring results from monitoring Site 18 which also indicate aircraft noise exposure at that location as below 60 dB $L_{dn}$ ($L_{dn}$ and CNEL are essentially equivalent).




***Legend***

65 dB Ldn Noise Contour (Approximate)

60 dB Ldn Noise Contour (Approximate)

Specific Plan Area Boundary (Approximate)

N

Scale (Feet)

0 5000 10000

Upper Westside Specific Plan
Sacramento County, California

Sacramento International Airport
Noise Contours

Figure 5

BOLLARD
Acoustical Consultants

# Existing Ambient Vibration Environment

During multiple site visits conducted by BAC staff, vibration levels within the Plan area were subjectively evaluated as being below the threshold of perception. Nonetheless, to generally quantify existing vibration levels at representative locations within the project site, BAC conducted short-term (10-minute) vibration measurements at six (6) locations within the Plan area. The locations are Sites 1, 9, 10, 12, 18 and 19 shown on Figure 4. Photographs of the vibration survey locations are provided in Appendix E.

A Larson-Davis Laboratories Model LxT precision integrating sound level meter equipped with a vibration transducer was used to complete the measurements. The system was calibrated in the field prior to use to ensure the accuracy of the measurements. The ambient vibration monitoring results are summarized in Table 3.

**Table 3**
**Summary of Ambient Vibration Monitoring Results – November 29, 2021**

| Site[1] | Time | Average Measured Vibration Level, VdB ()[1] |
|---|---|---|
| 1 | 12:44 PM | 49 |
| 9 | 1:17 PM | 35 |
| 10 | 2:52 PM | 49 |
| 12 | 2:03 PM | 52 |
| 18 | 2:28 PM | 32 |
| 19 | 1:41 PM | 54 |

[1]Vibration measurement sites are the same sites used for the ambient noise surveys shown in Figure 4.
*Source: Bollard Acoustical Consultants, Inc. (2021)*

The Table 3 data indicate that measured average vibration levels at the project area were below the 65 VdB threshold of perception, which is consistent with the BAC staff observations.

# Criteria for Acceptable Noise and Vibration Exposure

## Federal

There are no federal noise or vibration criteria which would be directly applicable to this project. However, because the Sacramento County General Plan does not currently have a policy for assessing noise impacts associated with increases in ambient noise levels from project-generated noise sources, recommendations made by the Federal Interagency Commission on Noise (FICON) are provided.

Federal Interagency Commission on Noise (FICON)

FICON has developed a graduated scale for use in the assessment of project-related noise level increases. The criteria shown in Table 4 was developed by FICON as a means of developing thresholds for impact identification for project-related noise level increases. The FICON standards have been used extensively in recent years in the preparation of the noise sections of Environmental Impact Reports that have been certified in many California cities and counties.

The use of the FICON standards is considered conservative relative to thresholds used by other agencies in the State of California. For example, the California Department of Transportation (Caltrans) requires a project-related traffic noise level increase of 12 dB for a finding of significance, and the California Energy Commission (CEC) considers project-related noise level increases between 5 to 10 dB significant, depending on local factors. Therefore, the use of the FICON standards, which set the threshold for finding of significant noise impacts as low as 1.5 dB, provides a very conservative approach to impact assessment for this project.

**Table 4**
**Significance of Changes in Cumulative Noise Exposure**

| Ambient Noise Level Without Project (DNL) | Change in Ambient Noise Level Due to Project |
|---|---|
| <60 dB | +5.0 dB or more |
| 60 to 65 dB | +3.0 dB or more |
| >65 dB | +1.5 dB or more[1] |

*Source: Federal Interagency Committee on Noise (FICON)*

1. It should be noted that FICONs Federal Agency Review of Selected Airport Noise Analysis Issues (1992) report does not identify a 1.5 dBA increase as a threshold of significance, but rather, an increase that warrants further analysis. However, for purposes of this analysis, a 1.5 dB threshold is utilized to assess the significance of project-related noise increases at sensitive locations currently exposed to ambient noise environments exceeding 65 dB DNL.

Based on the FICON research, as shown in Table 4, a 5 dB increase in noise levels due to a project is required for a finding of significant noise impact where ambient noise levels without the project are less than 60 dB DNL. Where pre-project ambient conditions are between 60 and 65 dB DNL, a 3 dB increase is applied as the standard of significance. Finally, in areas already exposed to higher noise levels, specifically pre-project noise levels in excess of 65 dB DNL, a 1.5 dB increase is conservatively used as the threshold of significance. It should be noted that the use of these thresholds is consistent with Sacramento County General Plan Noise Element Policy NO-9, which applies to capacity enhancing roadway improvement projects.

Federal Transit Administration

Sacramento County does not currently have adopted standards for groundborne vibration. As a result, the vibration impact criteria developed by the Federal Transit Administration (FTA) were applied to the project. The FTA criteria applicable to damage and annoyance from vibration typically associated with construction activities are presented in Tables 5 and 6.

**Table 5**
**FTA Criteria for Assessing Vibration Damage to Structures**

| Building Category | Level, VdB[1] |
|---|---|
| I. Reinforced-concrete, steel or timber (no plaster) | 102 |
| II. Engineered concrete and masonry (no plaster) | 98 |
| III. Non-engineered timber and masonry buildings | 94 |
| IV. Buildings extremely susceptible to vibration damage | 90 |

[1.] RMS velocity in decibels (VdB) re 1 micro-inch/second

*Source: Federal Transit Administration (FTA) Noise and Vibration Manual, Table 12-3*

**Table 6**
**Groundborne Vibration Impact Criteria for General Assessment**

| Land Use Category | Impact Levels (VdB) | | |
|---|---|---|---|
| | Frequent Events[a] | Occasional Events[b] | Infrequent Events[c] |
| Category 1: Buildings where vibration would interfere with interior ops. | 65[d] | 65[d] | 65[d] |
| Category 2: Residences and buildings where people normally sleep | 72 | 75 | 80 |
| Category 3: Institutional land uses with primarily daytime uses | 75 | 78 | 83 |

Vibration levels are measured in or near the vibration-sensitive use.

**a.** "Frequent Events" is defined as more than 70 vibration events of the same source per day.
**b.** "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day.
**c.** "Infrequent Events" is defined as fewer than 30 vibration events of the same source per day.
**d.** This criterion limit is based on levels that are acceptable for most moderately-sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels.

*Source: Federal Transit Administration, Transit Noise Impact and Vibration Assessment, May 2006.*

## State of California

California Environmental Quality Act (CEQA)

The State of California has established regulatory criteria that are applicable to this assessment. Specifically, Appendix G of the State of California Environmental Quality Act (CEQA) Guidelines are used to assess the potential significance of impacts pursuant to local General Plan policies, Municipal Code standards, or the applicable standards of other agencies. According to Appendix G of the CEQA guidelines, a significant noise or vibration impact may occur if the Project results in:

A. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or other applicable standards of other agencies.

B. Generation of excessive groundborne vibration or groundborne noise levels.

C. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

It should be noted that audibility is not a test of significance according to CEQA. If this were the case, any project which added any audible amount of noise to the environment would be considered significant according to CEQA. Because every physical process creates noise, the use of audibility alone as significance criteria would be unworkable. Under CEQA, a significant impact may occur when there is a substantial increase in noise levels, not simply an audible change.

## Local

Sacramento County General Plan

The Noise Element of the Sacramento County General Plan contains the County's noise-related policies. The specific policies which are generally applicable to this project are reproduced below:

**Traffic and Railroad Noise**

**Policy NO-1** The noise level standards for noise-sensitive areas of new uses affected by traffic or railroad noise sources in Sacramento County are shown in Table 7. Where the noise level standards of Table 7 are predicted to be exceeded at new uses proposed within Sacramento County which are affected by traffic or railroad noise, appropriate noise mitigation measures shall be included in the project design to reduce projected noise levels to a state of compliance with the Table 7 standards.

**Aircraft Noise**

**Policy NO-2** Proposals for new development within Sacramento County which may be affected by aircraft noise shall be evaluated relative to General Plan Noise Element Table 4 (*Land Use Compatibility for Aircraft Noise)* except in the following case. Development proposals which may be affected by aircraft noise from Sacramento International Airport shall be evaluated relative to the Land Use Compatibility Plan prepared for Sacramento International Airport dated December 12, 2013.

**Policy NO-3** New residential development within the 60 CNEL noise contours adopted by the County for land use planning purposes at any airport or Helipad within

Sacramento County shall be prohibited. This policy is not applicable to Executive Airport.

**Policy NO-4** New residential development within adopted Airport Policy Area boundaries, but outside the 60 CNEL, shall be subject to the following conditions:

A. Provide minimum noise insulation to 45 dB CNEL within new residential dwellings, including detached single family dwellings, with windows closed in any habitable room.

B. Notification in the Public Report prepared by the California Department of Real Estate disclosing the fact to prospective buyers that the parcel is located within an Airport Policy Area.

C. An Avigation Easement prepared by the Sacramento County Counsel's Office granted to the County of Sacramento, recorded with the Sacramento County Recorder, and filed with Department of Airports. Such Avigation Easement shall acknowledge the property location within an Airport Planning Policy Area and shall grant the right of flight and unobstructed passage of all aircraft into and out of the subject Airport.

Exceptions: New accessory residential dwellings on parcels zoned Agricultural, Agricultural Residential, Interim Agricultural, Interim General Agricultural, or Interim Limited Agricultural and between the 60 and 65 CNEL contours, shall be permitted within adopted Airport Policy Area boundaries, but would be subject to the conditions listed above.

**Non-Transportation Noise**

**Policy NO-5** The interior and exterior noise level standards for noise-sensitive areas of new uses affected by existing non-transportation noise sources in Sacramento County are shown by Table 8. Where the noise level standards of Table 8 are predicted to be exceeded at a proposed noise-sensitive area due to existing non-transportation noise sources, appropriate noise mitigation measures shall be included in the project design to reduce projected noise levels to a state of compliance with the Table 8 standards within sensitive areas.

**Policy NO-6** Where a project would consist of or include non-transportation noise sources, the noise generation of those sources shall be mitigated so as not exceed the interior and exterior noise level standards of Table 8 at existing noise-sensitive areas in the project vicinity.

**Policy NO-7** The "last use there" shall be responsible for noise mitigation. However, if a noise generating use is proposed adjacent to lands zoned for uses which may have sensitivity to noise, then the noise generating use shall be responsible for mitigating its noise generation to a state of compliance with the Table 8

standards at the property line of the generating use in anticipation of the future neighboring development.

**Construction Noise**

**Policy NO-8** Noise associated with construction activities shall adhere to the County Code requirements. Specifically, Section 6.68.090(e) addresses construction noise within the County.

**Other General Plan Noise Policies**

**Policy NO-12** All noise analyses prepared to determine compliance with the noise level standards contained within this Noise Element shall be prepared in accordance with Table 9.

**Policy NO-13** Where noise mitigation measures are required to satisfy the noise level standards of this Noise Element, emphasis shall be placed on the use of setbacks and site design to the extent feasible, prior to consideration of the use of noise barriers.

**Policy NO-14** Noise analyses prepared for multi-family residential projects, town homes, mixed-use, condominiums, or other residential projects where floor ceiling assemblies or party-walls shall be common to different owners/occupants, shall be consistent with the State of California Noise Insulation standards.

**Policy NO-15** The County shall have the flexibility to consider the application of 5 dB less restrictive exterior noise standards than those prescribed in Tables 7 and 8 in cases where it is impractical or infeasible to reduce exterior noise levels within infill projects to a state of compliance with the Table 7 or 8 standards. In such cases, the rational for such consideration shall be clearly presented and disclosure statements and noise easements shall be included as conditions of project approval. The interior noise level standards of Tables 7 and 8 would still apply. The maximum allowable long-term noise exposure permissible for non-industrial uses is 75 dB.

**Exemptions**

**Policy NO-16** The following sources of noise shall be exempt from the provisions of this Noise Element:

A. Emergency warning devices and equipment operated in conjunction with emergency situations, such as sirens and generators which are activated during power outages. The routine testing of such warning devices and equipment shall also be exempt provided such testing occurs during daytime hours.

B. Activities associated with events for which a permit has been obtained from the County.

**Table 7**
**Noise Standards for New Uses Affected by Traffic and Railroad Noise**

| Receiving Land Use | Outdoor Areas[a] dBA (DNL/CNEL) | Interior Areas[b] dBA (DNL/CNEL) | Notes |
|---|---|---|---|
| Residential | 65 | 45 | 5 |
| Transient lodging | 65 | 45 | 3, 5 |
| Hospitals, nursing homes | 65 | 45 | 3, 4, 5 |
| Theaters & auditoriums | -- | 35 | 3 |
| Churches, schools, libraries | 65 | 40 | 3 |
| Office buildings | 65 | 45 | 3 |
| Commercial buildings | -- | 50 | 3 |
| Playgrounds, parks | 70 | -- | |
| Industry | 65 | 50 | 3 |

[1] Sensitive areas are defined in acoustic terminology section.
[2] Interior noise level standards are applied within noise-sensitive areas of the various land uses, with windows and doors in the closed positions.
[3] Where there are no sensitive exterior spaces proposed for these uses, only the interior noise level standard shall apply.
[4] Hospitals are often noise-generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.
[5] If this use is affected by railroad noise, a maximum ($L_{max}$) noise level standard of 70 dB shall be applied to all sleeping rooms to reduce the potential for sleep disturbance during nighttime train passages.

*Source: Sacramento County General Plan, Noise Element, Table 1 (2011)*

**Table 8**
**Non-Transportation Noise Standards – Median ($L_{50}$) / Maximum ($L_{max}$)[1]**

| Receiving Land Use | Outdoor Area | | Interior[2] | Notes |
|---|---|---|---|---|
| | Daytime (7am-10pm) | Nighttime (10pm to 7am) | Day & Night | |
| Residential | 55 / 75 | 50 / 70 | 35 / 55 | -- |
| Transient lodging | 55 / 75 | -- | 35 / 55 | 3 |
| Hospitals, nursing homes | 55 / 75 | -- | 35 / 55 | 4,5 |
| Theaters & auditoriums | -- | -- | 30 / 50 | 5 |
| Churches, schools, libraries | 55 / 75 | -- | 35 / 60 | 5 |
| Office buildings | 60 / 75 | -- | 45 / 65 | 5 |
| Commercial buildings | -- | -- | 45 / 65 | 5 |
| Playgrounds, parks | 65 / 75 | -- | -- | 5 |
| Industry | 60 / 80 | -- | 50 / 70 | 5 |

[1] The Table 8 standards shall be reduced by 5 dB for sounds consisting primarily of speech or music, and for recurring impulsive sounds. If the existing ambient noise level exceeds the standards of Table 8, then the noise level standards shall be increased at 5 dB increments to encompass the ambient.

[2] Interior noise level standards are applied within noise-sensitive areas with windows and doors in the closed positions.

[3] Outdoor activity areas of transient lodging facilities are not commonly used during nighttime hours.

[4] Hospitals are often noise-generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.

[5] The outdoor activity areas of these uses (if any) are not typically utilized during nighttime hours.

-Where median (L50) noise level data is not available for a particular noise source, average (Leq) values may be substituted for the standards of this table provided the noise source in question operates for at least 30 minutes of an hour. If the source in question operates less than 30 minutes per hour, then the maximum noise level standards shown would apply.

*Source: Sacramento County General Plan, Noise Element, Table 2 (2011)*

**Table 9**
**Requirements for Acoustical Analyses Prepared in Sacramento County**

An acoustical analysis prepared pursuant to the Noise Element shall:

1. Be the responsibility of the applicant.
2. Be prepared by qualified persons experienced in the fields of environmental noise assessment and architectural acoustics.
3. Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.
4. Estimate projected future (20 year) noise levels in terms of the Standards of Tables 7 and 8 and compare those levels to the adopted policies of the Noise Element.
5. Recommend appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element.
6. Estimate interior and exterior noise exposure after the prescribed mitigation measures have been implemented.

*Source: Sacramento County General Plan, Noise Element, Table 3 (2011)*

Sacramento Area Council of Governments (SACOG)

The Upper Westside Specific Plan area is located approximately 3 miles from the Sacramento International Airport. Pursuant to Policy NO-2 of the Sacramento County General Plan Noise Element, proposals for new development within Sacramento County which may be affected by aircraft noise from Sacramento International Airport shall be evaluated relative to the Sacramento International Airport Land Use Compatibility Plan prepared by the Sacramento Area Council of Governments (SACOG) dated December 12, 2013. The Land Use Plan's noise compatibility criteria is reproduced in Table 10.

**Table 10**
**Sacramento International Airport Noise Compatibility**

| Land Use Category[1]<br>› Multiple land use categories and compatibility criteria may apply to a project<br>› Land uses not specifically listed shall be evaluated using criteria for similar uses | Exterior Noise Exposure (CNEL dB) | | | | | Criteria for Conditional Uses<br>› Interior CNEL limits in yellow cells apply in addition to other listed conditions (see Policy 3.2.3)<br>› Acoustical study may be required for noise-sensitive uses proposed in areas exposed to CNEL 60 dB or greater (see Policy 3.2.3(d)) |
|---|---|---|---|---|---|---|
| | ≤ 60 | 60-65 | 65-70 | 70-75 | > 75 | |
| ***Legend*** *(see last page of table for interpretation)* | ***Normally Compatible*** | | | ***Conditional*** | | ***Incompatible*** |
| *Outdoor Uses (limited or no activities in buildings)* | | | | | | |
| Natural Land Areas: woods, brush lands, desert | | | | | | Compatible at levels indicated, but noise disruption of natural quiet will occur |
| Water: flood plains, wetlands, lakes, reservoirs | | | | | | |
| Agriculture (except residences and livestock): crops, orchards, vineyards, pasture, range land | | | | | | |
| Livestock Uses: feed lots, stockyards, breeding, fish hatcheries, horse stables | | | | | | Exercise caution with uses involving noise-sensitive animals [2] |
| Outdoor Major Assembly Facilities (capacity ≥1,000 people): spectator-oriented outdoor stadiums, amphitheaters, fairgrounds, zoos | | | | | | Exercise caution if clear audibility by users is essential |
| Group Recreation (limited spectator stands): athletic fields, water recreation facilities, picnic areas | | | | | | Exercise caution if clear audibility by users is essential |
| Small/Non-Group Recreation: golf courses, tennis courts, shooting ranges | | | | | | Exercise caution if clear audibility by users is essential |
| Local Parks: children-oriented neighborhood parks, playgrounds | | | | | | Exercise caution if clear audibility by users is essential |
| Camping: campgrounds, recreational vehicle/motor home parks | | | | | | |
| Cemeteries (excluding chapels) | | | | | | Compatible at levels indicated, but noise disruption of outdoor activities will occur |
| *Residential and Lodging Uses* | | | | | | |
| Single-Family Residential (<8 d.u./acre): detached dwellings, townhouses, mobile homes, bed & breakfast inns | | * | | | | * Within CNEL 60-65 dB, new dwellings allowed on existing parcels (see Policy 1.4.3) |
| Multi-Family Residential (≥8 d.u./acre): condominiums, apartments, agricultural-related housing | | | | | | |
| Long-Term Lodging (>30 nights): extended-stay hotels, dormitories | | 45 | | | | |
| Short-Term Lodging (≤ 30 nights): hotels, motels, other transient lodging(except conference/assembly facilities) | | 45 | 45 | | | |
| Congregate Care: retirement homes, assisted living, intermediate care facilities | | 45 | | | | |
| *Educational and Institutional Uses* | | | | | | |
| Family day care homes (≤14 children) | | 45 | | | | |
| Children's Schools: K-12, day care centers (>14 children); school libraries | | 45 | | | | New schools incompatible above CNEL 60 dB unless special circumstances exist (see Policies 3.2.2(a) and 4.1.5) |

**Table 10 continued**
**Sacramento International Airport Noise Compatibility**

| Land Use Category[1] | Exterior Noise Exposure (CNEL dB) | | | | | Criteria for Conditional Uses |
|---|---|---|---|---|---|---|
| › Multiple land use categories and compatibility criteria may apply to a project<br>› Land uses not specifically listed shall be evaluated using criteria for similar uses | ≤ 60 | 60-65 | 65-70 | 70-75 | > 75 | › Interior CNEL limits in yellow cells apply in addition to other listed conditions (see Policy 3.2.3)<br>› Acoustical study may be required for noise-sensitive uses proposed in areas exposed to CNEL 60 dB or greater (see Policy 3.2.3(d)) |
| ***Legend*** *(see last page of table for interpretation)* | ***Normally Compatible*** | | ***Conditional*** | | ***Incompatible*** | |
| Adult Education classroom space: adult schools, colleges, universities | | 45 | 45 | | | Applies only to classrooms; offices, laboratory facilities, gymnasiums, outdoor athletic facilities, and other uses to be evaluated as indicated for those land use categories |
| Community Libraries | | 45 | | | | |
| Indoor Major Assembly Facilities (capacity ≥1,000 people): auditoriums, conference centers, concert halls, indoor arenas | | 45 | 45 | | | |
| Indoor Large Assembly Facilities (capacity 300 to 999 people): movie theaters, places of worship, cemetery chapels, mortuaries | | 45 | 45 | | | |
| Indoor Recreation: gymnasiums, club houses, athletic clubs, dance studios | | | 50 | | | |
| In-Patient Medical: hospitals, mental hospitals, nursing homes | | 45 | | | | |
| Out-Patient Medical: health care centers, clinics | | 45 | 45 | 45 | | |
| Penal Institutions: prisons, reformatories | | 45 | 45 | | | |
| Public Safety Facilities: police, fire stations | | | 50 | 50 | | |
| *Commercial, Office, and Service Uses* | | | | | | |
| Major Retail: regional shopping centers, 'big box' retail | | | 50 | 50 | | Outdoor dining or gathering places incompatible above CNEL 70 dB |
| Local Retail: community/neighborhood shopping centers, grocery stores | | | 50 | 50 | | Outdoor dining or gathering places incompatible above CNEL 70 dB |
| Eating/Drinking Establishments: restaurants, fast-food dining, bars | | | 50 | 50 | | Outdoor dining or gathering places incompatible above CNEL 70 dB |
| Limited Retail/Wholesale: furniture, automobiles, heavy equipment, lumber yards, nurseries | | | 50 | 50 | | |
| Offices: professional services, doctors, finance, civic; radio, television & recording studios, office space associated with other listed uses | | | 50 | 50 | | |
| Personal & Miscellaneous Services: barbers, car washes, print shops | | | 50 | 50 | | |
| Vehicle Fueling: gas stations, trucking & transportation terminals | | | | 50 | 50 | |
| *Industrial, Manufacturing, and Storage Uses* | | | | | | |
| Hazardous Materials Production: oil refineries, chemical plants | | | | | | |
| Heavy Industrial | | | | | | |
| Light Industrial, High Intensity: food products preparation, electronic equipment | | | | 50 | 50 | |
| Light Industrial, Low Intensity: machine shops, wood products, auto repair | | | | 50 | 50 | |
| Research & Development | | | 50 | 50 | | |

**Table 10 continued**
**Sacramento International Airport Noise Compatibility**

| Land Use Category[1] | Exterior Noise Exposure (CNEL dB) | | | | | Criteria for Conditional Uses |
|---|---|---|---|---|---|---|
| › Multiple land use categories and compatibility criteria may apply to a project<br>› Land uses not specifically listed shall be evaluated using criteria for similar uses | ≤ 60 | 60-65 | 65-70 | 70-75 | > 75 | › Interior CNEL limits in yellow cells apply in addition to other listed conditions (see Policy 3.2.3)<br>› Acoustical study may be required for noise-sensitive uses proposed in areas exposed to CNEL 60 dB or greater (see Policy 3.2.3(d)) |
| ***Legend*** *(see last page of table for interpretation)* | ***Normally Compatible*** | | | ***Conditional*** | | ***Incompatible*** |
| Indoor Storage: wholesale sales, warehouses, mini/other indoor storage, barns, greenhouses | | | | | | |
| Outdoor Storage: public works yards, automobile dismantling | | | | | | |
| Mining & Extraction | | | | | | |
| *Transportation, Communication, and Utilities* | | | | | | |
| Airport Terminals: airline, general aviation | | | | 50 | 50 | |
| Rail & Bus Stations | | | | 50 | 50 | |
| Transportation Routes: road & rail rights-of-way, bus stops | | | | | | |
| Auto Parking: surface lots, structures | | | | | | |
| Communications Facilities: emergency communications, broadcast & cell towers | | | | | | |
| Power Plants (primary, peaker, alternative energy) | | | | | | |
| Electrical Substations | | | | | | |
| Wastewater Facilities: treatment, disposal | | | | | | |
| Solid Waste Disposal Facilities: landfill, incineration | | | | | | |
| Solid Waste Transfer Facilities, Recycle Centers | | | | | | |

| Land Use Acceptability | Interpretation/Comments |
|---|---|
| *Normally Compatible* | *Indoor Uses:* Either the activities associated with the land use are inherently noisy or standard construction methods will sufficiently attenuate exterior noise to an acceptable indoor community noise equivalent level (CNEL); for land use types that are compatible because of inherent noise levels, sound attenuation must be provided for associated office, retail, and other noise-sensitive indoor spaces sufficient to reduce exterior noise to an interior maximum of CNEL 50 dB<br>*Outdoor Uses:* Except as noted in the table, activities associated with the land use may be carried out with minimal interference from aircraft noise |
| *Conditional* | *Indoor Uses:* Building structure must be capable of attenuating exterior noise to the indoor CNEL indicated by the number in the cell (either 45 or 50)<br>*Outdoor Uses:* Caution should be exercised with regard to noise-sensitive outdoor uses; these uses are likely to be disrupted by aircraft noise events; acceptability is dependent upon characteristics of the specific use [1] |
| *Incompatible* | *Indoor Uses:* Unacceptable noise interference if windows are open; at exposures above CNEL 65 dB, extensive mitigation techniques required to make the indoor environment acceptable for performance of activities associated with the land use<br>*Outdoor Uses:* Severe noise interference makes the outdoor environment unacceptable for performance of activities associated with the land use |

Sacramento County Municipal Code

The provisions of the Sacramento County Municipal Code which would be most applicable to this project are reproduced below. For residential uses affected by non-transportation noise sources, the County Municipal Code standards are effectively identical to the County's General Plan standards shown in Table 8.

**6.68.070 Exterior Noise Standards.**

A. The following noise standards, unless otherwise specifically indicated in this chapter, shall apply to all properties within a designated noise area.

| Noise Area | County Zoning Districts | Time Period | Exterior Noise Standard |
|---|---|---|---|
| 1 | RE-1, RD-1, RE-2, RD-2, RE-3, RED-3, RD-4, R-1-A, RD-5, R-2, RD-10, R-2A, RD-20, R-3, RD-30, RD-40, RM-1, RM-2, A-1-B, AR-1, A-2, AR-2, A-5, AR-5 | 7:00 a.m. to 10:00 p.m. | 55 dBA |
| | | 10:00 p.m. to 7:00 a.m. | 50 dBA |

B. It is unlawful for any person at any location within the County to create any noise which causes the noise levels on an affected property, when measured in the designated noise area, to exceed for the duration of time set forth following, the specified exterior noise standards in any one hour by:

| Cumulative Duration of the Intrusive Sound | Allowance Decibels |
|---|---|
| 1. Cumulative period of 30 minutes per hour | 0 |
| 2. Cumulative period of 15 minutes per hour | +5 |
| 3. Cumulative period of 5 minutes per hour | +10 |
| 4. Cumulative period of 1 minute per hour | +15 |
| 5. Level not to be exceeded for any time per hour | +20 |

C. Each of the noise limits specified in subdivision (B) of this section shall be reduced by five dBA for impulsive or simple tone noises, or for noises consisting of speech or music.

D. If the ambient noise level exceeds that permitted by any of the first four noise limit categories specified in subdivision (B), the allowable noise limit shall be increased in five dBA increments in each category to encompass the ambient noise level. If the ambient noise level exceeds the fifth noise level category, the maximum ambient noise level shall be the noise limit for that category.

**6.68.090 Exemptions.**

The following activities shall be exempted from the provisions of this chapter:

A. School bands, school athletic and school entertainment events;

B. Outdoor gatherings, public dances, shows and sporting and entertainment events, provided said events are conducted pursuant to a license by a public entity or private school;

C. Activities conducted on parks, public playgrounds and school grounds, provided such parks, playgrounds and school grounds are owned and operated by a public entity or private school;

D. Any mechanical device, apparatus or equipment related to or connected with emergency activities or emergency work;

E. Noise sources associated with construction, repair, remodeling, demolition, paving or grading of any real property, provided said activities do not take place between the hours of eight p.m. and six p.m. on weekdays and Friday commencing at eight p.m. through and including seven a.m. on Saturday; Saturdays commencing at eight p.m. through and including seven a.m. on the next following Sunday and on each Sunday after the hour of eight p.m. Provided, however, when an unforeseen or unavoidable conditions occurs during a construction project and the nature of the project necessitates that work in process be continued until a specific phase is completed, the contractor or owner shall be allowed to continue work after eight p.m. and to operate machinery and equipment necessary until completion of the specific work in progress can be brought to conclusion under conditions which will not jeopardize inspection acceptance or create undue financial hardships for the contractor or owner;

F. Noise sources associated with agricultural operations, provided such operations do not take place between the hours of eight p.m. and six a.m.;

G. All mechanical devices, apparatus or equipment which are utilized for the protection or salvage of agricultural crops during periods of adverse weather conditions or when the use of mobile noise sources is necessary for pest control;

H. Noise sources associated with maintenance of residential area property, provided said activities take place between the hours of six a.m. and eight p.m. on any day except Saturday or Sunday, or between the hours of seven a.m. and eight p.m. on Saturday or Sunday.

**6.68.110 Schools, Hospitals and Churches.**

It is unlawful for any person to create any noise which causes the noise level at any school, hospital or church, while the same is in use, to exceed the noise standards specified in Section 6.68.070 or to create any noise which unreasonably interferes with the use of such institution or unreasonably disturbs or annoys patients in the hospital. In any disputed case, interfering noise which is ten dBA or more, greater than the ambient noise level at the building, shall be deemed excessive and unlawful.

**6.68.120 Machinery, Equipment, Fans and Air Conditioning.**

A. It is unlawful for any person to operate any mechanical equipment, pump, fan, air conditioning apparatus, stationary pumps, stationary cooling towers, stationary compressors, similar mechanical devices, or any combination thereof installed after July 1, 1976, in any manner so as to create any noise which would cause the maximum noise level to exceed:

    1. Sixty dBA at any point at least one foot inside the property line of the affected residential property and three to five feet above ground level;

    2. Fifty-five dBA in the center of a neighboring patio three to five feet above ground level;

    3. Fifty-five dBA outside of the neighboring living area window nearest the equipment location. Measurements shall be taken with the microphone not more than three feet from the window opening but at least three feet from any other surface.

B. Equipment installed five years after July 1, 1976, must comply with a maximum limit of fifty-five dBA at any point at least one foot inside the property line of the affected residential property and three to five feet above ground level.

C. Equipment installed before December 17, 1970, must comply with a limit of sixty-five dBA maximum in sound level at any point at least one foot inside the affected property line and three to five feet above ground level by January 1, 1977. Equipment installed between December 16, 1970, and July 1, 1976, must comply with a limit of sixty-five dBA maximum sound level at any point at least one foot inside the property line of the affected residential property and three to five feet above ground level.

# Impacts and Mitigation Measures

## Thresholds of Significance

Appendix G of the CEQA Guidelines asks whether the project would result in any of the following to determine whether a significant noise or vibration impact would occur:

- Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or other applicable standards of other agencies; or

- Generation of excessive groundborne vibration or groundborne noise levels; or

- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

For the purposes of this assessment, a noise or vibration impact may be considered significant if the project would result in exceedance of the following criteria based on standards established by the Federal Interagency Commission on Noise (FICON), California Department of Transportation (Caltrans), Sacramento Area County of Governments (SACOG), Sacramento County General Plan and Municipal Code:

- A significant noise impact would be identified if the project would expose persons to or generate noise levels that would exceed applicable noise standards presented in the Sacramento County General Plan, Municipal Code, or SACOG's Sacramento International Airport Land Use Compatibility Plan.

- A significant impact would be identified if off-site traffic noise exposure or on-site activities generated by the project would substantially increase noise levels at existing sensitive receptors in the vicinity. For operational noise, a substantial increase would be identified relative to the Federal Interagency Commission on Noise (FICON) noise level increase significance criteria presented in Table 4. This criterion is applied because CEQA requires evaluation of noise impacts relative to conditions present without the project (i.e., project-generated noise increases), not just compliance with the adopted, absolute, noise standards. For project construction activities, a substantial increase is considered to occur when project construction would result in a 10 dBA increase over baseline ambient conditions (an approximate doubling of loudness). This higher threshold is applied due to the fact that construction activities are temporary and will be limited to daytime hours to the maximum extent practical.

- A significant impact would be identified if project construction activities or proposed on-site operations would expose noise-sensitive receptors to excessive groundborne vibration levels. Specifically, an impact would be identified if groundborne vibration levels due to these sources would exceed the FTA vibration impact criteria for damage to engineered structures (98 VdB).

## Noise Impacts Associated with Project-Generated Increases in Off-Site Traffic

With development of the project, traffic volumes on the local roadway network will increase. Those increases in daily traffic volumes will result in a corresponding increase in traffic noise levels at existing sensitive uses located along those roadways. The FHWA Model was used with traffic input data from the transportation impact analysis prepared by Fehr & Peers, Inc. to predict project traffic noise level increases relative to Existing (2020) and Cumulative 2040 project and no project conditions.

### Impact 1: Increases in Existing Traffic Noise Levels due to the Project

The FHWA Traffic Noise Model (FHWA-RD-77-108) was used to quantify increases in existing traffic noise levels at the existing sensitive land uses nearest to the project area roadway network. The FHWA Model predicts hourly $L_{eq}$ values for free-flowing traffic conditions. Estimates of the hourly distribution of traffic for a typical 24-hour period were used to develop DNL values from $L_{eq}$ values.

Traffic data in the form of average daily traffic volumes (ADT) were obtained from the project transportation impact study prepared by Fehr & Peers. Other inputs were obtained from published Caltrans traffic counts, SACOG, and BAC observations and file data. The existing and existing plus project traffic noise levels at the distances representing the nearest sensitive land uses to the project area roadways are summarized in Table 11. Table 11 also shows the thresholds for determination of a significant traffic noise increase, whether the roadway segment contains sensitive uses, and whether or not significant noise impacts are identified for each segment. Appendix D contains the FHWA Model inputs for existing and existing plus project conditions.

Factors such as roadway elevation, curvature, grade, and shielding from local topography or structures, or elevated receivers may affect actual traffic noise propagation. Along roadways segments where existing noise barriers are present, the degree of shielding provided by those barriers was estimated and included in the Table 11 results.

**Table 11**
**Predicted Traffic Noise Level Increases at Existing Sensitive Receptors – Existing vs. Existing Plus Project Conditions**

| # | Roadway | From | To | Predicted DNL, dBA | | | Significance Threshold[1] | Threshold Exceeded? | Sensitive Receptors Present?[2] | Significant Impact Identified?[3] |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Existing | Existing + Project | Increase | | | | |
| 1 | Arena Blvd | El Centro Rd | Stemmler Dr | 64.4 | 68.0 | 3.6 | 3 | Yes | Yes | Yes |
| 2 | Arena Blvd | Stemmler Dr | Duckhorn Dr | 65.9 | 68.6 | 2.7 | 1.5 | Yes | Yes | Yes |
| 3 | Arena Blvd | Duckhorn Dr | Interstate 5 | 68.4 | 69.6 | 1.2 | 1.5 | No | No | No |
| 4 | Arena Blvd | Interstate 5 | E Commerce Way | 68.0 | 68.2 | 0.2 | 1.5 | No | No | No |
| 5 | Arena Blvd | E Commerce Way | Truxel Rd | 68.8 | 69.1 | 0.3 | 1.5 | No | Yes | No |
| 6 | Azevedo Dr | West El Camino | San Juan Rd | 66.3 | 66.2 | -0.1 | 1.5 | No | Yes | No |
| 7 | Del Paso Rd | Power Line Rd | Hovnanian Dr | 58.0 | 58.0 | 0.0 | 5 | No | Yes | No |
| 8 | Del Paso Rd | Hovnanian Dr | Natomas Central | 61.3 | 61.3 | 0.0 | 3 | No | Yes | No |
| 9 | Del Paso Rd | Natomas Central | El Centro Rd | 67.2 | 67.5 | 0.4 | 1.5 | No | Yes | No |
| 10 | Del Paso Rd | El Centro Rd | Interstate 5 | 63.0 | 64.4 | 1.3 | 3 | No | Yes | No |
| 11 | Del Paso Rd | Interstate 5 | E Commerce Way | 67.8 | 68.2 | 0.4 | 1.5 | No | Yes | No |
| 12 | Del Paso Rd | E Commerce Way | Truxel Rd | 70.4 | 70.7 | 0.3 | 1.5 | No | Yes | No |
| 13 | El Centro Rd | Del Paso Rd | Duckhorn Dr | 65.4 | 67.4 | 2.0 | 1.5 | Yes | No | No |
| 14 | El Centro Rd | Duckhorn Dr | Manera Rica Dr | 58.4 | 61.3 | 2.9 | 5 | No | Yes | No |
| 15 | El Centro Rd | Manera Rica Dr | Arena Blvd | 62.2 | 64.3 | 2.2 | 3 | No | Yes | No |
| 16 | El Centro Rd | Arena Blvd | San Juan Rd | 60.7 | 66.0 | 5.3 | 3 | Yes | Yes | Yes |
| 17 | El Centro Rd | San Juan Rd | W El Camino Ave | 67.6 | 71.5 | 3.9 | 1.5 | Yes | No | No |
| 18 | El Centro Rd | West El Camino | South Terminus | 59.3 | 68.8 | 9.5 | 5 | Yes | No | No |
| 19 | Garden Highway | Truxel Road | Natomas Park Dr | 60.5 | 60.5 | 0.0 | 3 | No | No | No |
| 20 | Garden Highway | Natomas Park Dr | Interstate 5 | 64.7 | 64.8 | 0.1 | 3 | No | Yes | No |
| 21 | Garden Highway | Interstate 5 | Gateway Oaks Dr | 61.7 | 62.5 | 0.7 | 3 | No | Yes | No |
| 22 | Garden Highway | Gateway Oaks Dr | Orchard Lane | 62.8 | 64.9 | 2.2 | 3 | No | Yes | No |
| 23 | Garden Highway | Orchard Ln | Interstate 80 | 56.6 | 60.0 | 3.4 | 5 | No | Yes | No |
| 24 | Garden Highway | Interstate 80 | San Juan Rd | 61.2 | 62.4 | 1.2 | 3 | No | Yes | No |
| 25 | Garden Highway | San Juan Rd | Powerline Road | 62.2 | 64.8 | 2.6 | 3 | No | Yes | No |
| 26 | Natomas Central | Del Paso Rd | El Centro Rd | 60.7 | 61.9 | 1.2 | 3 | No | Yes | No |
| 27 | Power Line Rd | Garden Hwy | Del Paso Rd | 61.3 | 63.7 | 2.5 | 3 | No | No | No |
| 28 | Power Line Rd | Del Paso Rd | Interstate 5 | 61.9 | 64.1 | 2.2 | 3 | No | No | No |
| 29 | San Juan Rd | Garden Hwy | El Centro Rd | 64.2 | 67.3 | 3.1 | 3 | Yes | Yes | Yes |
| 30 | San Juan Rd | El Centro Rd | 80/5 Interchange | 64.2 | 67.6 | 3.4 | 3 | Yes | Yes | Yes |
| 31 | San Juan Rd | 80/5 Interchange | Truxel Rd | 68.9 | 69.7 | 0.8 | 1.5 | No | Yes | No |

**Table 11**
**Predicted Traffic Noise Level Increases at Existing Sensitive Receptors – Existing vs. Existing Plus Project Conditions**

| # | Roadway | From | To | Predicted DNL, dBA | | | Significance Threshold[1] | Threshold Exceeded? | Sensitive Receptors Present?[2] | Significant Impact Identified?[3] |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Existing | Existing + Project | Increase | | | | |
| 32 | W El Camino | El Centro Rd | Interstate 80 | 64.9 | 72.6 | 7.7 | 3 | Yes | Yes | Yes |
| 33 | W El Camino | Interstate 80 | Orchard Lane | 67.3 | 70.5 | 3.2 | 1.5 | Yes | No | No |
| 34 | W El Camino | Orchard Ln | Gateway Oaks Dr | 68.3 | 71.5 | 3.3 | 1.5 | Yes | Yes | Yes |
| 35 | W El Camino | Gateway Oaks Dr | Interstate 5 | 67.4 | 70.2 | 2.8 | 1.5 | Yes | Yes | Yes |
| 36 | W El Camino | Interstate 5 | Azevedo Dr | 68.2 | 68.8 | 0.6 | 1.5 | No | Yes | No |
| 37 | W El Camino | Azevedo Dr | Truxel Rd | 66.3 | 67.3 | 1.0 | 1.5 | No | Yes | No |
| 38 | I-80 | Yolo County | W El Camino | 66.6 | 67.4 | 0.9 | 1.5 | No | Yes | No |
| 39 | I-80 | West El Camino | I-5 | 65.3 | 66.3 | 0.9 | 1.5 | No | Yes | No |
| 40 | I-5 | I-80 | Arena Boulevard | 74.3 | 74.7 | 0.4 | 1.5 | No | Yes | No |
| 41 | I-5 | Arena Blvd | Del Paso | 72.8 | 73.1 | 0.3 | 1.5 | No | Yes | No |
| 42 | I-5 | Del Paso | Hwy 99 | 69.8 | 69.8 | 0.0 | 1.5 | No | Yes | No |
| 43 | I-5 | Hwy 99 | Airport Blvd | 69.4 | 69.4 | 0.0 | 1.5 | No | Yes | No |

*Notes:*

1. Significance threshold derived from Table 4.
2. Sensitive receptors were considered to be residences of all densities, schools, & transient lodging facilities.
3. A significant impact is identified only along segments where the project-related traffic noise level increase would exceed the significance threshold AND where sensitive receptors are present along the roadway segment.

*Source: FHWA-RD-77-108 with inputs from project traffic impact study. Appendix D contains FHWA Model inputs.*

The data in Table 11 indicate that project-generated traffic noise level increases would result in significant noise impacts along eight (8) existing roadway segments along which sensitive receptors are currently located.

Based on the analysis presented above, off-site traffic noise impacts related to increases in traffic resulting from the implementation of the project (existing vs. existing plus project conditions) are identified as being ***significant***.

Mitigation for Impact 1:

The mitigation of impacts at existing sensitive receptors resulting from significant project-related traffic noise increases is frequently challenging because of a combination of limited mitigation options, constraints upon implementation of certain options, cost of implementation, and limited effectiveness of some options. Nonetheless, the following specific options for mitigation of off-site traffic noise impacts at existing noise sensitive receptors should be considered to the extent reasonable and feasible:

A. **Reduction in Traffic Volumes:** Because one of the most important factors in traffic noise generation is daily vehicle volume, a reduction in traffic noise levels can be increased by reducing the overall volume of traffic which would be generated by the project. It should be noted, however, that a 3 dB reduction in traffic noise levels would require a 50% reduction in projected traffic volumes. So, this measure would require a substantial decrease in traffic volume to achieve an appreciable decrease in traffic noise levels. As a result, it is unlikely that this measure would be a feasible means of fully mitigating this noise impact.

B. **Reduction in Vehicle Speeds:** Another factor in the generation of traffic noise is vehicle speed. Higher speeds translate to higher traffic noise levels. However, vehicle speed limits are set based on speed surveys, safety considerations, and other factors, and cannot be arbitrarily reduced to achieve lower traffic noise levels. As a result, this measure would not likely be a feasible means of mitigating this noise impact.

C. **Construction of Noise Barriers:** As noted in the discussion of noise mitigation fundamentals in the beginning of this report, appreciable reductions in traffic noise levels can be achieved through the construction of traffic noise barriers. However, at locations where openings or gaps in the barriers would be required for driveway openings or to maintain safe sight distances, the effectiveness of noise barriers is severely compromised. In addition, this measure would typically require construction of noise barriers on the property of the impacted receptor, rather than within a public right-of-way, so there is no guarantee the impacted receptor would agree to the construction of such barriers. Furthermore, the construction of off-site traffic noise barriers could be extremely costly per benefitted receptor, potentially rendering this measure infeasible.

D. **Use of Setbacks:** A 4.5 dB decrease in traffic noise levels can be achieved for each doubling of distance between the roadway centerline and affected residences. However, because the locations of existing residences which would be impacted by project-generated increases in traffic noise are fixed, as are the roadways of concern, this measure is not viable for existing residences.

E. **Noise-Reducing Pavement:** Noise-reducing pavement types, such as rubberized asphalt, have been shown to provide an appreciable noise level reduction relative to other pavement types (approximately 3-4 dB over conventional asphalt overlays). However, because the project-related increase in existing traffic noise levels exceeds 4 dB along two of the roadway segments analyzed in Table 11, the benefits of noise-reducing paving materials, even if feasible, would be insufficient to fully mitigate this impact. Nonetheless, at roadway segments where a 3-4 dB decrease in traffic noise levels would be sufficient to reduce this impact to a less than significant level, this mitigation alternative would be effective, if feasible.

Some of the aforementioned noise mitigation measures may be utilized to provide appreciable traffic noise level decreases. However, because such measures may be infeasible from a cost, engineering or safety standpoint, may not fully mitigate noise impacts, or could require the consent of the impacted receptor, the successful implementation of these measures cannot be guaranteed. As a result, this impact is considered significant and unavoidable.

**Significance of Impact 1 after Mitigation:** ***Significant and Unavoidable***

**Impact 2: Increases in Cumulative Traffic Noise Levels due to the Project**

The FHWA Traffic Noise Model (FHWA-RD-77-108) was used to quantify increases in future (cumulative) traffic noise levels at the nearest existing sensitive land uses to the project area roadway network. This analysis first assesses whether a cumulative roadway noise impact would occur by comparing the cumulative with project conditions to existing conditions. If a cumulative roadway noise impact is identified, it is further evaluated to assess whether the proposed project would make a cumulatively considerable contribution to the cumulative impact. This process is completed through a comparison of the roadway noise associated with the cumulative with project scenario against the cumulative no project scenario.

The FHWA Model predicts hourly $L_{eq}$ values for free-flowing traffic conditions. Estimates of the hourly distribution of traffic for a typical 24-hour period were used to develop DNL values from $L_{eq}$ values. Traffic data in the form of average daily traffic volumes (ADT) were obtained from the project transportation impact study prepared by Fehr & Peers. Other inputs were obtained from published Caltrans traffic counts, SACOG, and BAC observations and file data. The existing and cumulative plus project traffic noise levels at the distances representing the nearest sensitive land uses to the project area roadways are summarized in Table 12. Table 12 also shows the thresholds for determination of a significant traffic noise increase, whether the roadway segment contains sensitive uses, and whether or not a significant cumulative noise impact is identified for each segment.

Table 13 compares the cumulative with project traffic noise levels against the cumulative no project traffic noise levels and includes a determination regarding whether the project's contribution to an identified cumulative noise impact is considerable.

Appendix D contains the FHWA Model inputs for existing, cumulative and cumulative plus project conditions.

Factors such as roadway elevation, curvature, grade, and shielding from local topography or structures, or elevated receivers may affect actual traffic noise propagation. Along roadway segments where existing noise barriers are present, the degree of shielding provided by those barriers was estimated and included in the Table 12 and 13 results.

The data in Table 12 indicate that the increase in traffic noise levels between cumulative with project conditions and existing conditions would be significant along 18 roadway segments containing noise-sensitive uses. Table 13 indicates that the project's contribution to the identified significant cumulative noise impacts would be considerable along 8 roadway segments containing noise-sensitive land uses.

Based on the analysis presented above, off-site traffic noise impacts related to increases in traffic resulting from the implementation of the project (existing vs. cumulative with project conditions) are identified as being ***significant***.

**Table 12**
**Predicted Traffic Noise Level Increases at Existing Sensitive Receptors – Existing vs. Cumulative Plus Project Conditions**

| # | Roadway | From | To | Predicted DNL, dBA | | | Significance Threshold[1] | Threshold Exceeded? | Sensitive Receptors Present?[2] | Significant Cumulative Impact Identified?[3] |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Existing | Cumulative + Project | Increase | | | | |
| 1 | Arena Blvd | El Centro Rd | Stemmler Dr | 64.4 | 69.4 | 5.0 | 3 | Yes | Yes | Yes |
| 2 | Arena Blvd | Stemmler Dr | Duckhorn Dr | 65.9 | 69.9 | 4.0 | 1.5 | Yes | Yes | Yes |
| 3 | Arena Blvd | Duckhorn Dr | Interstate 5 | 68.4 | 70.3 | 1.9 | 1.5 | Yes | No | No |
| 4 | Arena Blvd | Interstate 5 | E Commerce Way | 68.0 | 71.4 | 3.4 | 1.5 | Yes | No | No |
| 5 | Arena Blvd | E Commerce Way | Truxel Rd | 68.8 | 71.2 | 2.5 | 1.5 | Yes | Yes | Yes |
| 6 | Azevedo Dr | West El Camino | San Juan Rd | 66.3 | 66.8 | 0.6 | 1.5 | No | Yes | No |
| 7 | Del Paso Rd | Power Line Rd | Hovnanian Dr | 58.0 | 59.9 | 1.9 | 5 | No | Yes | No |
| 8 | Del Paso Rd | Hovnanian Dr | Natomas Central | 61.3 | 61.8 | 0.4 | 3 | No | Yes | No |
| 9 | Del Paso Rd | Natomas Central | El Centro Rd | 67.2 | 67.5 | 0.4 | 1.5 | No | Yes | No |
| 10 | Del Paso Rd | El Centro Rd | Interstate 5 | 63.0 | 64.9 | 1.9 | 3 | No | Yes | No |
| 11 | Del Paso Rd | Interstate 5 | E Commerce Way | 67.8 | 68.9 | 1.1 | 1.5 | No | Yes | No |
| 12 | Del Paso Rd | E Commerce Way | Truxel Rd | 70.4 | 73.3 | 2.9 | 1.5 | Yes | Yes | Yes |
| 13 | El Centro Rd | Del Paso Rd | Duckhorn Dr | 65.4 | 70.1 | 4.7 | 1.5 | Yes | No | No |
| 14 | El Centro Rd | Duckhorn Dr | Manera Rica Dr | 58.4 | 63.9 | 5.5 | 5 | Yes | Yes | Yes |
| 15 | El Centro Rd | Manera Rica Dr | Arena Blvd | 62.2 | 68.1 | 5.9 | 3 | Yes | Yes | Yes |
| 16 | El Centro Rd | Arena Blvd | San Juan Rd | 60.7 | 67.3 | 6.6 | 3 | Yes | Yes | Yes |
| 17 | El Centro Rd | San Juan Rd | W El Camino Ave | 67.6 | 72.9 | 5.3 | 1.5 | Yes | No | No |
| 18 | El Centro Rd | West El Camino | South Terminus | 59.3 | 68.6 | 9.3 | 5 | Yes | No | No |
| 19 | Garden Highway | Truxel Road | Natomas Park Dr | 60.5 | 61.2 | 0.7 | 3 | No | No | No |
| 20 | Garden Highway | Natomas Park Dr | Interstate 5 | 64.7 | 65.2 | 0.5 | 3 | No | Yes | No |
| 21 | Garden Highway | Interstate 5 | Gateway Oaks Dr | 61.7 | 63.0 | 1.2 | 3 | No | Yes | No |
| 22 | Garden Highway | Gateway Oaks Dr | Orchard Lane | 62.8 | 65.3 | 2.6 | 3 | No | Yes | No |
| 23 | Garden Highway | Orchard Ln | Interstate 80 | 56.6 | 60.8 | 4.2 | 5 | No | Yes | No |
| 24 | Garden Highway | Interstate 80 | San Juan Rd | 61.2 | 62.4 | 1.2 | 3 | No | Yes | No |
| 25 | Garden Highway | San Juan Rd | Powerline Road | 62.2 | 67.9 | 5.7 | 3 | Yes | Yes | Yes |
| 26 | Natomas Central | Del Paso Rd | El Centro Rd | 60.7 | 61.8 | 1.1 | 3 | No | Yes | No |
| 27 | Power Line Rd | Garden Hwy | Del Paso Rd | 61.3 | 66.3 | 5.1 | 3 | Yes | No | No |
| 28 | Power Line Rd | Del Paso Rd | Interstate 5 | 61.9 | 67.1 | 5.2 | 3 | Yes | No | No |
| 29 | San Juan Rd | Garden Hwy | El Centro Rd | 64.2 | 68.5 | 4.3 | 3 | Yes | Yes | Yes |

**Table 12**
**Predicted Traffic Noise Level Increases at Existing Sensitive Receptors – Existing vs. Cumulative Plus Project Conditions**

| # | Roadway | From | To | Predicted DNL, dBA | | | Significance Threshold[1] | Threshold Exceeded? | Sensitive Receptors Present?[2] | Significant Cumulative Impact Identified?[3] |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Existing | Cumulative + Project | Increase | | | | |
| 30 | San Juan Rd | El Centro Rd | 80/5 Interchange | 64.2 | 67.9 | 3.7 | 3 | Yes | Yes | Yes |
| 31 | San Juan Rd | 80/5 Interchange | Truxel Rd | 68.9 | 70.6 | 1.7 | 1.5 | Yes | Yes | Yes |
| 32 | W El Camino | El Centro Rd | Interstate 80 | 64.9 | 72.8 | 8.0 | 3 | Yes | Yes | Yes |
| 33 | W El Camino | Interstate 80 | Orchard Lane | 67.3 | 70.7 | 3.4 | 1.5 | Yes | No | No |
| 34 | W El Camino | Orchard Ln | Gateway Oaks Dr | 68.3 | 71.7 | 3.4 | 1.5 | Yes | Yes | Yes |
| 35 | W El Camino | Gateway Oaks Dr | Interstate 5 | 67.4 | 70.3 | 3.0 | 1.5 | Yes | Yes | Yes |
| 36 | W El Camino | Interstate 5 | Azevedo Dr | 68.2 | 69.4 | 1.1 | 1.5 | No | Yes | No |
| 37 | W El Camino | Azevedo Dr | Truxel Rd | 66.3 | 68.3 | 2.0 | 1.5 | Yes | Yes | Yes |
| 38 | I-80 | Yolo County | W El Camino | 66.6 | 68.9 | 2.4 | 1.5 | Yes | Yes | Yes |
| 39 | I-80 | West El Camino | I-5 | 65.3 | 67.7 | 2.4 | 1.5 | Yes | Yes | Yes |
| 40 | I-5 | I-80 | Arena Boulevard | 74.3 | 76.1 | 1.8 | 1.5 | Yes | Yes | Yes |
| 41 | I-5 | Arena Blvd | Del Paso | 72.8 | 74.2 | 1.4 | 1.5 | No | Yes | No |
| 42 | I-5 | Del Paso | Hwy 99 | 69.8 | 71.2 | 1.4 | 1.5 | No | Yes | No |
| 43 | I-5 | Hwy 99 | Airport Blvd | 69.4 | 70.5 | 1.1 | 1.5 | No | Yes | No |

*Notes:*

1. Significance threshold derived from Table 4.
2. Sensitive receptors were considered to be residences of all densities, schools, & transient lodging facilities.
3. A significant cumulative impact is identified only along segments where the cumulative project-related traffic noise level increase would exceed the significance threshold AND where sensitive receptors are present along the roadway segment.

*Source: FHWA-RD-77-108 with inputs from project traffic impact study. Appendix D contains FHWA Model inputs.*

**Table 13**
**Predicted Traffic Noise Level Increases at Existing Sensitive Receptors – Cumulative vs. Cumulative Plus Project Conditions**

| # | Roadway | From | To | Predicted DNL, dBA | | | Significance Threshold[1] | Threshold Exceeded? | Sensitive Receptors Present?[2] | Project's Contribution to Cumulative Impact Considerable?[3] |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Cumulative | Cumulative + Project | Increase | | | | |
| 1 | Arena Blvd | El Centro Rd | Stemmler Dr | 67.1 | 69.4 | 2.3 | 3 | Yes | Yes | Yes |
| 2 | Arena Blvd | Stemmler Dr | Duckhorn Dr | 68.2 | 69.9 | 1.7 | 1.5 | Yes | Yes | Yes |
| 3 | Arena Blvd | Duckhorn Dr | Interstate 5 | 69.7 | 70.3 | 0.7 | 1.5 | No | No | No |
| 4 | Arena Blvd | Interstate 5 | E Commerce Way | 71.0 | 71.4 | 0.3 | 1.5 | No | No | No |
| 5 | Arena Blvd | E Commerce Way | Truxel Rd | 70.8 | 71.2 | 0.4 | 1.5 | No | Yes | No |
| 6 | Azevedo Dr | West El Camino | San Juan Rd | 66.9 | 66.8 | 0.0 | 1.5 | No | Yes | No |
| 7 | Del Paso Rd | Power Line Rd | Hovnanian Dr | 59.8 | 59.9 | 0.1 | 5 | No | Yes | No |
| 8 | Del Paso Rd | Hovnanian Dr | Natomas Central | 61.7 | 61.8 | 0.0 | 3 | No | Yes | No |
| 9 | Del Paso Rd | Natomas Central | El Centro Rd | 67.3 | 67.5 | 0.2 | 1.5 | No | Yes | No |
| 10 | Del Paso Rd | El Centro Rd | Interstate 5 | 64.1 | 64.9 | 0.8 | 3 | No | Yes | No |
| 11 | Del Paso Rd | Interstate 5 | E Commerce Way | 68.7 | 68.9 | 0.2 | 1.5 | No | Yes | No |
| 12 | Del Paso Rd | E Commerce Way | Truxel Rd | 73.0 | 73.3 | 0.3 | 1.5 | No | Yes | No |
| 13 | El Centro Rd | Del Paso Rd | Duckhorn Dr | 68.2 | 70.1 | 1.8 | 1.5 | Yes | No | No |
| 14 | El Centro Rd | Duckhorn Dr | Manera Rica Dr | 61.8 | 63.9 | 2.1 | 1.5 | Yes | Yes | Yes |
| 15 | El Centro Rd | Manera Rica Dr | Arena Blvd | 66.2 | 68.1 | 1.9 | 1.5 | Yes | Yes | Yes |
| 16 | El Centro Rd | Arena Blvd | San Juan Rd | 63.2 | 67.3 | 4.1 | 3 | Yes | Yes | Yes |
| 17 | El Centro Rd | San Juan Rd | W El Camino Ave | 70.1 | 72.9 | 2.8 | 1.5 | Yes | No | No |
| 18 | El Centro Rd | West El Camino | South Terminus | 59.3 | 68.6 | 9.3 | 5 | Yes | No | No |
| 19 | Garden Highway | Truxel Road | Natomas Park Dr | 61.3 | 61.2 | -0.1 | 3 | No | No | No |
| 20 | Garden Highway | Natomas Park Dr | Interstate 5 | 64.8 | 65.2 | 0.4 | 3 | No | Yes | No |
| 21 | Garden Highway | Interstate 5 | Gateway Oaks Dr | 62.0 | 63.0 | 1.0 | 3 | No | Yes | No |
| 22 | Garden Highway | Gateway Oaks Dr | Orchard Lane | 62.2 | 65.3 | 3.1 | 3 | No | Yes | No |
| 23 | Garden Highway | Orchard Ln | Interstate 80 | 56.1 | 60.8 | 4.7 | 1.5 | Yes | Yes | Yes |
| 24 | Garden Highway | Interstate 80 | San Juan Rd | 59.0 | 62.4 | 3.4 | 3 | No | Yes | No |
| 25 | Garden Highway | San Juan Rd | Powerline Road | 64.0 | 67.9 | 3.9 | 1.5 | Yes | Yes | Yes |
| 26 | Natomas Central | Del Paso Rd | El Centro Rd | 61.5 | 61.8 | 0.2 | 3 | No | Yes | No |
| 27 | Power Line Rd | Garden Hwy | Del Paso Rd | 62.3 | 66.3 | 4.0 | 3 | No | No | No |
| 28 | Power Line Rd | Del Paso Rd | Interstate 5 | 64.0 | 67.1 | 3.1 | 3 | No | No | No |
| 29 | San Juan Rd | Garden Hwy | El Centro Rd | 65.7 | 68.5 | 2.9 | 3 | Yes | Yes | Yes |

**Table 13**
**Predicted Traffic Noise Level Increases at Existing Sensitive Receptors – Cumulative vs. Cumulative Plus Project Conditions**

| # | Roadway | From | To | Predicted DNL, dBA | | | Significance Threshold[1] | Threshold Exceeded? | Sensitive Receptors Present?[2] | Project's Contribution to Cumulative Impact Considerable?[3] |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Cumulative | Cumulative + Project | Increase | | | | |
| 30 | San Juan Rd | El Centro Rd | 80/5 Interchange | 64.9 | 67.9 | 3.0 | 3 | Yes | Yes | Yes |
| 31 | San Juan Rd | 80/5 Interchange | Truxel Rd | 70.5 | 70.6 | 0.1 | 1.5 | No | Yes | No |
| 32 | W El Camino | El Centro Rd | Interstate 80 | 67.6 | 72.8 | 5.3 | 3 | Yes | Yes | Yes |
| 33 | W El Camino | Interstate 80 | Orchard Lane | 68.0 | 70.7 | 2.7 | 1.5 | Yes | No | No |
| 34 | W El Camino | Orchard Ln | Gateway Oaks Dr | 68.8 | 71.7 | 2.9 | 1.5 | Yes | Yes | Yes |
| 35 | W El Camino | Gateway Oaks Dr | Interstate 5 | 68.0 | 70.3 | 2.4 | 1.5 | Yes | Yes | Yes |
| 36 | W El Camino | Interstate 5 | Azevedo Dr | 68.8 | 69.4 | 0.6 | 1.5 | No | Yes | No |
| 37 | W El Camino | Azevedo Dr | Truxel Rd | 67.2 | 68.3 | 1.0 | 1.5 | No | Yes | No |
| 38 | I-80 | Yolo County | W El Camino | 68.3 | 68.9 | 0.6 | 1.5 | No | Yes | No |
| 39 | I-80 | West El Camino | I-5 | 67.1 | 67.7 | 0.6 | 1.5 | No | Yes | No |
| 40 | I-5 | I-80 | Arena Boulevard | 75.8 | 76.1 | 0.3 | 1.5 | No | Yes | No |
| 41 | I-5 | Arena Blvd | Del Paso | 73.9 | 74.2 | 0.2 | 1.5 | No | Yes | No |
| 42 | I-5 | Del Paso | Hwy 99 | 71.0 | 71.2 | 0.2 | 1.5 | No | Yes | No |
| 43 | I-5 | Hwy 99 | Airport Blvd | 70.3 | 70.5 | 0.2 | 1.5 | No | Yes | No |

*Notes:*

1. If the cumulative increase is greater than 3 dBA (from Table 12), then a 1.5 dBA threshold is applied to represent a cumulatively considerable contribution from the project.
2. Sensitive receptors were considered to be residences of all densities, schools, & transient lodging facilities.
3. A significant impact is identified only along segments where the project-related traffic noise level increase would exceed the significance threshold AND where sensitive receptors are present along the roadway segment.

*Source: FHWA-RD-77-108 with inputs from project traffic impact study. Appendix D contains FHWA Model inputs.*

Mitigation for Impact 2:

The mitigation of impacts at existing sensitive receptors resulting from significant project-related traffic noise increases is frequently challenging because of a combination of limited mitigation options, constraints upon implementation of certain options, cost of implementation, and limited effectiveness of some options. Nonetheless, the following specific options for mitigation of off-site traffic noise impacts at existing noise sensitive receptors should be considered to the extent reasonable and feasible:

A. **Reduction in Traffic Volumes:** Because one of the most important factors in traffic noise generation is daily vehicle volume, a reduction in traffic noise levels can be increased by reducing the overall volume of traffic which would be generated by the project. It should be noted, however, that a 3 dB reduction in traffic noise levels would require a 50% reduction in projected traffic volumes. So, this measure would require a substantial decrease in traffic volume to achieve an appreciable decrease in traffic noise levels. As a result, it is unlikely that this measure would be a feasible means of fully mitigating this noise impact.

B. **Reduction in Vehicle Speeds:** Another factor in the generation of traffic noise is vehicle speed. Higher speeds translate to higher traffic noise levels. However, vehicle speed limits are set based on speed surveys, safety considerations, and other factors, and cannot be arbitrarily reduced to achieve lower traffic noise levels. As a result, this measure would not likely be a feasible means of mitigating this noise impact.

C. **Construction of Noise Barriers:** As noted in the discussion of noise mitigation fundamentals in the beginning of this report, appreciable reductions in traffic noise levels can be achieved through the construction of traffic noise barriers. However, at locations where openings or gaps in the barriers would be required for driveway openings or to maintain safe sight distances, the effectiveness of noise barriers is severely compromised. In addition, this measure would typically require construction of noise barriers on the property of the impacted receptor, rather than within a public right-of-way, so there is no guarantee the impacted receptor would agree to the construction of such barriers. Furthermore, the construction of off-site traffic noise barriers could be extremely costly per benefitted receptor, potentially rendering this measure infeasible.

D. **Use of Setbacks:** A 4.5 dB decrease in traffic noise levels can be achieved for each doubling of distance between the roadway centerline and affected residences. However, because the locations of existing residences which would be impacted by project-generated increases in traffic noise are fixed, as are the roadways of concern, this measure is not viable for existing residences.

E. **Noise-Reducing Pavement:** Noise-reducing pavement types, such as rubberized asphalt, have been shown to provide an appreciable noise level reduction relative to other pavement types (approximately 3-4 dB over conventional asphalt overlays). However, because the project-related increase in existing traffic noise levels exceeds

4 dB along two of the roadway segments analyzed in Table 11, the benefits of noise-reducing paving materials, even if feasible, would be insufficient to fully mitigate this impact. Nonetheless, at roadway segments where a 3-4 dB decrease in traffic noise levels would be sufficient to reduce this impact to a less than significant level, this mitigation alternative would be effective, if feasible.

Some of the aforementioned noise mitigation measures may be utilized to provide appreciable traffic noise level decreases. However, because such measures may be infeasible from a cost, engineering or safety standpoint, may not fully mitigate noise impacts, or could require the consent of the impacted receptor, the successful implementation of these measures cannot be guaranteed. As a result, this impact is considered significant and unavoidable.

**Significance of Impact 2 after Mitigation: *Significant and Unavoidable***

## Noise Impacts from Proposed Plan area Components at Existing Sensitive Uses

According to the land use plan, the Plan area will contain new residential (various densities), commercial, commercial mixed-use, school, park and open space uses. However, the specific uses to be developed within those areas have yet to be determined. It should be noted that the Plan area will also contain existing agricultural uses, but agricultural uses are not proposed. The locations of the proposed and existing uses with the Plan area are shown on Figure 2.

Commercial Mixed-Use Operations

The Commercial Mixed-Use components of the Plan area will provide a mix of residential and commercial uses. In a vertically integrated situation within the urban town center and adjacent to the West El Camino Avenue, this could allow four-story apartments or offices over ground floor commercial. In a horizontally integrated situation, away from West El Camino Avenue, a one-story restaurant might be located adjacent to a five-story hotel, office building or apartment building. Primary noise sources associated with the non-residential uses of commercial mixed-use components typically consist of parking lot movements (cars arriving and departing, engines starting, car doors closing, etc.), commercial deliveries (vans, medium/heavy duty trucks), and mechanical equipment (rooftop heating, ventilating and air conditioning systems).

Employment/Highway Commercial Operations

The Employment/Highway Commercial components of the Plan area will focus on uses such as four or five-story office buildings, but could allow hotels, restaurants and retail uses. Primary noise sources associated with the commercial uses identified above typically consist of parking lot movements (cars arriving and departing, engines starting, car doors closing, etc.), commercial deliveries (vans, medium/heavy duty trucks), mechanical equipment (rooftop heating, ventilating and air conditioning systems), and drive-through speakers and vehicles. Although not specifically proposed, if a gas station were to be proposed within the Employment/Highway Commercial areas, noise sources associated with such uses would consist primarily of intermittent heavy truck fuel deliveries and smaller retail deliveries. Many gas stations include car washes which, if

developed in the Employment/Highway Commercial areas, would also introduce noise associated with car wash dryers and vacuums.

School Activities

The School components of the Plan area will consist of three K-8 schools, one high-school, and a community college. Primary noise sources associated with school uses typically consist of parking lot movements (cars arriving and departing, engines starting, car doors closing, etc.), children playing on play structures, participants and spectators at outdoor sport playing fields and facilities, and outdoor public address (PA) systems associated with playing fields/stadiums.

Section 6.68.090(a) of the Sacramento County Municipal Code provides an exemption for noise from school bands, school athletic and school entertainment events. In addition, Section 6.68.090(c) exempts noise from activities conducted on school grounds provided the grounds are owned and operated by a public entity or private school. For the purposes of this assessment, it is reasonably assumed that future school uses within the Plan area would be owned and operated by a public entity or private school. As a result, an impact discussion for project-generated school activity noise at existing noise-sensitive uses relative to the Sacramento County Municipal Code noise level criteria is not included in this assessment. Rather, this assessment provides an analysis of school activity noise at existing off-site uses relative to the applicable Sacramento County General Plan noise level limits. For the purposes of this analysis, it is reasonable to assume that school activities within the Plan area would likely be restricted to daytime hours (7:00 a.m. to 10:00 p.m.).

Park Activities

The Park components of the Plan area are distributed throughout the Plan area and have been sized to meet local neighborhood and larger community-wide needs. Primary noise sources associated with park uses typically consist of children playing on play structures, and participants and spectators at outdoor sport playing fields and facilities.

Section 6.68.090(c) of the Sacramento County Municipal Code exempts noise from activities conducted on parks and public playgrounds provided the uses are owned and operated by a public entity. For the purposes of this assessment, it is reasonably assumed that future park uses within the Plan area would be owned and operated by a public entity. As a result, an impact discussion for project-generated park activity noise at existing noise-sensitive uses relative to the Sacramento County Municipal Code noise level criteria is not included in this assessment. Rather, this assessment provides an analysis of park activity noise at existing off-site uses relative to the applicable Sacramento County General Plan noise level limits. For the purposes of this analysis, it is reasonable to assume that park activities within the Plan area would likely be restricted to daytime hours (7:00 a.m. to 10:00 p.m.).

Applicable Noise Level Criteria

As noted in the Regulatory Setting section of this report, the Sacramento County General Plan establishes exterior noise level standards of 55 dB $L_{50}$ / 75 dB $L_{max}$ (daytime) and 50 dB $L_{50}$ / 70

dB $L_{max}$ (nighttime) for residential uses. In addition, the General Plan establishes interior noise level standards of 35 dB $L_{50}$ / 55 dB $L_{max}$ (daytime and nighttime) for residential uses. The Sacramento County Municipal Code also establishes acceptable exterior noise level limits for residential uses. However, the relevant Municipal Code noise level criteria are consistent with that established in the General Plan. As a result, compliance with the General Plan's exterior noise level criteria identified above would ensure for satisfaction of the Municipal Code's exterior noise level limits.

Finally, although the preliminary land use plan contains the general locations of the planned land use components within the Plan area (Figure 2), detailed plans illustrating locations of specific uses within those components have not yet been developed. It is expected that detailed development plans for all land use components within the Plan area will be reviewed at a future date as part of the County's project approval process. As a result, the following section provides generalized analyses of land use operations noise exposure at existing noise-sensitive uses.

**Impact 3: Commercial Mixed-Use Parking Noise at Existing Sensitive Uses**

As a means of determining potential noise exposure due to Commercial Mixed-Use parking lot activities, Bollard Acoustical Consultants, Inc. (BAC) utilized specific parking lot noise level measurements conducted by BAC. Specifically, a series of individual noise measurements were conducted of multiple vehicle types arriving and departing a parking area, including engines starting and stopping, car doors opening and closing, and persons conversing as they entered and exited the vehicles. The results of those measurements revealed that individual parking lot movements generated mean noise levels of 65 dB SEL at a reference distance of 50 feet.

For a conservative assessment of Commercial Mixed-Use parking area noise generation, it was assumed that individual parking areas (of which there could be more) could accommodate up to 300 vehicles. This estimate of vehicle capacity was based on review of the preliminary land use plan shown in Figure 2 and the use types envisioned within the commercial mixed-use areas. It was also assumed that a parking area could fill or empty during any given peak hour of business operations. However, during hours of operation, it is likely that parking area activity would be more spread out. Parking area noise exposure was determined using the following equation:

$$Peak\ Hour\ L_{eq} = 65+10*log\ (N) - 35.6$$

Where 65 is the SEL for a single automobile parking operation at a reference distance of 50 feet, N is the number of parking area operations in a peak hour, and 35.6 is 10 times the logarithm of the number of seconds in an hour. Using BAC parking lot noise measurement data and the equation provided above, noise exposure from an individual parking area having 300 vehicle stalls computes to approximately 49 dB $L_{50}$ and 65 dB $L_{max}$ at a distance of 50 feet from the effective noise center of the area.

The nearest identified existing noise-sensitive uses to proposed Commercial Mixed-Use components have been identified as residential receivers located on the south side of I-80, which maintain a separation of approximately 800 feet. When projected to a distance of 800 feet, parking noise exposure from a Commercial Mixed-Use component is calculated to be

approximately 25 dB $L_{50}$ and 41 dB $L_{max}$. The predicted noise levels exclude consideration of shielding that would be provided by existing 12-foot-tall solid traffic noise barriers constructed along I-80, which are estimated to provide a minimum of 12 dB of noise level reduction. Thus, it is expected that Commercial Mixed-Use parking lot noise levels will satisfy the Sacramento County General Plan daytime and nighttime exterior and interior noise level limits at the nearest existing noise-sensitive (residential) uses. It is further expected that Commercial Mixed-Use parking area noise levels would be well below ambient noise level conditions at the nearest existing residential uses. As a result, this impact is identified as being ***less than significant.***

**Impact 4: Commercial Mixed-Use Delivery Truck Noise at Existing Sensitive Uses**

It is expected that portions of the businesses proposed within the Commercial Mixed-Use areas will receive deliveries of product from heavy and/or medium-duty trucks. It is further expected that those uses will typically generate light semi-trailer truck activity once initial store stocking has been completed. BAC file data for commercial uses such as those envisioned within the Commercial Mixed-Use areas can have up to three (3) regular weekly heavy truck deliveries of product to the businesses. These deliveries would occur on different days and times throughout the week. Depending on the design of the use, truck unloading could occur at loading dock areas or in front of the retail use. In addition to occasional heavy truck deliveries, medium-duty vendor trucks and side-step vans could also deliver products to the other commercial businesses of the parcel, which would typically occur at the storefronts.

For the purposes of this analysis, it was assumed that 1 heavy truck and 3 medium duty truck deliveries could occur within a Commercial Mixed-Use parcel / area during a busy hour. Truck deliveries are expected to be relatively brief in duration. BAC file data indicate that heavy truck deliveries produce an average Sound Exposure Level (SEL) of approximately 85 dB at a distance of 100 feet, with medium duty trucks (including sidestep vans), producing a SEL of approximately 76 dB. Based on these levels, and 1 semi-trailer delivery and 3 medium duty truck deliveries during any given hour, the resulting noise levels are calculated to be 46 dB $L_{50}$ and 74 dB $L_{max}$ at a distance of 100 feet.

The nearest identified existing noise-sensitive uses to proposed Commercial Mixed-Use components have been identified as residential receivers located on the south side of I-80, which maintain a separation of approximately 800 feet. When projected to a distance of 800 feet, delivery truck activity noise exposure from a Commercial Mixed-Use component is calculated to be approximately 28 dB $L_{50}$ and 56 dB $L_{max}$. The predicted noise levels exclude consideration of shielding that would be provided by existing 12-foot-tall solid traffic noise barriers constructed along I-80, which are estimated to provide a minimum of 12 dB of noise level reduction. Thus, it is expected that Commercial Mixed-Use truck delivery noise levels will satisfy the Sacramento County General Plan daytime and nighttime exterior and interior noise level limits at the nearest existing noise-sensitive (residential) uses. It is further expected that Commercial Mixed-Use truck delivery noise levels would be well below ambient noise level conditions at the nearest existing residential uses. As a result, this impact is identified as being ***less than significant.***

**Impact 5: Commercial Mixed-Use HVAC Equipment Noise at Existing Sensitive Uses**

The HVAC systems within future buildings in the Commercial Mixed-Use areas will likely consist of packaged rooftop air conditioning systems. Such HVAC units, which typically stand about 4-5 feet tall, would be shielded from view of nearby sensitive uses by the building parapets. The noise generation of packaged rooftop HVAC units is related to the cooling capacity of the system. A typical 10-ton packaged rooftop system generates an A-weighted sound power level of approximately 93 dBA (Noise Control for Buildings and Manufacturing Plants, Hoover & Keith, equation 7-10). At a distance of 100 feet, the noise generation of the packaged rooftop system would be approximately 53 dBA. After considering the noise attenuation provided by the building and building parapet (estimated to be approximately 10 dBA), the resulting noise level would be approximately 45 dB $L_{eq}/L_{50}$ at a reference distance of 100 feet from the building facade.

The nearest identified existing noise-sensitive uses to proposed Commercial Mixed-Use components have been identified as residential receivers located on the south side of I-80, which maintain a separation of approximately 800 feet. When projected to a distance of 800 feet, HVAC equipment noise exposure from a Commercial Mixed-Use component is calculated to be approximately 27 dB $L_{50}$. The predicted noise level excludes consideration of shielding that would be provided by existing 12-foot-tall solid traffic noise barriers constructed along I-80, which are estimated to provide a minimum of 12 dB of noise level reduction. Thus, it is expected that Commercial Mixed-Use HVAC equipment noise levels will satisfy the Sacramento County General Plan and Municipal Code (Section 6.68.120) daytime and nighttime exterior and interior noise level limits at the nearest existing noise-sensitive (residential) uses. It is further expected that Commercial Mixed-Use HVAC equipment noise levels would be well below ambient noise level conditions at the nearest existing residential uses. As a result, this impact is identified as being ***less than significant.***

**Impact 6: Employment/Highway Commercial Use Parking Noise at Existing Sensitive Uses**

An analysis of commercial parking area noise exposure was presented in **Impact 3**. The results from that analysis indicate that noise exposure from an individual parking area having 300 vehicle stalls computes to approximately 49 dB $L_{50}$ and 65 dB $L_{max}$ at a distance of 50 feet from the effective noise center of the area.

The nearest identified existing noise-sensitive uses to proposed Employment/Highway Commercial components have been identified as residential receivers located on the south side of I-80, which maintain a separation of approximately 400 feet. When projected to a distance of 400 feet, parking lot noise levels are calculated to be approximately 31 dB $L_{50}$ and 47 dB $L_{max}$. The predicted noise levels exclude consideration of shielding that would be provided by existing 12-foot-tall solid traffic noise barriers constructed along I-80, which are estimated to provide a minimum of 12 dB of noise level reduction. Thus, it is expected that Employment/Highway Commercial parking area noise levels will satisfy the Sacramento County General Plan daytime and nighttime exterior and interior noise level limits at the nearest existing noise-sensitive (residential) uses. It is further expected that Employment/Highway Commercial parking area

noise levels would be well below ambient noise level conditions at the nearest existing residential uses. As a result, this impact is identified as being ***less than significant.***

**Impact 7: Employment/Highway Commercial Use Delivery Truck Noise at Existing Sensitive Uses**

An analysis of commercial delivery truck activity noise exposure was presented in **Impact 4**. The results from that analysis indicate that noise exposure from commercial delivery truck activities was calculated to be 46 dB $L_{50}$ and 74 dB $L_{max}$ at a distance of 100 feet.

The nearest identified existing noise-sensitive uses to proposed Employment/Highway Commercial components have been identified as residential receivers located on the south side of I-80, which maintain a separation of approximately 400 feet. When projected to a distance of 400 feet, delivery truck activity noise levels are calculated to be approximately 34 dB $L_{50}$ and 62 dB $L_{max}$. The predicted noise levels exclude consideration of shielding that would be provided by existing 12-foot-tall solid traffic noise barriers constructed along I-80, which are estimated to provide a minimum of 12 dB of noise level reduction. Thus, it is expected that Employment/Highway Commercial delivery truck activity noise levels will satisfy the Sacramento County General Plan daytime and nighttime exterior and interior noise level limits at the nearest existing noise-sensitive (residential) uses. It is further expected that Employment/Highway Commercial delivery truck activity noise levels would be well below ambient noise level conditions at the nearest existing residential uses. As a result, this impact is identified as being ***less than significant.***

**Impact 8: Employment/Highway Commercial Use HVAC Equipment Noise at Existing Sensitive Uses**

An analysis of commercial HVAC equipment noise exposure was presented in **Impact 5.** The results from that analysis indicate that noise exposure from commercial HVAC equipment was calculated to be 45 dB $L_{50}$ at a distance of 100 feet.

The nearest identified existing noise-sensitive uses to proposed Employment/Highway Commercial components have been identified as residential receivers located on the south side of I-80, which maintain a separation of approximately 400 feet. When projected to a distance of 400 feet, HVAC equipment noise level exposure is calculated to be approximately 33 dB $L_{50}$. The predicted noise level excludes consideration of shielding that would be provided by existing 12-foot-tall solid traffic noise barriers constructed along I-80, which are estimated to provide a minimum of 12 dB of noise level reduction. Thus, it is expected that Employment/Highway Commercial HVAC equipment noise levels will satisfy the Sacramento County General Plan and Municipal Code (Section 6.68.120) daytime and nighttime exterior and interior noise level limits at the nearest existing noise-sensitive (residential) uses. It is further expected that Employment/Highway Commercial HVAC equipment noise levels would be well below ambient noise level conditions at the nearest existing residential uses. As a result, this impact is identified as being ***less than significant.***

**Impact 9: Employment/Highway Commercial Use Drive-Through Restaurant Noise at Existing Sensitive Uses**

As mentioned previously, specific uses within the land use components have not yet been determined. However, it is possible that the Employment/Highway Commercial components could contain drive-through restaurant businesses.

To quantify the noise emissions of a restaurant drive-through speaker and vehicle passages, BAC utilized noise measurement data collected for drive-through operations in the greater Sacramento area in recent years. According to BAC file data, drive-through menu speaker boards have measured noise levels of approximately 63 dB L50 and 67 dB $L_{max}$ at a distance of 10 feet. BAC file data further indicates that vehicle passbys in drive-throughs have measured levels of approximately 60 dB L50 and 70 dB $L_{max}$ at 5 feet.

The nearest identified existing noise-sensitive uses to proposed Employment/Highway Commercial components have been identified as residential receivers located on the south side of I-80, which maintain a separation of approximately 400 feet. When projected to a distance of 400 feet, combined drive-through operations noise level exposure is calculated to be approximately 31 dB $L_{50}$ and 37 dB $L_{max}$. The predicted noise levels exclude consideration of shielding that would be provided by existing 12-foot-tall solid traffic noise barriers constructed along I-80, which are estimated to provide a minimum of 12 dB of noise level reduction. Thus, it is expected that Employment/Highway Commercial drive-through operations noise levels will satisfy the Sacramento County General Plan daytime and nighttime exterior and interior noise level limits at the nearest existing noise-sensitive (residential) uses. It is further expected that Employment/Highway Commercial drive-through operations noise levels would be well below ambient noise level conditions at the nearest existing residential uses. As a result, this impact is identified as being ***less than significant.***

**Impact 10: Employment/Highway Commercial Use Car Wash Operations Noise at Existing Sensitive Uses**

As mentioned previously, specific uses within the land use components have not yet been determined. However, it is possible that the Employment/Highway Commercial components within the Plan area could contain gas station uses with car wash operations.

Based on the experience of Bollard Acoustical Consultants, noise levels generated by car washes are primarily due to the drying portion of the operation. To quantify the noise levels from car wash drying assemblies, BAC utilized file data for equipment commonly used in gas station/car wash tunnel combination uses. Specifically, noise level data for a Ryko 3-Fan Slimline Drying System was used in this analysis. In addition, it is the experience of BAC that many gas station/ car wash combination uses also have vehicle vacuum systems. To quantify the noise generation from vacuum systems, BAC utilized file data for equipment commonly used in gas station/car wash tunnel combination uses. Specifically, noise level data for a JE Adams Super Vac (2-motor) Model 9200 series vacuum system was used in this analysis.

The nearest identified existing noise-sensitive uses to proposed Employment/Highway Commercial components have been identified as residential receivers located on the south side of I-80, which maintain a separation of approximately 400 feet. When projected to a distance of 400 feet, car wash drying assembly noise level exposure is calculated to be approximately 52 dB $L_{50}$. In addition, vacuum system noise level exposure is calculated to be approximately 48 dB $L_{50}$ at a distance of 400 feet. The predicted noise level excludes consideration of shielding that would be provided by existing 12-foot-tall solid traffic noise barriers constructed along I-80, which are estimated to provide a minimum of 12 dB of noise level reduction. Thus, it is expected that Employment/Highway Commercial car wash operations noise levels will satisfy the Sacramento County General Plan daytime and nighttime exterior and interior noise level limits at the nearest existing noise-sensitive (residential) uses. It is further expected that Employment/Highway Commercial car wash operations noise levels would be well below ambient noise level conditions at the nearest existing residential uses. As a result, this impact is identified as being ***less than significant.***

**Impact 11: School Use Parking Noise at Existing Sensitive Uses**

An analysis of commercial parking area noise exposure was presented in **Impact 3**. The results from that analysis indicate that noise exposure from an individual parking area having 300 vehicle stalls computes to approximately 49 dB $L_{50}$ and 65 dB $L_{max}$ at a distance of 50 feet from the effective noise center of the area.

The nearest identified existing noise-sensitive uses to a proposed School use have been identified as residential receivers located adjacent to the proposed high school within the Plan area, which maintain a separation of approximately 50 feet. However, due to typical spatial requirements of typical parking areas, it is not likely that a 300-stall parking area would have an effective noise center 50 feet from its edge. When conservatively projected to a distance of 200 feet, parking lot noise levels are calculated to be approximately 37 dB $L_{50}$ and 53 dB $L_{max}$. Nonetheless, because future configurations of parking lots within the School use areas are currently not known, and based on the proximity to nearby sensitive uses, it is possible that parking area noise exposure could exceed the General Plan's exterior and interior daytime noise level standards at nearby existing residential uses. Further, noise levels from School parking areas could potentially exceed existing ambient conditions at nearby residential uses. As a result, this impact is identified as being **potentially significant**.

Mitigation for Impact 11:

To satisfy applicable Sacramento County General Plan exterior and interior noise level standards at nearby existing noise-sensitive uses, the following noise mitigation measure should be implemented:

**MM-11:** A site specific noise impact study that addresses School use parking area activities shall be completed by a qualified noise consultant once site-specific development plans are completed. The noise impact study shall include an analysis of School use parking noise exposure at the nearest existing noise-sensitive uses (residential). The analysis shall include associated mitigation measures (as

appropriate) to reduce school-related parking lot noise levels to a state of compliance with the County Code standards of 55 dBA $L_{50}$ and 75 dBA $L_{max}$ at nearby existing sensitive receptors. Specific mitigation measures could include, but are not limited to, increasing setbacks between parking areas and nearby sensitive receptors (6 dBA decrease per doubling of distance), and the construction of solid noise barriers (5-10 dBA reduction depending on barrier height and geometry).

**Significance of Impact 11 after Mitigation: *Less than Significant***

**Impact 12: Elementary School Use Playground and Playing Field Noise at Existing Sensitive Uses**

For the assessment of playground noise impacts, noise level data collected by BAC staff at various outdoor play areas in recent years was utilized. The primary noise source associated with play area use is shouting children. BAC file data indicate that noise levels of outdoor play areas containing approximately 50 children are measured to be 55 dB $L_{eq}$ and 75 dB $L_{max}$ at a distance of 50 feet from the focal point of the play area during school recess.

Because activities within School components of the Plan area would consist of human speech (i.e., shouting children), noise associated with school playground and playing field activities would be subject to the Sacramento County General Plan's more restrictive daytime and nighttime noise level standards (the criteria contain a 5 dB penalty for noise consisting primarily of speech). However, it is reasonable to assume that activities occurring on school grounds within the Plan area would likely be restricted to daytime hours (7:00 a.m. to 10:00 p.m.). As a result, the General Plan noise level standards applicable to school playground activities would be exterior daytime noise level standards of 50 dB $L_{50}$/70 dB $L_{max}$ and interior noise level limits of 30 dB $L_{50}$/50 dB $L_{max}$ (anytime) for residential uses.

The distance between the nearest identified existing noise-sensitive use (residence) and proposed Elementary School (K-8) has been identified as being approximately 800 feet. When projected to a distance of 800 feet, school playground noise exposure is calculated to be approximately 31 dB $L_{50}$ and 51 dB $L_{max}$. The predicted noise levels exclude consideration of shielding that would be provided by proposed intervening structures (e.g., residences, sound walls, etc.) which would further reduce those levels. Based on the information above, it is expected that Elementary School use playground activity noise levels will satisfy the Sacramento County General Plan daytime exterior and interior noise level limits at the nearest existing noise-sensitive (residential) uses. It is further expected that Elementary School use playground noise levels would be well below ambient noise level conditions at the nearest existing residential uses. As a result, noise impacts associated with Elementary School playgrounds and playing fields affecting existing noise-sensitive land uses are identified as being ***less than significant.***

**Impact 13: High School Use Sports Fields and Stadium Noise at Existing Sensitive Uses**

The most significant noise sources associated with High School outdoor sports fields and stadiums consist of public address (PA) system usage and crowd noise. BAC used a combination

of BAC file data for similar noise sources and published acoustical literatures to predict the noise generation associated with an outdoor sports stadium within the Plan area. Specifically, BAC utilized noise level measurements conducted by BAC staff during football games and playing fields held at outdoor facilities in the Sacramento area in recent years (which included crowd noise and PA system usage), and published noise level data for crowd noise, to assess the noise generation of Plan area sports stadium noise. From this data, BAC developed reference noise levels which were utilized in this analysis. Specifically, reference noise levels of 70 dB $L_{50}$ and 85 dB $L_{max}$ at 100 feet were used for PA system noise during a stadium event. Additionally, reference noise levels of 75 dB $L_{50}$ and 90 dB $L_{max}$ at 100 feet were used for crowd noise in bleachers during a stadium event. For less intensive (non stadium) activities on the High School playing fields with no public address system usage, BAC file data indicate that noise levels would typically be 55 dB $L_{eq}$ and 75 dB $L_{max}$ at a distance of 50 feet from the focal point of the playing field areas.

The nearest identified existing noise-sensitive uses to the proposed High School use have been identified as residences located in the northwest quadrant of San Juan Road and El Centro Road, immediately adjacent to the proposed High School Site. Depending upon the High School site design, intervening shielding, locations of playing fields and stadium, and PA system configuration, noise exposure associated with High School activities could exceed the General Plan's daytime exterior and interior noise level standards at nearby existing residential uses. Further, noise levels from stadium sporting events could potentially exceed existing ambient conditions at nearby residential uses. As a result, this impact is identified as being **potentially significant**.

Mitigation for Impact 13:

To satisfy applicable Sacramento County General Plan exterior and interior noise level standards at nearby existing noise-sensitive uses, the following noise mitigation measure should be implemented:

**MM-13:** A noise impact study that addresses School sports stadium noise shall be completed by a qualified noise consultant once site-specific development plans are completed. The noise impact study shall include an analysis of stadium noise exposure at the nearest existing noise-sensitive uses (residential). If stadium-generated noise levels exceed the County Code standards of 55 dBA L50 or 75 dBA $L_{max}$ at nearby sensitive receptors, the analysis shall include associated mitigation measures (as appropriate) to reduce stadium noise levels, including crowd and PA system noise, to a state of compliance with those standards at nearby existing sensitive receptors.

Specific mitigation measures could include but are not limited to the following:

- The construction of solid noise barriers that effectively attenuate sports playing field and/or stadium noise exposure to a state of compliance with the applicable noise limits at existing sensitive receptors. Noise barriers can typically provide

a 5-10 dBA reduction in sound levels depending on barrier height and geometry.

- A site design that integrates intervening shielding, setbacks, and restrictions on equipment configurations and settings. Increased setbacks will provide a decrease in noise at a rate of approximately 6 dBA per each doubling of distance between noise sources and sensitive receptors.

**Significance of Impact 13 after Mitigation: *Less than Significant***

**Impact 14: Park Activity Noise at Existing Sensitive Uses**

Noise generated by parks vary depending on whether the parks are intended for passive or active use. Passive use includes picnic and sitting areas whereas active use incudes playing fields and play structures. Although the preliminary land use plan contains the general locations of the planned Park uses within the Plan area (Figure 2), detailed plans containing park activities (i.e., active or passive use) have not yet been developed. For the purposes of this analysis, it was conservatively assumed that the proposed Park uses would contain active uses. According to BAC file data, parks consisting of active uses (playing fields/playgrounds) have noise levels of approximately 60 dB $L_{50}$ and 70 dB $L_{max}$ at a distance of 50 feet.

Because activities within Park components of the Plan area would likely consist of human speech (i.e., shouting and cheering during activities), noise associated with park activities would be subject to the Sacramento County General Plan's more restrictive daytime and nighttime noise level standards (the criteria contain a 5 dB penalty for noise consisting primarily of speech). However, it is reasonable to assume that park hours within the Plan area would likely be restricted to daytime hours (7:00 a.m. to 10:00 p.m.). As a result, the General Plan noise level standards applicable to park activities would be exterior daytime noise level standards of 50 dB $L_{50}$/70 dB $L_{max}$ and interior noise level limits of 30 dB $L_{50}$/50 dB $L_{max}$ (anytime) for residential uses.

The nearest identified existing noise-sensitive uses to a proposed Park component have been identified as residential receivers located west of the Plan area, which maintain a separation of approximately 700 feet. When projected to a distance of 700 feet, park (active use) noise levels are calculated to be approximately 37 dB $L_{50}$ and 47 dB $L_{max}$. Thus, it is expected that noise levels from activities occurring within Park uses will satisfy the applicable Sacramento County General Plan daytime exterior and interior noise level limits at the nearest existing noise-sensitive (residential) uses. It is further expected that Park use noise levels would be well below ambient noise level conditions at the nearest existing residential uses. As a result, no adverse noise impacts are identified for typical activities that will occur at parks proposed within the Plan area.

It should be noted, however, that the 25.8 acre park proposed in the west-central portion of the Plan area will include an outdoor pavilion area where amplified music events may occur. Although specific designs for this park have yet to be developed, the pavilion area would likely be located approximately ½ mile from the nearest residences to the west along Garden Highway. Given this setback distance, the County's daytime noise standard of 50 dBA $L_{50}$ (after application of the 5 dBA adjustment for sound consisting of music) would not be exceeded provided amplified sound

levels do not exceed 80 dBA $L_{50}$ at a reference distance of 100 feet from the music generation location (i.e., speakers). Because it is possible that amplified music sound levels could exceed 80 dBA at 100 feet from the amplified music sound source, this impact is identified as being ***potentially significant.***

Mitigation for Impact 14:

To satisfy applicable Sacramento County General Plan and Noise Ordinance standards at nearby existing noise-sensitive uses, the following noise mitigation measure should be implemented for events held at the 25.8 acre park which include amplified speech or music:

**MM-14:** If a pavilion for use in hosting events with amplified speech or music components is constructed within the 25.8 acre park proposed in the west-central portion of the Plan area, the following specific measures shall be incorporated into the design and operation of such a pavilion:

- The sound generation area of the pavilion shall be located as close as feasible to the eastern park boundary at Bryte Bend Road, and ideally at least 2,500 feet from the nearest residence to the west.
- All activities held at the pavilion consisting of amplified speech or music shall be limited to daytime hours of 7 am to 10 pm.
- Amplified speech or music levels shall be maintained at or below a median level of 80 dBA $L_{50}$ at a distance of 100 feet from the sound source (i.e., speakers).
- Noise monitoring shall be required during the first year of park usage for events utilizing amplified speech or music to ensure the County Code noise standards of 50 dBA L50 and 70 dBA $L_{max}$ are satisfied at the nearest sensitive receptors. In the event that such measurements reveal that the County Code standards are being exceeded at this location during events with amplified speech or music, implementation of additional noise control measures would be required to achieve compliance. Such measures would include further reducing the output of the sound amplification system or physical modification of speaker locations and orientations.

**Significance of Impact 14 after Mitigation: *Less than Significant***

## Noise Impacts Associated with Project On-Site Construction Activities

### Impact 15: On-Site Construction Noise Levels at Existing Sensitive Uses

During project construction, heavy equipment would be used for grading excavation, paving, and building construction, which would increase ambient noise levels when in use. Noise levels would vary depending on the type of equipment used, how it is operated, and how well it is maintained.

Noise exposure at any single point outside the project work area would also vary depending on the proximity of equipment activities to that point. The property boundaries of the nearest existing residential uses are located approximately 25 feet away from where construction activities would occur within the Plan area.

Table 14 includes the range of maximum noise levels for equipment commonly used in general construction projects at full-power operation at a distance of 50 feet. Not all of these construction activities would be required of this project. The Table 14 data also include predicted maximum equipment noise levels at the boundary of the nearest sensitive use located approximately 25 feet away, which assume a standard spherical spreading loss of 6 dB per doubling of distance.

**Table 14**
**Construction Equipment Reference Noise Levels and Predicted Noise Levels at 25 Feet**

| Equipment Description | Maximum Noise Level at 50 Feet (dBA) | Predicted Maximum Noise Level at 25 feet (dBA) |
|---|---|---|
| Air compressor | 80 | 86 |
| Backhoe | 80 | 86 |
| Ballast equalizer | 82 | 88 |
| Ballast tamper | 83 | 89 |
| Compactor | 82 | 88 |
| Concrete mixer | 85 | 91 |
| Concrete pump | 82 | 88 |
| Concrete vibrator | 76 | 82 |
| Crane, mobile | 83 | 89 |
| Dozer | 85 | 91 |
| Generator | 82 | 91 |
| Grader | 85 | 88 |
| Impact wrench | 85 | 91 |
| Loader | 80 | 91 |
| Paver | 85 | 86 |
| Pneumatic tool | 85 | 91 |
| Pump | 77 | 91 |
| Saw | 76 | 83 |
| Scarifier | 83 | 82 |
| Scraper | 85 | 89 |
| Shovel | 82 | 91 |
| Spike driver | 77 | 88 |
| Tie cutter | 84 | 83 |
| Tie handler | 80 | 90 |
| Tie inserter | 85 | 86 |
| Truck | 84 | 91 |

*Source: Federal Transit Administration Noise and Vibration Impact Assessment Manual, Table 7-1 (2018)*

Based on the equipment noise levels in Table 14, worst-case on-site project construction equipment maximum noise levels at the nearest existing residential uses located 25 feet away are expected to range from approximately 82 to 91 dB. As indicated in Table 1, baseline maximum ambient noise levels at existing residences represented by noise monitoring Site 15 ranged from 58-64 dBA during the noise survey period. Thus, a portion of the construction equipment used within the Plan area could result in short-term noise level increases in excess of 10 dBA over existing ambient noise levels at the nearest existing sensitive uses. Further, it is possible that those noise levels could exceed the applicable Sacramento County General Plan and Municipal Code noise level limits applicable to construction noise. As a result, this impact is considered **potentially significant**.

**Mitigation for Impact 15**: On-Site Construction Noise Control Measures

Policy NO-8 of the Sacramento County General Plan states that noise associated with construction activities shall adhere to the requirements established in Municipal Code Section 6.68.090(e), which offers an exemption for construction noise provided that the activities occur during specified hours and days of the week. The complete text of Municipal Code Section 6.68.090(e) is provided in the Regulatory Setting of this report. Provided construction

activities within the Plan area occur pursuant to Municipal Code Section 6.68.090(e), project construction activities would be exempt. However, construction activities occurring during these hours would not be exempt from the Municipal Code requirements and noise levels generated by construction activities could exceed applicable General Plan and Municipal Code noise level standards at nearby existing residential uses.

MM-15: The following measures shall be incorporated into the project on-site construction operations:

- Noise-generating construction activities within the Plan area shall occur pursuant to the hours and days outlined in Municipal Code Section 6.68.090(e).
- All noise-producing project equipment and vehicles using internal-combustion engines shall be equipped with manufacturers-recommended mufflers and be maintained in good working condition.
- All mobile or fixed noise-producing equipment used on the project site that are regulated for noise output by a federal, state, or local agency shall comply with such regulations while in the course of project activity.
- Electrically powered equipment shall be used instead of pneumatic or internal-combustion-powered equipment, where feasible.
- Material stockpiles and mobile equipment staging, parking, and maintenance areas shall be located as far as practicable from noise-sensitive uses.
- Project area and site access road speed limits shall be established and enforced during the construction period.
- Nearby residences shall be notified of construction schedules so that arrangements can be made, if desired, to limit their exposure to short-term increases in ambient noise levels.
- In the event that unusual circumstances or emergencies prevent certain project construction activities from complying with the Municipal Code Section 6.68.090(e) then a noise control plan shall be developed to ensure that sufficient mitigation is implemented during project construction to ensure adverse noise impacts are avoided.

Although the mitigation measures cited above would decrease the potential for adverse public reaction to noise generated during construction activities, it cannot be determined with certainty that these measures would reduce construction-related noise levels to both a state of compliance with County Code requirements and to levels less than 10 dBA above ambient conditions. As a result, this impact is considered **significant and unavoidable**.

**Significance of Impact 15 after Mitigation: *Significant and Unavoidable***

## Vibration Impacts Associated with Project Activities

### Impact 16: Vibration Generated by Project Construction and On-Site Operations

During project construction, heavy equipment would be used for grading, excavation, paving, and building construction, which would generate localized vibration in the immediate vicinity of the construction. The nearest identified existing structures (newer engineered residences which are not highly susceptible to damage by vibration) are located approximately 25 feet from where construction activities would occur within the Plan area.

Table 15 includes the range of vibration levels for equipment commonly used in general construction projects at a distance of 25 feet. The Table 15 data also include predicted equipment vibration levels at a distance of 100 feet from proposed construction activities.

**Table 15**
**Vibration Source Levels for Construction Equipment and Predicted Levels at 50 Feet**

| Equipment | Maximum Vibration Level at 25 feet, VdB (rms) | Predicted Maximum Vibration Level at 100 feet, VdB (rms) |
|---|---|---|
| Vibratory Roller | 94 | 76 |
| Hoe Ram | 87 | 69 |
| Large bulldozer | 87 | 69 |
| Loaded trucks | 86 | 68 |
| Jackhammer | 79 | 61 |
| Small bulldozer | 58 | 40 |

[1] PPV = Peak Particle Velocity

Source: 2018 FTA Transit Noise and Vibration Impact Assessment Manual and BAC calculations

As shown in Table 15, vibration levels generated from on-site construction activities are predicted to be below thresholds for damage to engineered residential structures (98 VdB) at a distance of 25 feet from those activities. In addition, construction-related vibration levels are generally predicted to be below levels considered to be annoying (75 VdB) at a distance of 100 feet from the construction activity.

The project proposes a mixed-use community containing residential, commercial, commercial mixed-use, school, park, agricultural and open space uses. It is the experience of BAC these uses do not typically have equipment that generates appreciable off-site vibration. Because vibration levels due to both project construction and activities related to proposed developments within the Plan area are expected to be satisfactory relative to the applicable vibration criteria for damage to structures and annoyance, this impact is considered to be ***less than significant***.

## Noise Impacts Upon Sensitive Uses Proposed within the Plan area

The California Supreme Court issued an opinion in *California Building Industry Association v. Bay Area Air Quality Management District (2015)* holding that CEQA is primarily concerned with the impacts of a project *on* the environment and generally does not require agencies to analyze the impact of existing of future conditions on a project's future users or residents. Nevertheless, Sacramento County has General Plan policies that address existing/future conditions affecting future uses of the proposed Plan area. As a result, noise and vibration impacts upon the project are evaluated for General Plan consistency in the following sections.

## On-Site Noise Impacts from Traffic

### Impact 17: Future Exterior Traffic Noise Levels at Proposed Sensitive Uses

The project proposes extensive development of residential uses of varying densities throughout the Plan area, including areas located adjacent to major roadways. While the interior spaces of residential uses share the same noise-sensitivity regardless of density, the noise-sensitivity of exterior areas varies according to the type of proposed residential use. For example, in low-density residential developments, the noise-sensitive exterior spaces where the County's exterior noise standards are applied are commonly considered to be backyards. Within higher density residential developments, such as apartments, the County's exterior noise standards are applied at common outdoor usage areas such as pool or park spaces rather than individual patios or balconies. For mixed use developments that include a residential component, it is not unusual for no outdoor use areas to be proposed.

Because specific plans for individual developments were not available as of the time of this study, potential traffic noise impacts are assessed through prediction of distances to future traffic noise contours along the roadways that would potentially affect Plan area development. Where noise contours exceeding the General Plan standards shown in Table 7 (65 dB DNL for residential uses and 70 dB DNL for parks and playgrounds), would extend into areas proposed for such uses, potentially significant noise impacts are identified and consideration of exterior noise mitigation measures would be necessary.

The FHWA Model was used with future plus project traffic data to predict distances to future traffic noise contours for the roadways that would affect development within the Plan area. Detailed FHWA Model inputs for the internal roadways and existing roadways that would affect project development are provided in Appendix F. Ambient noise monitoring results were used to calibrate the FHWA Model for predicting future traffic noise levels within the Plan area. Cross-sections of future roadways proposed within the Plan area were used to determine the distances from the roadway centerlines to the nearest potential outdoor activity areas along each roadway segment.

Table 16 shows the predicted future plus project (cumulative) traffic noise exposure at those locations along each roadway segment, a comparison of those predicted levels against the applicable Sacramento County exterior noise standards, and the distances to the future 65 and 70 dB DNL traffic noise contours. Figure 6 shows a graphical representation of the roadway segments where future traffic noise levels at proposed residential land uses are predicted to exceed 65 dB DNL and, therefore, require mitigation.

**Table 16**
**Predicted Future Traffic Noise Levels along Roadways Affecting Development within the Plan area**
**Upper Westside Specific Plan**

| Segment | Roadway | From | To | Distance[1] | DNL[2] | Level Above 65 DNL?[3] | dBA Above 65 DNL[4] | Contour Distance (ft)[5] | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 65 DNL | 70 DNL |
| 1 | Bryte Bend Rd | Radio Head | San Juan Rd | 100 | 59 | No | 0 | 37 | 17 |
| 2 | Bryte Bend Rd | San Juan Rd | Street 7 | 75 | 62 | No | 0 | 48 | 22 |
| 3 | Bryte Bend Rd | Street 7 | Farm Rd | 70 | 63 | No | 0 | 53 | 24 |
| 4 | Bryte Bend Rd | Farm Rd | Street 10 | 75 | 59 | No | 0 | 29 | 14 |
| 5 | Bryte Bend Rd | Street 10 | W El Camino Ave | 75 | 60 | No | 0 | 36 | 16 |
| 6 | Bryte Bend Rd | West El Camino | Street 8 | 75 | 58 | No | 0 | 27 | 13 |
| 7 | Bryte Bend Rd | Street 8 | Street 2 | 75 | 58 | No | 0 | 24 | 11 |
| 8 | Bryte Bend Rd | Street 2 | Street 1 | 70 | 60 | No | 0 | 30 | 14 |
| 9 | Bryte Bend Rd | Street 1 | Garden Highway | 70 | 58 | No | 0 | 26 | 12 |
| 10 | El Centro Rd | Arena | Radio Head | 100 | 67 | Yes | 2 | 138 | 64 |
| 11 | El Centro Rd | Radio Head | San Juan Rd | 100 | 67 | Yes | 2 | 130 | 60 |
| 12 | El Centro Rd | San Juan Rd | Street 7 | 80 | 69 | Yes | 4 | 153 | 71 |
| 13 | El Centro Rd | Street 7 | Farm Rd | 80 | 70 | Yes | 5 | 162 | 75 |
| 14 | El Centro Rd | Farm Rd | Street 6 | 90 | 71 | Yes | 6 | 228 | 106 |
| 15 | El Centro Rd | Street 6 | Street 5 | 90 | 71 | Yes | 6 | 246 | 114 |
| 16 | El Centro Rd | Street 5 | W El Camino Ave | 90 | 72 | Yes | 7 | 249 | 116 |
| 17 | El Centro Rd | W El Camino Ave | Street 4 | 80 | 66 | Yes | 1 | 96 | 45 |
| 18 | El Centro Rd | Street 4 | Street 3 | 80 | 65 | No | 0 | 83 | 39 |
| 19 | El Centro Rd | Street 3 | Street 2 | 80 | 62 | No | 0 | 51 | 24 |
| 20 | El Centro Rd | Street 2 | Street 1 | 80 | 53 | No | 0 | 12 | 5 |
| 21 | Farm Road | Street F | Bryte Bend Rd | 60 | 60 | No | 0 | 27 | 12 |
| 22 | Farm Road | Bryte Bend Rd | Street D | 75 | 61 | No | 0 | 43 | 20 |
| 23 | Farm Road | Street D | Street C | 65 | 63 | No | 0 | 47 | 22 |
| 24 | Farm Road | Street C | Street B | 65 | 64 | No | 0 | 56 | 26 |
| 25 | Farm Road | Street B | Street A | 65 | 65 | No | 0 | 64 | 30 |
| 26 | Farm Road | Street A | El Centro Rd | 65 | 66 | Yes | 1 | 72 | 33 |
| 27 | Farm Road | El Centro Rd | Street H | 80 | 68 | Yes | 3 | 121 | 56 |
| 28 | Garden Highway | San Juan Rd | Street 9 | 1300 | 39 | No | 0 | 23 | 11 |
| 29 | Garden Highway | Street 9 | Bryte Bend Rd | 950 | 41 | No | 0 | 23 | 11 |
| 30 | Orchard Lane | San Juan Rd | Street 7 | 60 | 59 | No | 0 | 23 | 11 |
| 31 | Radio Head | Garden Highway | Street 12 W | 75 | 60 | No | 0 | 33 | 16 |
| 32 | Radio Head | Street 12 W | Bryte Bend Rd | 75 | 53 | No | 0 | 13 | 6 |

**Table 16**
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**Upper Westside Specific Plan**

| Segment | Roadway | From | To | Distance[1] | DNL[2] | Level Above 65 DNL?[3] | dBA Above 65 DNL[4] | Contour Distance (ft)[5] | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 65 DNL | 70 DNL |
| 33 | Radio Head | Bryte Bend Rd | Street 12 E | 75 | 60 | No | 0 | 33 | 16 |
| 34 | Radio Head | Street 12 E | El Centro Rd | 75 | 66 | Yes | 1 | 84 | 39 |
| 35 | San Juan Rd | Garden Highway | Bryte Bend Rd | 75 | 61 | No | 0 | 43 | 20 |
| 36 | San Juan Rd | Bryte Bend Rd | El Centro Rd | 130 | 60 | No | 0 | 57 | 27 |
| 37 | San Juan Rd | El Centro Rd | Orchard Lane | 130 | 62 | No | 0 | 79 | 37 |
| 38 | Street 1 | Street C | Bryte Bend Rd | 60 | 55 | No | 0 | 13 | 6 |
| 39 | Street 1 | Street C | Street B | 60 | 54 | No | 0 | 12 | 5 |
| 40 | Street 1 | Street B | El Centro Rd | 60 | 54 | No | 0 | 12 | 5 |
| 41 | Street 2 | Bryte Bend Rd | Street 3 | 70 | 59 | No | 0 | 28 | 13 |
| 42 | Street 2 | Street D | Street C | 70 | 60 | No | 0 | 32 | 15 |
| 43 | Street 2 | Street C | Street B | 70 | 61 | No | 0 | 37 | 17 |
| 44 | Street 2 | Street B | Street A | 70 | 61 | No | 0 | 37 | 17 |
| 45 | Street 2 | Street A | El Centro Rd | 70 | 61 | No | 0 | 38 | 18 |
| 46 | Street 3 | Street 2 | Street C | 60 | 45 | No | 0 | 3 | 1 |
| 47 | Street 3 | Street B | Street A | 60 | 61 | No | 0 | 33 | 16 |
| 48 | Street 3 | Street A | El Centro Rd | 60 | 62 | No | 0 | 36 | 16 |
| 49 | Street 4 | Street E | Street D | 60 | 53 | No | 0 | 10 | 5 |
| 50 | Street 4 | Street D | Street C | 60 | 55 | No | 0 | 13 | 6 |
| 51 | Street 4 | Street B | Street A | 60 | 54 | No | 0 | 11 | 5 |
| 52 | Street 4 | Street A | El Centro Rd | 60 | 61 | No | 0 | 33 | 15 |
| 53 | Street 5 | Street E | Street D | 60 | 50 | No | 0 | 6 | 3 |
| 54 | Street 5 | Street D | Street C | 60 | 63 | No | 0 | 44 | 20 |
| 55 | Street 5 | Street B | El Centro Rd | 60 | 59 | No | 0 | 24 | 11 |
| 56 | Street 6 | Street E | Street C | 60 | 48 | No | 0 | 4 | 2 |
| 57 | Street 6 | Street D | Street C | 60 | 50 | No | 0 | 6 | 3 |
| 58 | Street 6 | Street B | Street A | 60 | 57 | No | 0 | 19 | 9 |
| 59 | Street 6 | El Centro Rd | Street A | 60 | 57 | No | 0 | 17 | 8 |
| 60 | Street 7 | Bryte Bend Rd | Street C | 60 | 45 | No | 0 | 3 | 1 |
| 61 | Street 7 | Street C | Street B | 60 | 50 | No | 0 | 6 | 3 |
| 62 | Street 7 | Street B | El Centro Rd | 60 | 57 | No | 0 | 17 | 8 |
| 63 | Street 7 | El Centro Rd | Orchard Lane | 60 | 60 | No | 0 | 29 | 13 |
| 64 | Street 7 | Orchard Lane | Street H | 60 | 55 | No | 0 | 13 | 6 |

**Table 16**
**Predicted Future Traffic Noise Levels along Roadways Affecting Development within the Plan area**
**Upper Westside Specific Plan**

| Segment | Roadway | From | To | Distance[1] | DNL[2] | Level Above 65 DNL?[3] | dBA Above 65 DNL[4] | Contour Distance (ft)[5] | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 65 DNL | 70 DNL |
| 65 | Street 8 | Street F | Bryte Bend Rd | 50 | 56 | No | 0 | 12 | 5 |
| 66 | Street 8 | Street F | Street G | 50 | 56 | No | 0 | 13 | 6 |
| 67 | Street 8 | Street G | Bryte Bend Rd | 50 | 56 | No | 0 | 13 | 6 |
| 68 | Street 10 | Bryte Bend Rd | Street F | 50 | 55 | No | 0 | 11 | 5 |
| 69 | Street 10 | Street F | Street G | 50 | 46 | No | 0 | 3 | 1 |
| 70 | Street A | Farm Rd | Street 6 | 60 | 59 | No | 0 | 23 | 11 |
| 71 | Street A | Street 6 | Street5 | 60 | 60 | No | 0 | 26 | 12 |
| 72 | Street A | Street 5 | W El Camino Ave | 60 | 63 | No | 0 | 47 | 22 |
| 73 | Street A | W El Camino Ave | Street 4 | 60 | 61 | No | 0 | 31 | 15 |
| 74 | Street A | Street 4 | Street 3 | 60 | 50 | No | 0 | 6 | 3 |
| 75 | Street A | Street 3 | Street 2 | 60 | 50 | No | 0 | 6 | 3 |
| 76 | Street B | Street 7 | Farm Rd | 60 | 57 | No | 0 | 18 | 8 |
| 77 | Street B | Farm Rd | Street 6 | 60 | 58 | No | 0 | 21 | 10 |
| 78 | Street B | Street 6 | Street 5 | 60 | 58 | No | 0 | 21 | 10 |
| 79 | Street B | Street 5 | W El Camino Ave | 60 | 55 | No | 0 | 13 | 6 |
| 80 | Street B | W El Camino Ave | Street 4 | 60 | 56 | No | 0 | 14 | 7 |
| 81 | Street B | Street 4 | Street 3 | 60 | 54 | No | 0 | 11 | 5 |
| 82 | Street B | Street 3 | Street 2 | 60 | 45 | No | 0 | 3 | 1 |
| 83 | Street B | Street 2 | Street 1 | 60 | 50 | No | 0 | 6 | 3 |
| 84 | Street C | Street 7 | Farm Rd | 60 | 54 | No | 0 | 11 | 5 |
| 85 | Street C | Farm Rd | Street 6 | 60 | 58 | No | 0 | 22 | 10 |
| 86 | Street C | Street 6 | Street 5 | 60 | 57 | No | 0 | 17 | 8 |
| 87 | Street C | Street 5 | W El Camino Ave | 60 | 57 | No | 0 | 17 | 8 |
| 88 | Street C | W El Camino Ave | Street 4 | 60 | 60 | No | 0 | 27 | 13 |
| 89 | Street C | Street 4 | Street 3 | 60 | 54 | No | 0 | 11 | 5 |
| 90 | Street C | Street 3 | Street 2 | 60 | 51 | No | 0 | 7 | 3 |
| 91 | Street C | Street 2 | Street 1 | 60 | 56 | No | 0 | 14 | 7 |
| 92 | Street D | Farm Rd | Street 6 | 60 | 56 | No | 0 | 15 | 7 |
| 93 | Street D | Street 6 | Street 5 | 60 | 56 | No | 0 | 16 | 7 |
| 94 | Street D | Street 5 | W El Camino Ave | 60 | 56 | No | 0 | 14 | 7 |
| 95 | Street D | W El Camino | Street 4 | 60 | 59 | No | 0 | 26 | 12 |
| 96 | Street D | Street 4 | Street 3 | 60 | 48 | No | 0 | 4 | 2 |

**Table 16**
**Predicted Future Traffic Noise Levels along Roadways Affecting Development within the Plan area**
**Upper Westside Specific Plan**

| Segment | Roadway | From | To | Distance[1] | DNL[2] | Level Above 65 DNL?[3] | dBA Above 65 DNL[4] | Contour Distance (ft)[5] | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 65 DNL | 70 DNL |
| 97 | Street D | Street 3 | Street 2 | 60 | 45 | No | 0 | 3 | 1 |
| 98 | Street E | Street 5 | W El Camino Ave | 60 | 45 | No | 0 | 3 | 1 |
| 99 | Street E | W El Camino | Street 4 | 60 | 56 | No | 0 | 16 | 7 |
| 100 | Street E | Street 4 | Street 3 | 60 | 48 | No | 0 | 4 | 2 |
| 101 | Street F | Street 8 | Bryte Bend Rd | 60 | 55 | No | 0 | 13 | 6 |
| 102 | Street F | Farm Rd | Street 10 | 60 | 56 | No | 0 | 14 | 7 |
| 103 | Street G | Street 9 | Street 10 | 100 | 42 | No | 0 | 3 | 1 |
| 104 | Street H | Street 7 | Farm Rd | 60 | 54 | No | 0 | 12 | 5 |
| 105 | W El Camino Ave | Bryte Bend Rd | Street E | 105 | 58 | No | 0 | 36 | 16 |
| 106 | W El Camino Ave | Street E | Street D | 105 | 56 | No | 0 | 25 | 11 |
| 107 | W El Camino Ave | Street D | Street C | 105 | 59 | No | 0 | 44 | 20 |
| 108 | W El Camino Ave | Street C | Street B | 105 | 62 | No | 0 | 65 | 30 |
| 109 | W El Camino Ave | Street B | Street A | 105 | 62 | No | 0 | 63 | 29 |
| 110 | W El Camino Ave | Street A | El Centro Rd | 105 | 64 | No | 0 | 89 | 42 |
| 111 | W El Camino Ave | El Centro Rd | Interstate 80 | 90 | 72 | Yes | 7 | 252 | 117 |
| 112 | I-80 | Yolo County | W El Camino Ave | 220 | 76 | Yes | 11 | 1,270 | 590 |
| 113 | I-80 | West El Camino | I-5 | 220 | 76 | Yes | 11 | 1,236 | 574 |

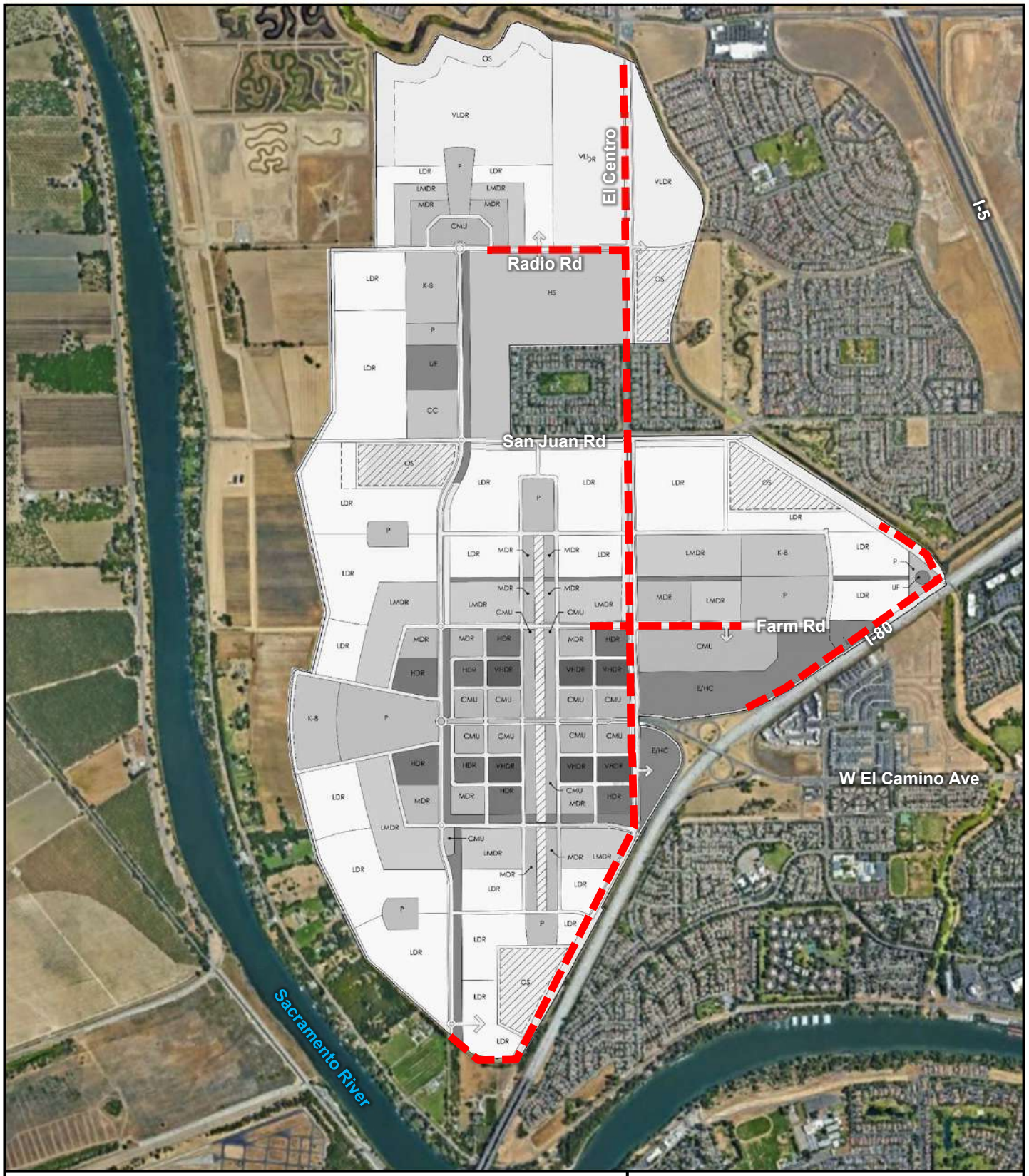
1. The distance from the roadway segment centerline to the nearest potential location for an outdoor activity area based on proposed roadway cross-sections.
2. The Day/Night Average Level (DNL) computed at the distance cited in the “Distance” column.
3. If the predicted DNL at the nearest potential outdoor activity areas exceeds the County’s 65 dBA exterior noise level standard this column is flagged as “Yes”.
4. The level above 65 dBA DNL represents the degree of sound attenuation which would be required to reduce traffic noise levels to 65 dBA DNL if the outdoor activity area were located at the distance from the centerline shown under the “Distance” column.
5. The contour distances represent the distance from the roadway segment centerline to the indicated contours.

As indicated in Table 16, predicted future traffic noise level exposure could exceed 65 dBA DNL at the nearest potential outdoor activity areas of proposed residential uses along 14 roadway segments affecting the Plan area. However, no residential uses are proposed along West El Camino Avenue between El Centro and Interstate 80, so the actual number of affected segments where projected future traffic noise exposure would exceed 65 dBA DNL at proposed residential uses is 12.

Table 16 also indicates that, with the exception of Interstate 80, traffic noise attenuation ranging from 1 to 5 dB would be required to reduce future traffic noise levels to a state of compliance with the County's 65 dBA DNL exterior noise standard. This degree of attenuation is relatively low and could be achieved through a variety of noise mitigation options. Such options are discussed below under the mitigation measures for this impact statement.

Although the project site plans contain the general locations of the proposed residential uses, the specific locations of the individual residences and outdoor activity areas are currently unknown. However, because residential outdoor activity areas could be located in areas where future traffic noise exposure is predicted to exceed 65 dBA DNL, this impact is identified as being **potentially significant**.

Figure 6 shows a graphical representation of the roadway segments where future traffic noise levels at proposed residential land uses within the Plan Area are predicted to exceed 65 dB DNL and, therefore, require consideration of noise mitigation.




***Legend***

▬ ▬ ▬ : Roadway segments or locations where future traffic noise levels are predicted to exceed 65 dB DNL and traffic noise mitigation would be required.

N

Scale (Feet)

0 750 1,500

Traffic Noise Mitigation Locations

Upper Westside Master Plan Area

Figure 6

BOLLARD Acoustical Consultants

Mitigation for Impact 17:

To satisfy the Sacramento County General Plan 65 dB DNL exterior noise level standard at the outdoor activity areas of future residential uses proposed within the Plan area, the following noise mitigation measures should be considered either singularly or in combination during project design, depending on the level of sound attenuation required. At proposed residential locations adjacent to Interstate 80 it is probable that a combination of the following measures would be required:

**MM-17A:** Residential outdoor activity areas shall be located beyond the 65 dBA DNL noise contour distances shown in Table 16. This includes individual backyards of single-family residences and common outdoor use areas of multi-family residences.

**OR**

**MM-17B:** Residential outdoor activity areas proposed within the 65 dBA DNL noise contour distances shown in Table 16 shall be screened from view of the roadway by intervening structures or sound barriers. If sound barriers are proposed, project-specific grading plans shall be reviewed to determine the location and heights of barrier necessary to achieve compliance with the County's noise standards. With the exception of residences proposed in proximity to Interstate 80, noise barriers along other roadways would not need to exceed 6 feet in height to provide the required traffic noise attenuation.

If noise barriers are to be constructed within the Plan area, the traffic noise barriers shall take the form of a masonry wall, earthen berm, or combination of the two, or, if reviewed and approved by an acoustical consultant as providing comparable performance prior to construction, other materials may be acceptable (i.e., wood or wood composite fence with overlapping slat construction).

**OR**

**MM-17C:** Single-family residences shall be oriented such that the front of the residence faces the roadway segment where levels exceeding 65 dBA DNL would occur, thereby using the residence to shield the backyard from the roadway and creating a larger setback between the roadway centerline and backyard outdoor activity area.

**OR**

**MM-17D:** Roadways where future traffic noise levels are predicted to exceed the County's noise standards by 4 dBA or less shall be paved with noise-reducing asphalt.

**Significance of Impact 17 after Mitigation:** ***Less than Significant***

### Impact 18: Future Interior Traffic Noise Levels at Proposed Sensitive Uses

Based upon years of experience and testing conducted by BAC, standard building construction (stucco siding, STC-27 windows, door weather-stripping, exterior wall insulation, composition plywood roof), typically results in an exterior to interior noise reduction of at least 25 dBA with windows closed and approximately 15 dB with windows open. Therefore, provided predicted future traffic noise exposure at residential building facades does not exceed 70 dBA DNL, standard construction would be adequate to reduce interior noise levels to a state of compliance with the County's 45 dBA DNL interior noise level standard.

As indicated in Table 16, future traffic noise levels are not predicted to exceed 70 dBA DNL adjacent to the majority of the project-area roadways where residential and other noise-sensitive land uses are proposed. However, at residential uses proposed adjacent to El Centro Road and in the vicinity of Interstate 80, it is probable that future traffic noise exposure would exceed the County's 45 dBA DNL interior noise level standard without mitigation, particularly at upper floor locations which would not likely be shielded from view of roadways by sound walls. As a result, this impact is identified as being **potentially significant**.

Mitigation for Impact 18:

**MM-18:** At locations where residential building facades are proposed in future noise environments exceeding 70 dBA DNL, project plans shall be reviewed by a qualified acoustical consultant to ensure that appropriate construction upgrades (typically higher-rated STC values for windows) are specified to ensure compliance with the County's interior noise standard.

**Significance of Impact 18 after Mitigation: *Less than Significant***

## Noise Impacts from Plan area Components at Proposed Uses

### Impact 19: Commercial Mixed-Use Parking Noise at Proposed Sensitive Uses

An analysis of commercial parking area noise exposure was presented in **Impact 3**. The results from that analysis indicate that noise exposure from an individual parking area having 300 vehicle stalls computes to approximately 49 dB $L_{50}$ and 65 dB $L_{max}$ at a distance of 50 feet from the effective noise center of the area.

The nearest proposed sensitive uses (residential) would be located with the Commercial Mixed-Use components themselves. However, future configurations and sizes of parking areas and related distances to residential uses within those components are currently not known at this time. Thus, it is possible that Commercial Mixed-Use parking area noise exposure could exceed the General Plan's exterior and interior daytime and nighttime standards at nearby proposed residential uses. As a result, this impact is identified as being **potentially significant**.

Mitigation for Impact 19:

To satisfy applicable Sacramento County General Plan exterior and interior daytime and nighttime noise level standards at nearby proposed noise-sensitive uses, the following noise mitigation measure should be implemented:

**MM-19:** A site specific noise impact study that addresses Commercial Mixed-Use parking area activities shall be completed by a qualified noise consultant once site-specific development plans are completed. The noise impact study shall include an analysis of Commercial Mixed-Use parking noise exposure at the nearest proposed noise-sensitive uses (residential). The analysis shall include associated mitigation measures (as appropriate) to reduce parking area noise levels to a state of compliance with applicable Sacramento County General Plan exterior and interior noise level limits at nearby proposed sensitive receptors. Such measures could include, but are not limited to, increasing setbacks between sensitive uses and parking areas, construction of noise barriers where appropriate, and incorporation of upgraded building construction.

**Significance of Impact 19 after Mitigation: *Less than Significant***

**Impact 20: Commercial Mixed-Use Delivery Truck Noise at Proposed Sensitive Uses**

An analysis of commercial delivery truck activity noise exposure was presented in **Impact 4**. The results from that analysis indicate that noise exposure from commercial delivery truck activities was calculated to be 46 dB $L_{50}$ and 74 dB $L_{max}$ at a distance of 100 feet from the unloading area.

The nearest proposed sensitive uses (residential) would be located with the Commercial Mixed-Use components themselves. However, future locations of delivery unloading areas and related distances to residential uses within those components are currently not known at this time. Thus, it is possible that Commercial Mixed-Use delivery truck activity noise exposure could exceed the General Plan's exterior and interior daytime and nighttime standards at nearby proposed residential uses. As a result, this impact is identified as being **potentially significant**.

Mitigation for Impact 20:

To satisfy applicable Sacramento County General Plan exterior and interior daytime and nighttime noise level standards at nearby proposed noise-sensitive uses, the following noise mitigation measure should be implemented:

**MM-20:** A site specific noise impact study that addresses Commercial Mixed-Use truck delivery activities shall be completed by a qualified noise consultant once site-specific development plans are completed. The noise impact study shall include an analysis of Commercial Mixed-Use delivery truck noise exposure at the nearest proposed noise-sensitive uses (residential). The analysis shall include associated mitigation measures (as appropriate) to reduce Commercial Mixed-Use truck delivery noise levels to a state of compliance with applicable Sacramento County

General Plan exterior and interior noise level limits at nearby proposed sensitive receptors. Specific mitigation measures could include but are not limited to shielding from features integrated into site design, and/or restrictions on hours for commercial deliveries within the Commercial Mixed-Use areas.

**Significance of Impact 20 after Mitigation: *Less than Significant***

**Impact 21: Commercial Mixed-Use HVAC Equipment Noise at Proposed Sensitive Uses**

An analysis of commercial HVAC equipment noise exposure was presented in **Impact 5.** The results from that analysis indicate that noise exposure from commercial HVAC equipment was calculated to be 45 dB $L_{50}$ at a distance of 100 feet from the building facade.

The nearest proposed sensitive uses (residential) would be located with the Commercial Mixed-Use components themselves. However, future locations of buildings and related distances to residential uses within those components are currently not known at this time. Thus, it is possible that Commercial Mixed-Use HVAC equipment noise exposure could exceed the General Plan's exterior and interior daytime and nighttime standards at nearby proposed residential uses. As a result, this impact is identified as being **potentially significant**.

Mitigation for Impact 21:

To satisfy applicable Sacramento County General Plan exterior and interior daytime and nighttime noise level standards at nearby proposed noise-sensitive uses, the following noise mitigation measure should be implemented:

**MM-21:** A site specific noise impact study that addresses Commercial Mixed-Use HVAC equipment shall be completed by a qualified noise consultant once site-specific development plans are completed. The noise impact study shall include an analysis of Commercial Mixed-Use HVAC equipment noise exposure at the nearest proposed noise-sensitive uses (residential). The analysis shall include associated mitigation measures (as appropriate) to reduce Commercial Mixed-Use HVAC equipment noise levels to a state of compliance with applicable Sacramento County General Plan exterior and interior noise level limits at nearby proposed sensitive receptors. Such measures could include, but are not limited to, the use of building parapets to screen HVAC equipment from nearby sensitive uses, locating HVAC equipment within isolated mechanical equipment rooms, or relocating HVAC equipment as far as feasible from proposed noise-sensitive receptors.

**Significance of Impact 21 after Mitigation: *Less than Significant***

**Impact 22: Employment/Highway Commercial Parking Noise at Proposed Sensitive Uses**

An analysis of commercial parking area noise exposure was presented in **Impact 3**. The results from that analysis indicate that noise exposure from an individual parking area having 300 vehicle stalls computes to approximately 49 dB $L_{50}$ and 65 dB $L_{max}$ at a distance of 50 feet from the effective noise center of the area.

The nearest proposed sensitive uses (residential) are located adjacent to Employment/Highway Commercial components. However, future configurations and sizes of parking areas and related distances to adjacent residential uses within the Plan area are currently not known at this time. Thus, it is possible that Employment/Highway Commercial parking area noise exposure could exceed the General Plan's exterior and interior daytime and nighttime standards at nearby proposed residential uses. As a result, this impact is identified as being **potentially significant**.

Mitigation for Impact 22:

To satisfy applicable Sacramento County General Plan exterior and interior daytime and nighttime noise level standards at nearby proposed noise-sensitive uses, the following noise mitigation measure should be implemented:

**MM-22:** A site specific noise impact study that addresses Employment/Highway Commercial parking activities shall be completed by a qualified noise consultant once site-specific development plans are completed. The noise impact study shall include an analysis of Employment/Highway Commercial parking area noise exposure at the nearest proposed noise-sensitive uses (residential). The analysis shall include associated mitigation measures (as appropriate) to reduce Employment/Highway Commercial parking noise levels to a state of compliance with applicable Sacramento County General Plan exterior and interior noise level limits at nearby proposed sensitive receptors. Such measures could include, but are not limited to, increasing setbacks between sensitive uses and parking areas, construction of noise barriers where appropriate, and incorporation of upgraded building construction.

**Significance of Impact 22 after Mitigation: *Less than Significant***

**Impact 23: Employment/Highway Commercial Delivery Truck Noise at Proposed Sensitive Uses**

An analysis of commercial delivery truck activity noise exposure was presented in **Impact 4**. The results from that analysis indicate that noise exposure from commercial delivery truck activities was calculated to be 46 dB $L_{50}$ and 74 dB $L_{max}$ at a distance of 100 feet from the unloading area.

The nearest proposed sensitive uses (residential) are located adjacent to an Employment/Highway Commercial component. However, future locations of delivery unloading areas and related distances to adjacent residential uses are currently not known at this time. Thus, it is possible that Employment/Highway Commercial delivery truck activity noise exposure could exceed the General Plan's exterior and interior daytime and nighttime noise level standards at nearby proposed residential uses. As a result, this impact is identified as being **potentially significant**.

Mitigation for Impact 23:

To satisfy applicable Sacramento County General Plan exterior and interior daytime and nighttime noise level standards at nearby proposed noise-sensitive uses, one of the following noise mitigation measures should be implemented:

**MM-23a:** Future truck delivery unloading areas within Employment/Highway Commercial components shall maintain a minimum setback of 150 feet from proposed residential boundaries within the Plan area. When projected to a distance of 150 feet, commercial delivery truck noise levels are calculated to be 42 dB $L_{50}$ and 70 dB $L_{max}$, which would satisfy the General Plan's exterior nighttime noise level standards of 50 dB $L_{50}$ and 70 dB $L_{max}$. After consideration of the exterior to interior noise reduction provided by standard residential construction (approximately 25 dB with windows closed and approximately 15 dB with windows open), the predicted delivery truck noise levels at a distance of 150 feet would also satisfy the General Plan's interior (anytime) noise level standards of 35 dB $L_{50}$ and 55 dB $L_{max}$.

OR

**MM-23b:** Should delivery unloading areas of Employment/Highway Commercial components be proposed within 150 feet from residential boundaries within the Plan area, a noise impact study that addresses parking activities shall be completed by a qualified noise consultant once site-specific development plans are completed. The noise impact study shall include an analysis of Employment/Highway Commercial parking area noise exposure at the nearest proposed noise-sensitive uses (residential). The analysis shall include associated mitigation measures (as appropriate) to reduce Employment/Highway Commercial parking noise levels to a state of compliance with applicable Sacramento County General Plan exterior and interior noise level limits at nearby proposed sensitive receptors.

Specific mitigation measures could include but are not limited to the following:

- The construction of solid noise barriers that effectively attenuate delivery truck noise exposure to a state of compliance with the applicable noise limits at existing sensitive receptors.

- A site design that integrates intervening shielding, setbacks, and/or restrictions on hours for truck deliveries.

**Significance of Impact 23 after Mitigation: *Less than Significant***

**Impact 24: Employment/Highway Commercial HVAC Equipment Noise at Proposed Sensitive Uses**

An analysis of commercial HVAC equipment noise exposure was presented in **Impact 5.** The results from that analysis indicate that noise exposure from commercial HVAC equipment was calculated to be 45 dB $L_{50}$ at a distance of 100 feet from the building facade.

The nearest proposed sensitive uses (residential) are located adjacent to an Employment/Highway Commercial component. However, future locations of buildings and related distances to adjacent residential uses are currently not known at this time. Thus, it is possible that Employment/Highway Commercial HVAC equipment noise exposure could exceed the General Plan's exterior and interior daytime and nighttime standards at nearby proposed residential uses. As a result, this impact is identified as being **potentially significant**.

Mitigation for Impact 24:

To satisfy applicable Sacramento County General Plan exterior and interior daytime and nighttime noise level standards at nearby proposed noise-sensitive uses, one of the following noise mitigation measures should be implemented:

**MM-24a:** Future buildings within Employment/Highway Commercial components shall maintain a minimum setback of 55 feet from proposed residential boundaries within the Plan area. When projected to a distance of 55 feet, commercial HVAC equipment noise level exposure is calculated to be 50 dB $L_{50}$, which would satisfy the General Plan's exterior nighttime noise level standard of 50 dB $L_{50}$. After consideration of the exterior to interior noise reduction provided by standard residential construction (approximately 25 dB with windows closed and approximately 15 dB with windows open), the predicted HVAC equipment noise level at a distance of 55 feet would also satisfy the General Plan's interior (anytime) noise level standards of 35 dB $L_{50}$.

OR

**MM-24b:** Should buildings of Employment/Highway Commercial components be proposed within 55 feet from residential boundaries within the Plan area, a noise impact study that addresses HVAC equipment shall be completed by a qualified noise consultant once site-specific development plans are completed. The noise impact study shall include an analysis of Employment/Highway Commercial HVAC equipment noise exposure at the nearest proposed noise-sensitive uses (residential). The analysis shall include associated mitigation measures (as appropriate) to reduce Employment/Highway Commercial HVAC equipment noise levels to a state of compliance with applicable Sacramento County General Plan exterior and interior noise level limits at nearby proposed sensitive receptors. Such measures could include, but are not limited to, the use of building parapets to screen HVAC equipment from nearby sensitive uses, locating HVAC equipment within isolated mechanical equipment rooms, or relocating HVAC equipment as far as feasible from proposed noise-sensitive receptors.

**Significance of Impact 24 after Mitigation:** ***Less than Significant***

**Impact 25: Employment/Highway Commercial Drive-Through Restaurant Noise at Proposed Sensitive Uses**

An analysis of commercial drive-through restaurant noise exposure was presented in **Impact 9.** As indicated in that analysis, noise exposure from commonly used drive-through menu speaker boards have measured noise levels of approximately 63 dB $L_{50}$ and 67 dB $L_{max}$ at 10 feet. That analysis further indicates that vehicle passbys in drive-through lanes have measured levels of approximately 60 dB $L_{50}$ and 70 dB $L_{max}$ at 5 feet.

The nearest proposed sensitive uses (residential) are located adjacent to an Employment/Highway Commercial component. However, future locations of restaurants and associated distances to adjacent residential uses are currently not known at this time. Thus, it is possible that Employment/Highway Commercial restaurant drive-through operations noise exposure could exceed the General Plan's exterior and interior daytime and nighttime standards at nearby proposed residential uses. As a result, this impact is identified as being **potentially significant**.

Mitigation for Impact 25:

To satisfy applicable Sacramento County General Plan exterior and interior daytime and nighttime noise level standards at nearby proposed noise-sensitive uses, one of the following noise mitigation measures should be implemented:

**MM-25a:** Future restaurant drive-through lanes within Employment/Highway Commercial components shall maintain a minimum setback of at least 85 feet from proposed residential boundaries within the Plan area. When projected to a distance of 85 feet, combined restaurant drive-through operations noise levels are calculated to be 45 dB $L_{50}$ and 50 dB $L_{max}$, which would satisfy the General Plan's downward adjusted exterior nighttime noise level standards of 45 dB $L_{50}$ and 65 dB $L_{max}$.

After consideration of the exterior to interior noise reduction provided by standard residential construction (approximately 25 dB with windows closed and approximately 15 dB with windows open), predicted drive-through operations noise levels at a distance of 85 feet would also satisfy the General Plan's downward adjusted interior (anytime) noise level standards of 30 dB $L_{50}$ and 50 dB $L_{max.}$

OR

**MM-25b:** Should restaurant drive-through operations of Employment/Highway Commercial components be proposed within 85 feet from residential boundaries within the Plan area, a noise impact study that addresses drive-through operations shall be completed by a qualified noise consultant once site-specific development plans are completed. The noise impact study shall include an analysis of Employment/Highway Commercial drive-through operations noise exposure at the nearest proposed noise-sensitive uses (residential). The analysis shall include associated mitigation measures (as appropriate) to reduce Employment/Highway Commercial drive-through operations noise levels to a state of compliance with applicable Sacramento County General Plan exterior and interior noise level limits at nearby proposed sensitive receptors.

Specific mitigation measures could include but are not limited to the following:

- The construction of solid noise barriers that effectively attenuate drive-through operations noise exposure to a state of compliance with the applicable noise limits at existing sensitive receptors.

- A site design that integrates intervening shielding, setbacks, and/or restrictions on hours for drive-through operations.

**Significance of Impact 25 after Mitigation:** ***Less than Significant***

**Impact 26: Employment/Highway Commercial Car Wash Operations Noise at Proposed Sensitive Uses**

The nearest proposed sensitive uses (residential) are located adjacent to an Employment/Highway Commercial component. However, future (potential) locations of car wash tunnels, vacuum systems, and associated distances to adjacent residential uses are currently not known at this time. Thus, it is possible that car wash operations within Employment/Highway Commercial components could exceed the General Plan's exterior and interior daytime and nighttime standards at nearby proposed residential uses. As a result, this impact is identified as being **potentially significant**.

Mitigation for Impact 26:

To satisfy applicable Sacramento County General Plan exterior and interior daytime and nighttime noise level standards at nearby proposed noise-sensitive uses, the following noise mitigation measure should be implemented:

**MM-26:** Should car wash uses be proposed within Employment/Highway Commercial components, a noise impact study that addresses car wash operations shall be completed by a qualified noise consultant once site-specific development plans are completed. The noise impact study shall include an analysis of Employment/Highway Commercial car wash drying assembly and vacuum equipment operations noise exposure at the nearest proposed noise-sensitive uses (residential). The analysis shall include associated mitigation measures (as appropriate) to reduce Employment/Highway Commercial car wash and vacuum system operations noise levels to a state of compliance with applicable Sacramento County General Plan exterior and interior noise level limits at nearby proposed sensitive receptors.

Specific mitigation measures could include but are not limited to the following:

- The construction of solid noise barriers that effectively attenuate car wash and vacuum system equipment operations noise exposure to a state of compliance with the applicable noise limits at existing sensitive receptors.
- A site design that integrates intervening shielding, setbacks, and/or restrictions on hours for car wash and vacuum system equipment operations.

Significance of Impact 26 after Mitigation: Less than Significant

**Impact 27: School Parking Noise at Proposed Sensitive Uses**

An analysis of school parking area noise exposure was presented in **Impact 11**. The results from that analysis indicate that noise exposure from an individual parking area having 300 vehicle stalls computes to approximately 49 dB $L_{50}$ and 65 dB $L_{max}$ at a distance of 50 feet from the effective noise center of the area.

The nearest proposed sensitive uses (residential) are located adjacent to School components. However, future configurations and sizes of parking areas and related distances to adjacent residential uses within the Plan area are currently not known at this time. Thus, it is possible that School parking area noise exposure could exceed the General Plan's exterior and interior daytime standards at nearby proposed residential uses. As a result, this impact is identified as being **potentially significant**.

Mitigation for Impact 27:

To satisfy applicable Sacramento County General Plan exterior and interior daytime noise level standards at nearby proposed noise-sensitive uses, the following noise mitigation measure should be implemented:

**MM-27:** A site specific noise impact study that addresses School component parking activities shall be completed by a qualified noise consultant once site-specific development plans are completed. The noise impact study shall include an analysis of School component parking area noise exposure at the nearest proposed noise-sensitive uses (residential). The analysis shall include associated mitigation measures (as appropriate) to reduce School component parking noise levels to a state of compliance with applicable Sacramento County General Plan exterior and interior noise level limits at nearby proposed sensitive receptors. Such measures could include, but are not limited to, increasing setbacks between sensitive uses and school parking areas, construction of noise barriers where appropriate, and incorporation of upgraded building construction for sensitive receptors located in close proximity to school parking areas.

**Significance of Impact 27 after Mitigation: *Less than Significant***

**Impact 28: School Playground Noise at Proposed Sensitive Uses**

An analysis of school playground noise exposure was presented in **Impact 12**. As indicated in that analysis, outdoor play areas containing approximately 50 children are measured to be 55 dB $L_{eq}$ and 75 dB $L_{max}$ at a distance of 50 feet from the focal point of the play area during school recess.

The nearest proposed sensitive uses (residential) are located adjacent to School components. However, future locations, sizes, and associated related distances to adjacent residential uses within the Plan area are currently not known at this time. Thus, it is possible that School playground activity noise exposure could exceed the General Plan's exterior and interior daytime standards at nearby proposed residential uses. As a result, this impact is identified as being **potentially significant**.

Mitigation for Impact 28:

To satisfy applicable Sacramento County General Plan exterior and interior daytime noise level standards at nearby proposed noise-sensitive uses, one of the following noise mitigation measures should be implemented:

**MM-28a:** The center of future playgrounds within School components shall maintain a minimum setback of 90 feet from proposed residential boundaries within the Plan area. When projected to a distance of 90 feet, playground activity noise levels are calculated to be 50 dB $L_{50}$ and 70 dB $L_{max}$, which would satisfy the General Plan's downward adjusted exterior daytime noise level standards of 50 dB $L_{50}$ and 70 dB

$L_{max}$. After consideration of the exterior to interior noise reduction provided by standard residential construction (approximately 25 dB with windows closed and approximately 15 dB with windows open), predicted playground activity noise levels at a distance of 90 feet would also satisfy the General Plan's downward adjusted interior (anytime) noise level standards of 30 dB $L_{50}$ and 50 dB $L_{max}$.

OR

**MM-28b:** Should playgrounds be proposed within 90 feet from a residential boundary within the Plan area, a noise impact study that addresses School playground noise shall be completed by a qualified noise consultant once site-specific development plans are completed. The noise impact study shall include an analysis of School playground noise exposure at the nearest proposed noise-sensitive uses (residential). The analysis shall include associated mitigation measures (as appropriate) to reduce School playground noise levels to a state of compliance with applicable Sacramento County General Plan exterior and interior noise level limits at nearby proposed sensitive receptors.

Specific mitigation measures could include but are not limited to the following:

- The construction of solid noise barriers that effectively attenuate playground noise exposure to a state of compliance with the applicable noise limits at existing sensitive receptors.

- A site design that integrates intervening shielding and setbacks.

**Significance of Impact 28 after Mitigation: *Less than Significant***

**Impact 29: School Sports Stadium Noise at Proposed Sensitive Uses**

The nearest proposed sensitive uses (residential) are located adjacent to a School component. However, future locations and sizes of outdoor playing fields/sports stadiums, PA system configurations, and associated distances to adjacent residential uses are currently not known at this time. Thus, it is possible that noise from events at school sports stadiums could exceed the General Plan's exterior and interior daytime standards at nearby proposed residential uses. As a result, this impact is identified as being **potentially significant**.

Mitigation for Impact 29:

To satisfy applicable Sacramento County General Plan exterior and interior daytime noise level standards at nearby proposed noise-sensitive uses, the following noise mitigation measure should be implemented:

**MM-29:** A noise impact study that addresses School sports stadium noise shall be completed by a qualified noise consultant once site-specific development plans are completed. The noise impact study shall include an analysis of stadium noise exposure at the nearest proposed noise-sensitive uses (residential). The analysis shall include associated mitigation measures (as appropriate) to reduce stadium noise levels, including crowd and PA system noise, to a state of compliance with applicable Sacramento County General Plan exterior and interior noise level limits at nearby proposed sensitive receptors.

Specific mitigation measures could include but are not limited to the following:

- The construction of solid noise barriers that effectively attenuate sports stadium noise exposure to a state of compliance with the applicable noise limits at existing sensitive receptors.
- A site design that integrates intervening shielding, setbacks, and restrictions on equipment configurations and settings.

**Significance of Impact 29 After Mitigation:** ***Less than Significant***

**Impact 30: Park Activity Noise at Proposed Sensitive Uses**

An analysis of park activity noise exposure was presented in **Impact 14**. As indicated in that analysis, parks consisting of active uses (playing fields/playgrounds) have noise levels of approximately 60 dB $L_{50}$ and 70 dB $L_{max}$ at a distance of 50 feet from the area's focal point.

The nearest proposed sensitive uses (residential) are located adjacent to Parks components. However, future locations of playing fields/playgrounds and associated distances to adjacent residential uses are currently not known at this time. Thus, it is possible that noise from park activities could exceed the General Plan's exterior and interior daytime standards at nearby proposed residential uses. As a result, this impact is identified as being **potentially significant**.

Mitigation for Impact 30:

To satisfy applicable Sacramento County General Plan exterior and interior daytime noise level standards at nearby proposed noise-sensitive uses, one of the following noise mitigation measures should be implemented:

**MM-30a:** The center of future active uses within Parks components (i.e., playing fields/playgrounds) shall maintain a minimum setback of 150 feet from proposed residential boundaries within the Plan area. When projected to a distance of 150 feet, park activity noise levels are calculated to be 50 dB $L_{50}$ and 60 dB $L_{max}$, which would satisfy the General Plan's downward adjusted exterior daytime noise level standards of 50 dB $L_{50}$ and 70 dB $L_{max}$. After consideration of the exterior to interior noise reduction provided by standard residential construction (approximately 25 dB with windows closed and approximately 15 dB with windows open), predicted park activity noise levels at a distance of 150 feet would also satisfy the General

Plan's downward adjusted interior (anytime) noise level standards of 30 dB $L_{50}$ and 50 dB $L_{max}$.

**MM-30b:** Should the centers of future active uses within Parks components be proposed within 150 feet from a residential boundary within the Plan area, a noise impact study that addresses park activities shall be completed by a qualified noise consultant once site-specific development plans are completed. The noise impact study shall include an analysis of park activity noise exposure at the nearest proposed noise-sensitive uses (residential). The analysis shall include associated mitigation measures (as appropriate) to reduce park noise levels to a state of compliance with applicable Sacramento County General Plan exterior and interior noise level limits at nearby proposed sensitive receptors.

Specific mitigation measures could include but are not limited to the following:

- The construction of solid noise barriers that effectively attenuate park activity noise exposure to a state of compliance with the applicable noise limits at existing sensitive receptors.

- A site design that integrates intervening shielding and setbacks.

**Significance of Impact 30 After Mitigation:** ***Less than Significant***

## Noise Impacts from Existing Commercial Operations at Proposed Uses

### Impact 31: Existing Commercial Noise at Proposed Plan area Uses

An existing Travel Plaza is located within the Plan area on the east side of El Centro Road adjacent to the westbound I-80 off-ramp. The primary noise sources associated with the Travel Plaza are heavy truck traffic on El Centro Road and West El Camino Avenue, and on-site truck circulation activities.

Noise measurement site 10 was selected to be representative of the ambient noise level environment at the portion of the Plan area proposed for commercial/mixed-use and very high-density residential uses. The noise level data collected at Site 10 includes vehicle passby noise on El Centro Road, including heavy truck passbys associated with the Travel Plaza, but also includes background noise from Interstate 80. Noise measurement Site 11 was specifically selected to be representative of noise generated at the Travel Plaza, but it was not possible to exclude noise from Interstate 80 in the data collected at Site 11. Analysis of the measured ambient noise data at these sites indicate that noise levels associated with the Travel Plaza were elevated. Based on the measured ambient noise level data, it is possible that noise from activities at the Travel Plaza could exceed the General Plan's exterior and interior daytime and nighttime standards at noise-sensitive areas of residential uses proposed in the immediate vicinity of the Travel Plaza. As a result, this impact is identified as being **potentially significant**.

Mitigation for Impact 31:

To satisfy applicable Sacramento County General Plan exterior and interior daytime and nighttime noise level standards at nearby proposed Plan area uses, the following noise mitigation measure should be implemented:

**MM-31:** A noise impact study that addresses Travel Plaza noise generation shall be completed by a qualified noise consultant once site-specific development plans are completed for the residential components of the project located adjacent to either El Centro Road near the Travel Plaza or on properties immediately adjacent to the Travel Plaza. The noise impact study shall include an analysis of existing Travel Plaza noise exposure at the nearest proposed uses within the Plan area. The analysis shall include associated mitigation measures (as appropriate) to reduce Travel Plaza noise levels to a state of compliance with applicable Sacramento County General Plan exterior and interior noise level limits at nearby proposed uses. Specific mitigation measures could include but are not limited to the following:

- The construction of solid noise barriers that effectively attenuate Travel Plaza noise exposure to a state of compliance with the applicable noise limits at existing sensitive receptors.

- A site design that integrates intervening shielding and setbacks.

**Significance of Impact 31 After Mitigation:** ***Less than Significant***

## Noise Impacts from Existing Airport Operations at Proposed Uses

### Impact 32: Airport Operations Noise at Proposed Plan area Uses

The Upper Westside Specific Plan area is located approximately 3 miles from the Sacramento International Airport. Pursuant to Policy NO-2 of the Sacramento County General Plan Noise Element, proposals for new development within Sacramento County that may be affected by aircraft noise from Sacramento International Airport shall be evaluated relative to the Sacramento International Airport Land Use Compatibility Plan (ALUCP) prepared by the Sacramento Area Council of Governments (SACOG) dated December 12, 2013. The Land Use Plan's noise compatibility criteria is reproduced in Table 10 of this report.

According to Map 1 of the Sacramento International Airport ALUCP (Compatibility Policy Map: Airport Influence Area), the Upper Westside Specific Plan area is geographically located within Referral Area 2 of the Airport Influence Area. According to ALUCP Policy 1.3.3 (Referral Areas), Referral Area 2 includes locations where airspace protection (other than wildlife hazards) and/or overflight are compatibility concerns, but not noise or safety. As indicated in Figure 5, the Plan area is located outside of the 60 dB CNEL noise contours.

Based on the information above, analysis of the BAC long-term noise level survey results within the Plan area, and after consideration of the exterior to interior noise level reduction achieved within standard building construction (at least 25 dB with windows closed and approximately 15 dB with windows open), noise generated from normal aircraft operations at the Sacramento International Airport is not predicted to exceed the applicable land use compatibility noise criteria established in the Sacramento International ALCUP within the Plan area. As a result, this impact is considered to be ***less than significant***.

## Appendix A
## Acoustical Terminology

**Acoustics** The science of sound.

**Ambient Noise** The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.

**Attenuation** The reduction of an acoustic signal.

**A-Weighting** A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.

**Decibel or dB** Fundamental unit of sound. A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.

**CNEL** Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.

**Frequency** The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz.

**IIC** Impact Insulation Class (IIC): A single-number representation of a floor/ceiling partition's impact generated noise insulation performance. The field-measured version of this number is the FIIC.

**$L_{dn}$** Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.

**$L_{eq}$** Equivalent or energy-averaged sound level.

**$L_{max}$** The highest root-mean-square (RMS) sound level measured over a given period of time.

**Loudness** A subjective term for the sensation of the magnitude of sound.

**Masking** The amount (or the process) by which the threshold of audibility is for one sound is raised by the presence of another (masking) sound.

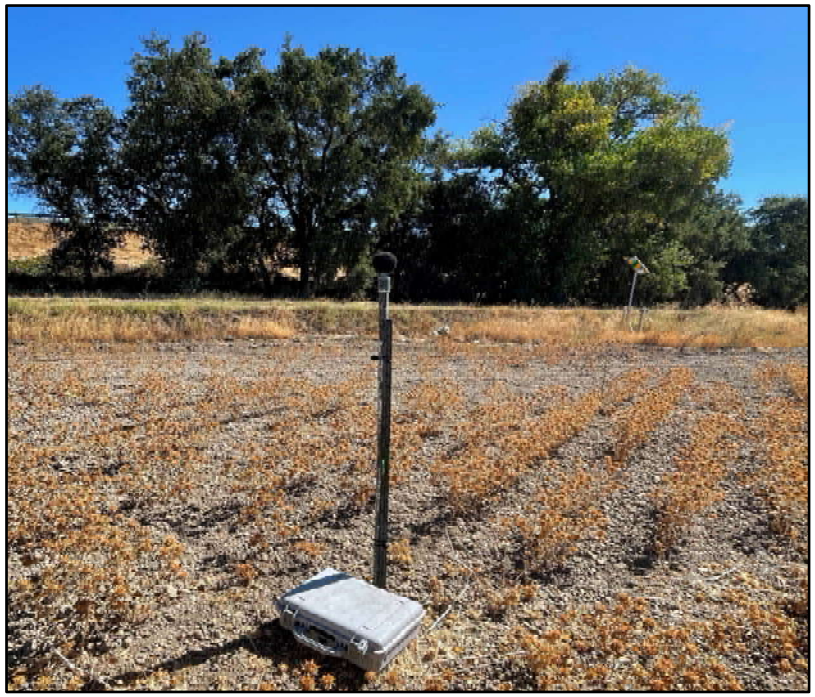
**Noise** Unwanted sound.

**Peak Noise** The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the "Maximum" level, which is the highest RMS level.

**$RT_{60}$** The time it takes reverberant sound to decay by 60 dB once the source has been removed.

**STC** Sound Transmission Class (STC): A single-number representation of a partition's noise insulation performance. This number is based on laboratory-measured, 16-band (1/3-octave) transmission loss (TL) data of the subject partition. The field-measured version of this number is the FSTC.







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Appendix B-1
Long-Term Noise Survey Location – Site 1
Upper Westside Specific Plan – Sacramento County, CA







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Appendix B-2
Long-Term Noise Survey Location – Site 2
Upper Westside Specific Plan – Sacramento County, CA





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Appendix B-3
Short-Term Noise Survey Location – Site 3
Upper Westside Specific Plan – Sacramento County, CA





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Appendix B-4
Short-Term Noise Survey Location – Site 4
Upper Westside Specific Plan – Sacramento County, CA







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Appendix B-5
Short-Term Noise Survey Location – Site 5
Upper Westside Specific Plan – Sacramento County, CA







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Appendix B-6
Short-Term Noise Survey Location – Site 6
Upper Westside Specific Plan – Sacramento County, CA







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Appendix B-7
Long-Term Noise Survey Location – Site 7
Upper Westside Specific Plan – Sacramento County, CA







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Appendix B-8
Long-Term Noise Survey Location – Site 8
Upper Westside Specific Plan – Sacramento County, CA







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Appendix B-9
Long-Term Noise Survey Location – Site 9
Upper Westside Specific Plan – Sacramento County, CA

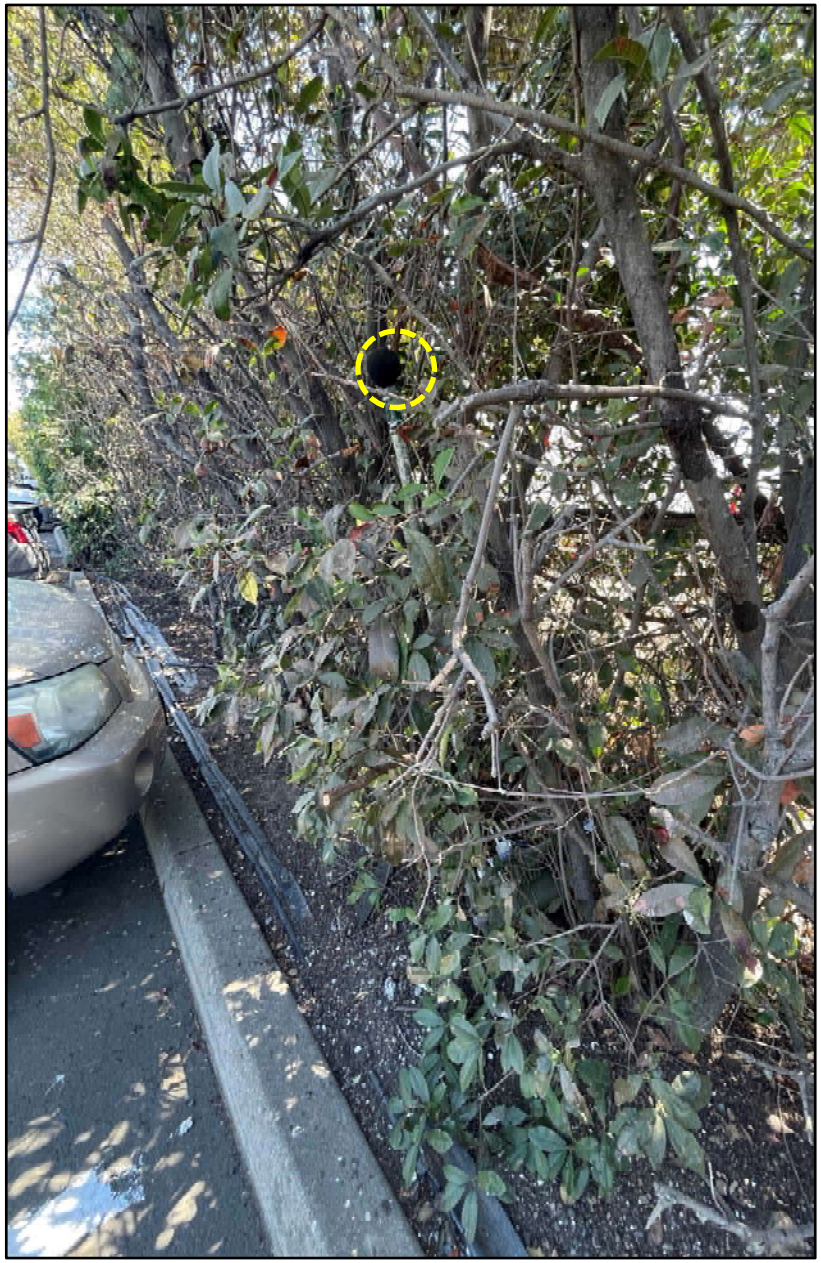






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Appendix B-10
Long-Term Noise Survey Location – Site 10
Upper Westside Specific Plan – Sacramento County, CA





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Appendix B-11
Long-Term Noise Survey Location – Site 11
Upper Westside Specific Plan – Sacramento County, CA







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Appendix B-12
Long-Term Noise Survey Location – Site 12
Upper Westside Specific Plan – Sacramento County, CA





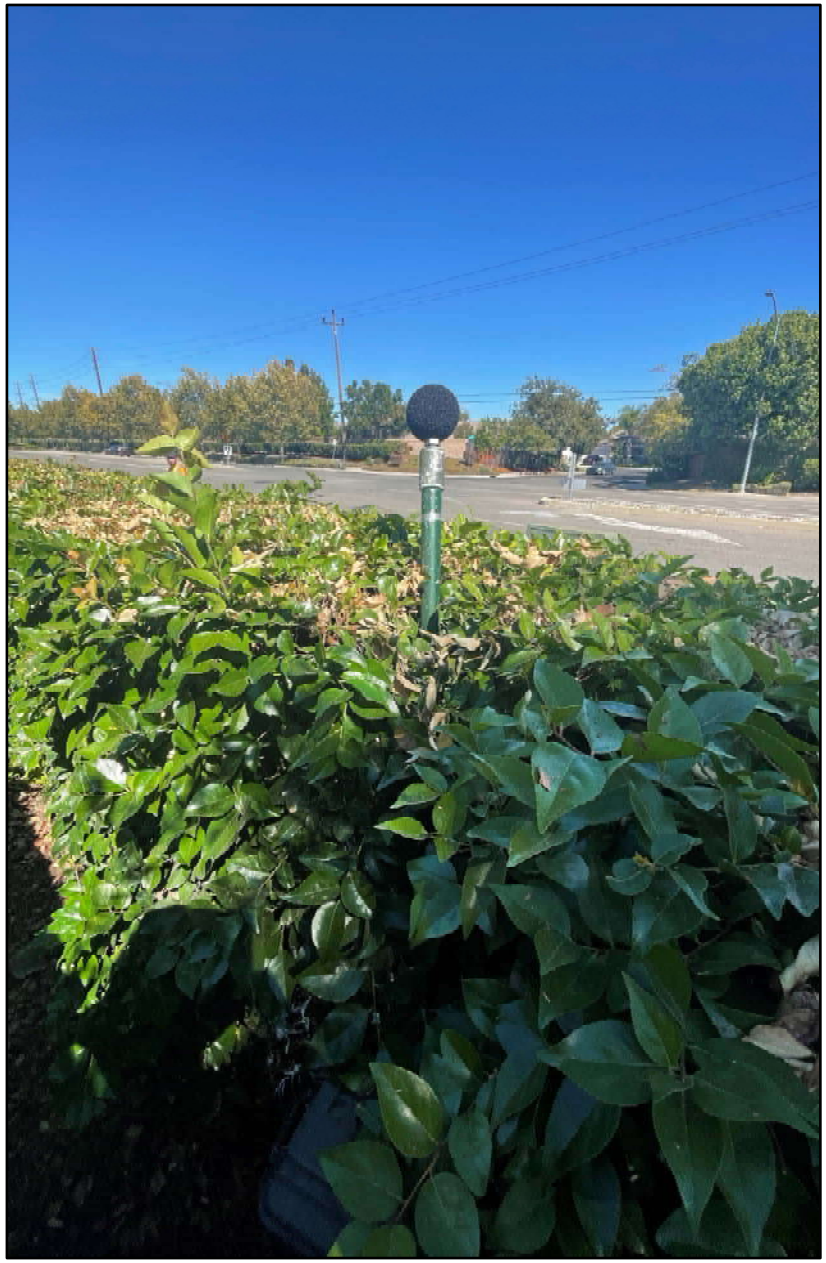


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Appendix B-13
Long-Term Noise Survey Location – Site 13
Upper Westside Specific Plan – Sacramento County, CA







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Appendix B-14
Long-Term Noise Survey Location – Site 14
Upper Westside Specific Plan – Sacramento County, CA







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Appendix B-15
Long-Term Noise Survey Location – Site 15
Upper Westside Specific Plan – Sacramento County, CA





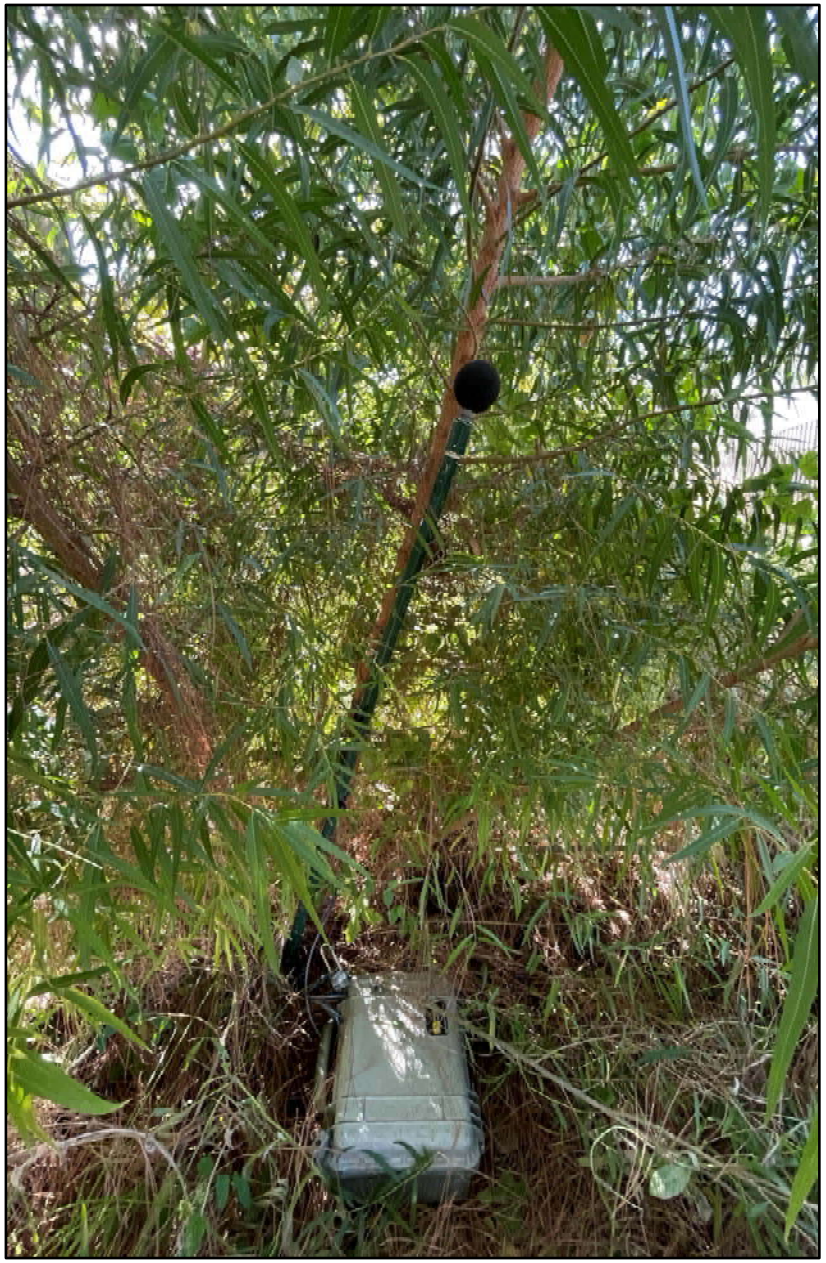


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Appendix B-16
Long-Term Noise Survey Location – Site 16
Upper Westside Specific Plan – Sacramento County, CA







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Appendix B-17
Long-Term Noise Survey Location – Site 17
Upper Westside Specific Plan – Sacramento County, CA







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Appendix B-18
Long-Term Noise Survey Location – Site 18
Upper Westside Specific Plan – Sacramento County, CA



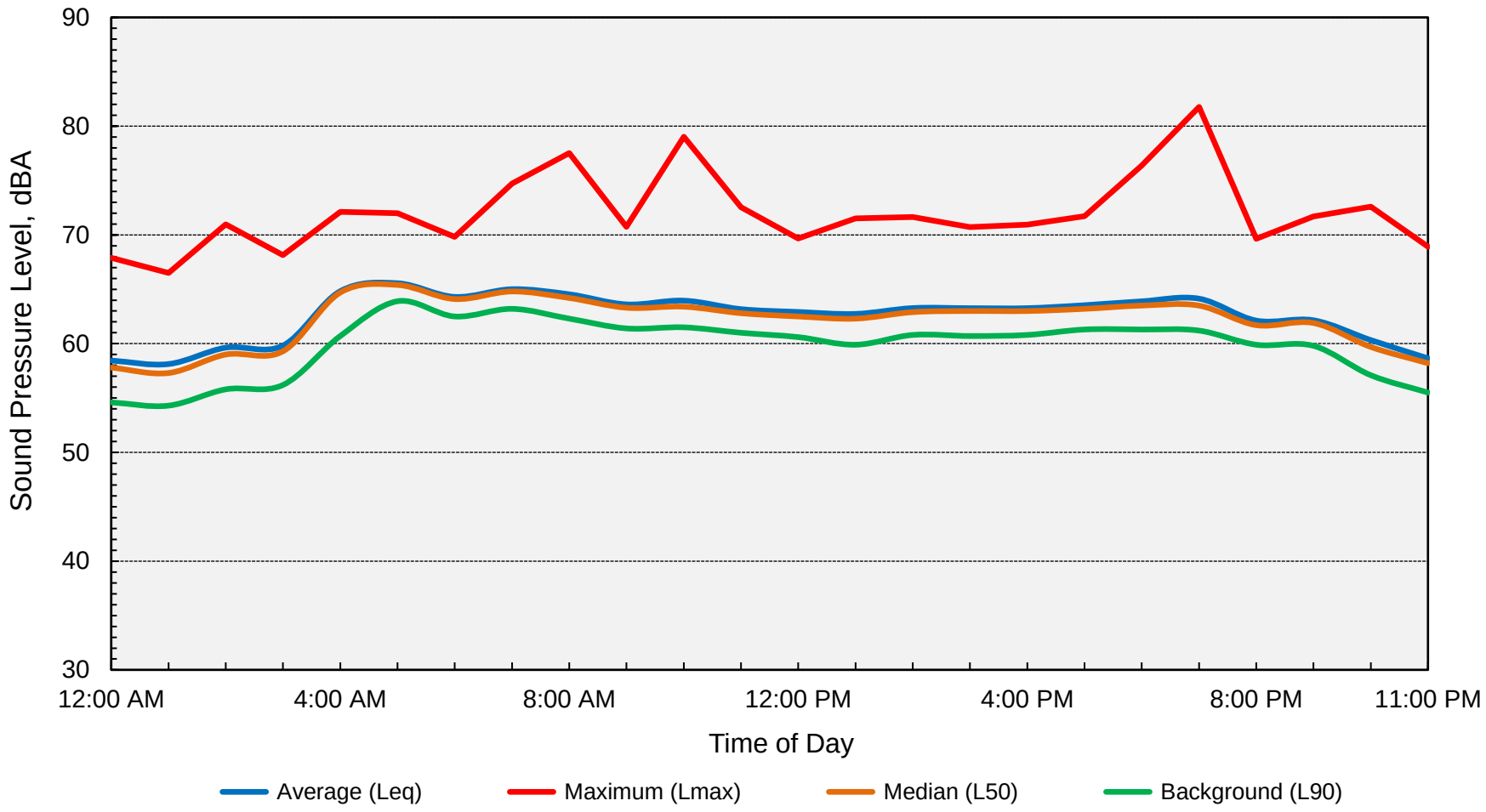




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Appendix B-19
Long-Term Noise Survey Location – Site 19
Upper Westside Specific Plan – Sacramento County, CA

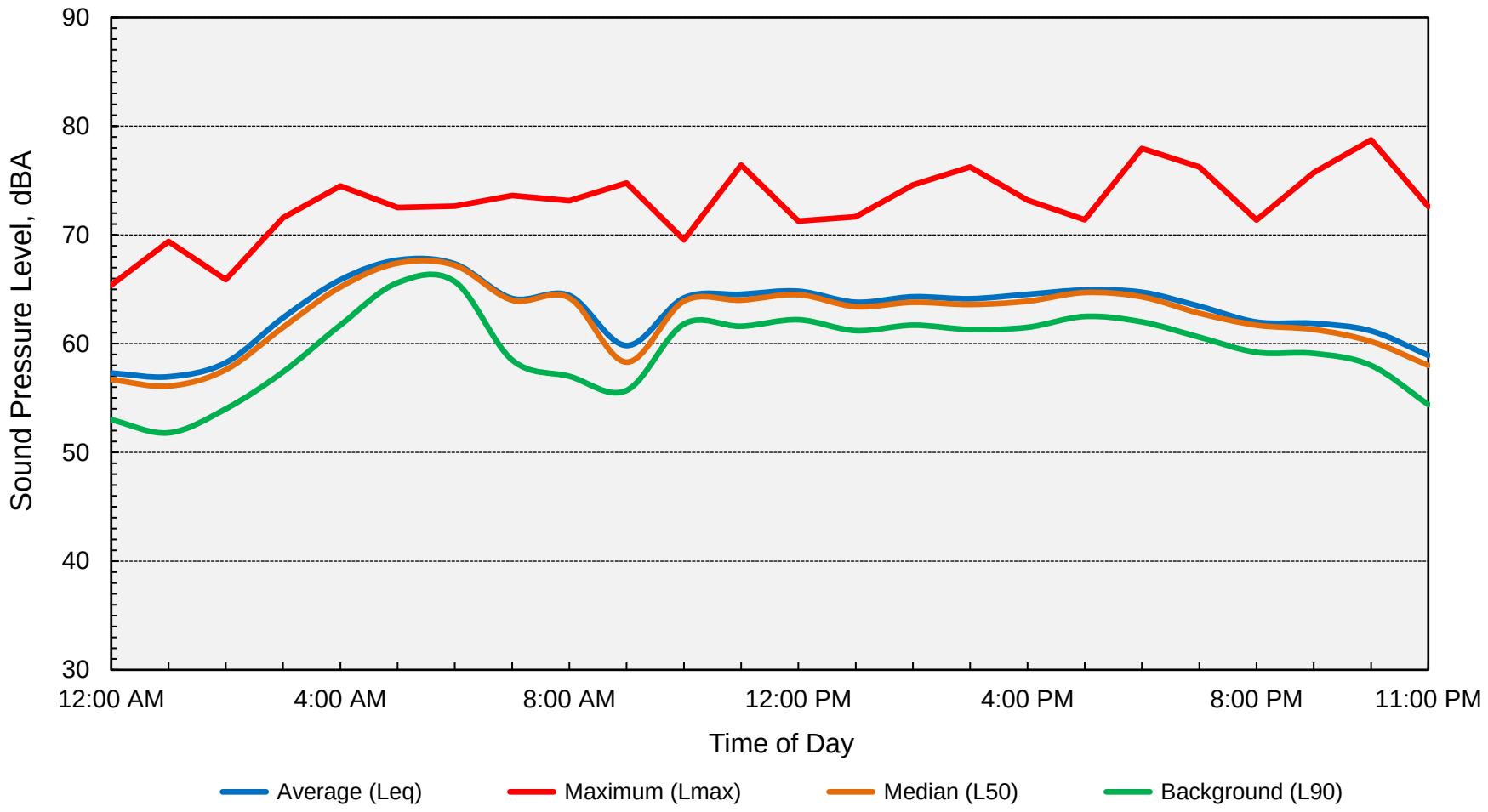
**Appendix C-1**
**Long-Term Ambient Noise Monitoring Results - Site 1**
**Upper Westside Specific Plan - Sacramento County, California**
**Tuesday, September 21, 2021**




**Computed DNL = 69 dB**

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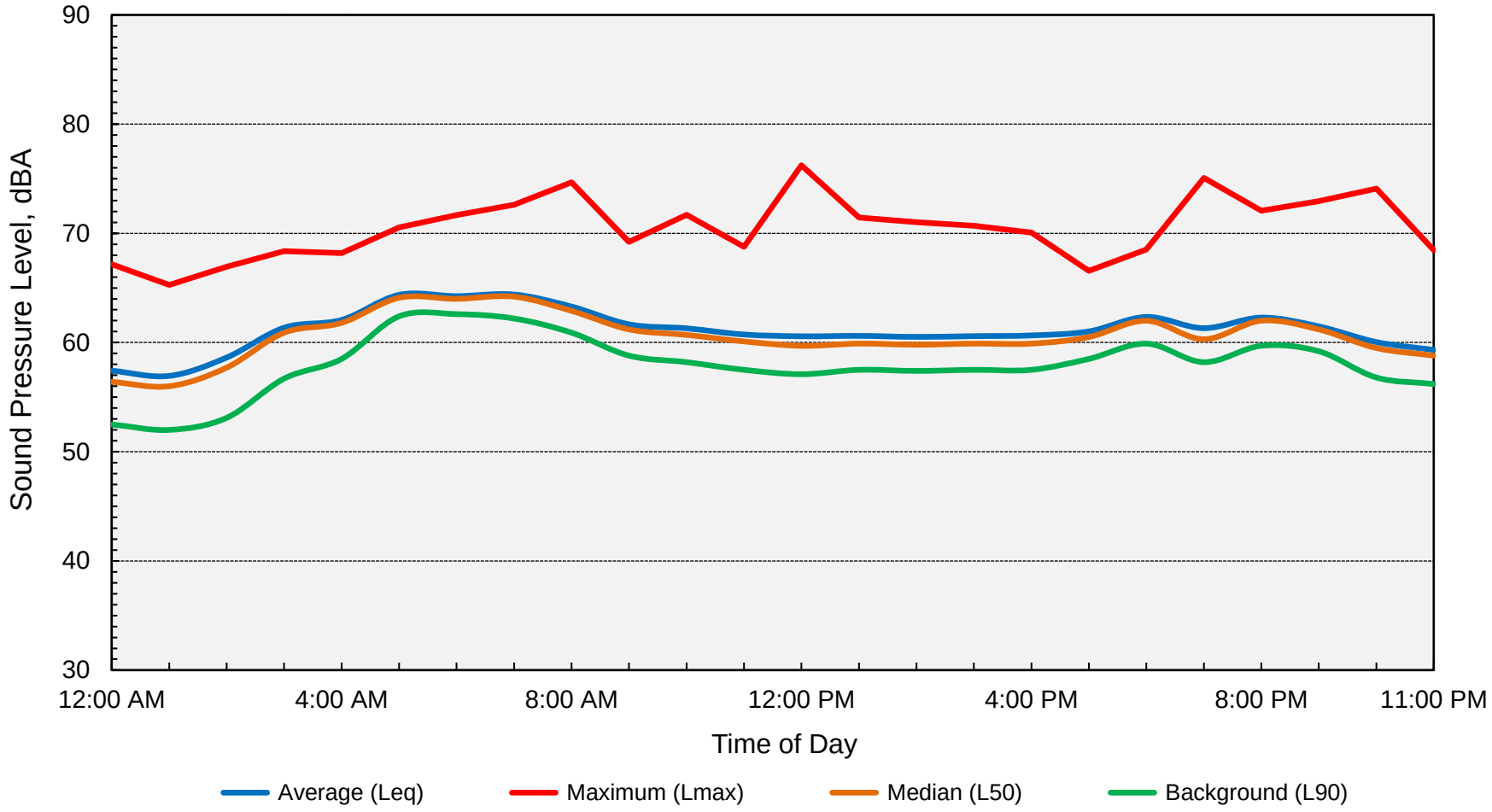
**Appendix C-2**
**Long-Term Ambient Noise Monitoring Results - Site 1**
**Upper Westside Specific Plan - Sacramento County, California**
**Wednesday, September 22, 2021**




**Computed DNL = 70 dB**

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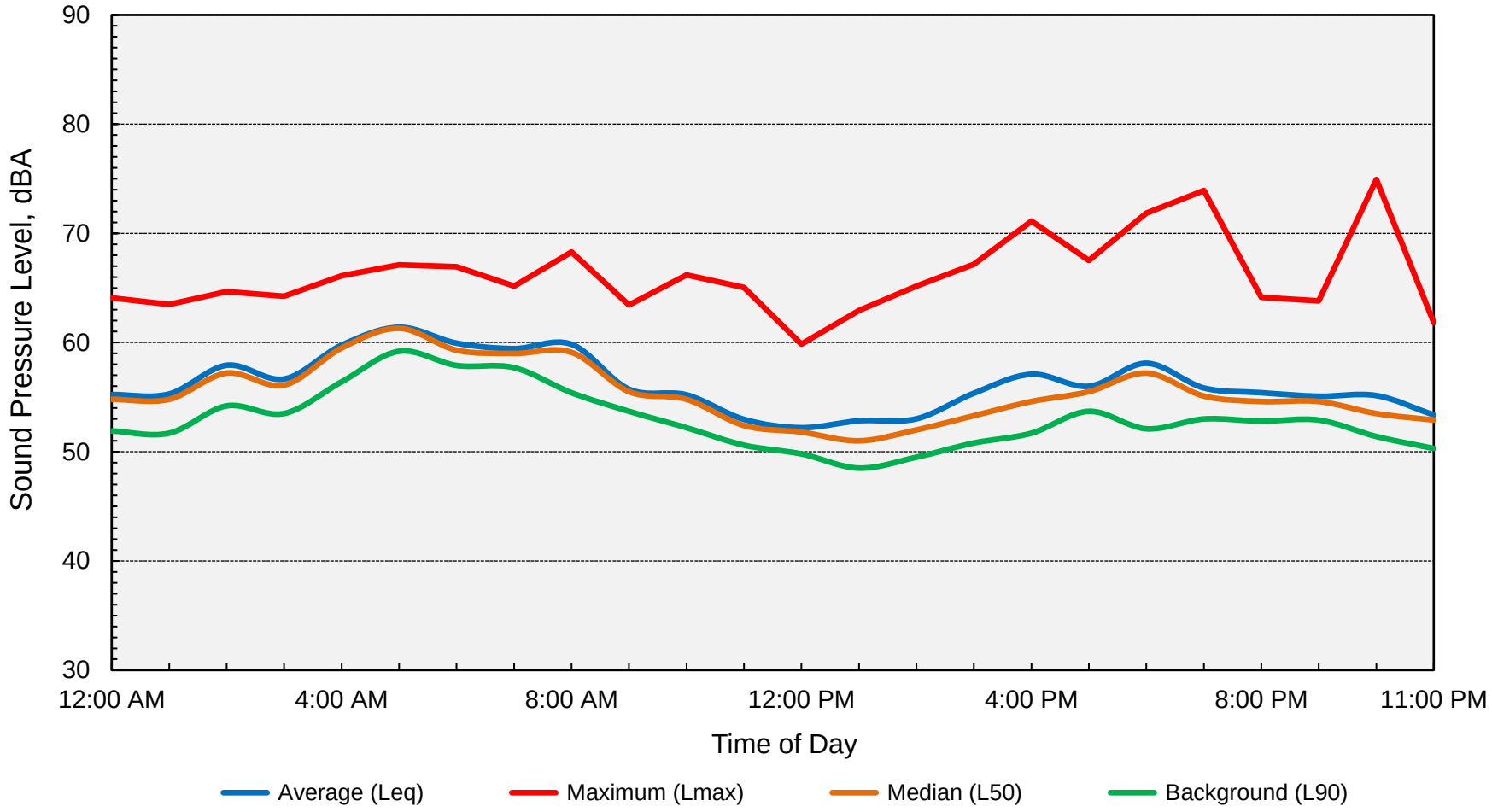
**Appendix C-3**
**Long-Term Ambient Noise Monitoring Results - Site 1**
**Upper Westside Specific Plan - Sacramento County, California**
**Thursday, September 23, 2021**




**Computed DNL = 68 dB**

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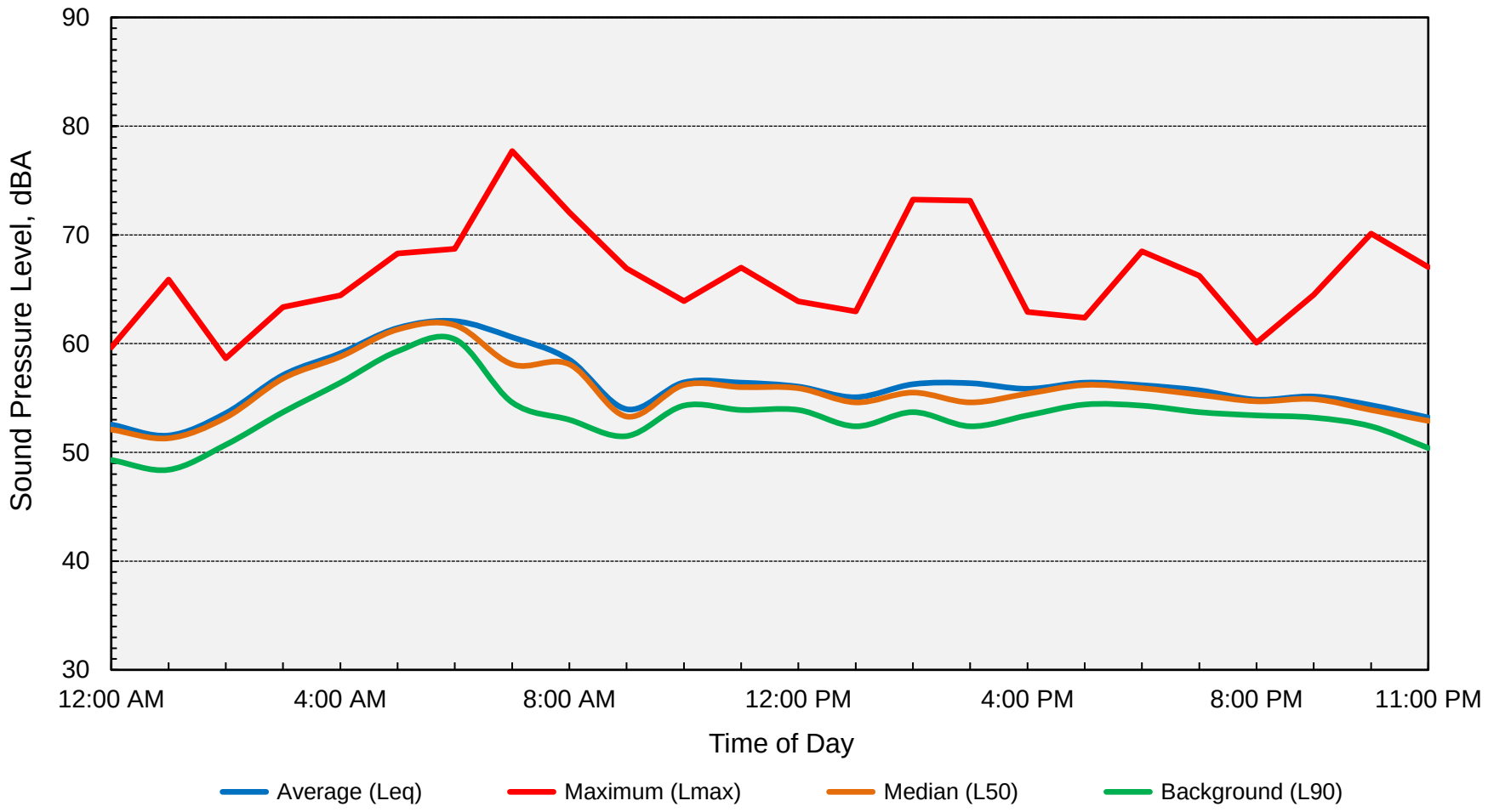
**Appendix C-4**
**Long-Term Ambient Noise Monitoring Results - Site 2**
**Upper Westside Specific Plan - Sacramento County, California**
**Tuesday, September 21, 2021**




**Computed DNL = 64 dB**

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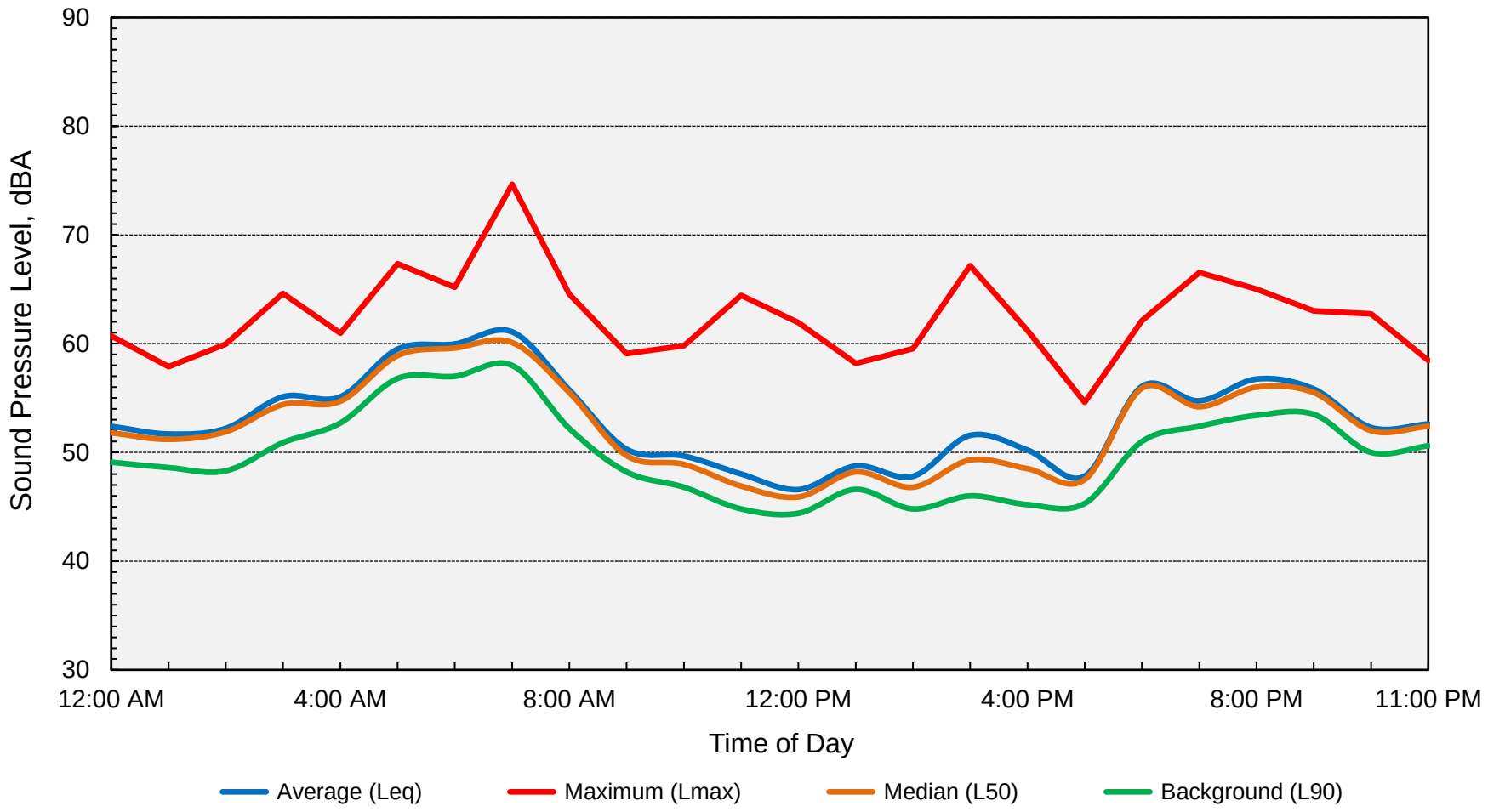
**Appendix C-5**
**Long-Term Ambient Noise Monitoring Results - Site 2**
**Upper Westside Specific Plan - Sacramento County, California**
**Wednesday, September 22, 2021**




**Computed DNL = 64 dB**

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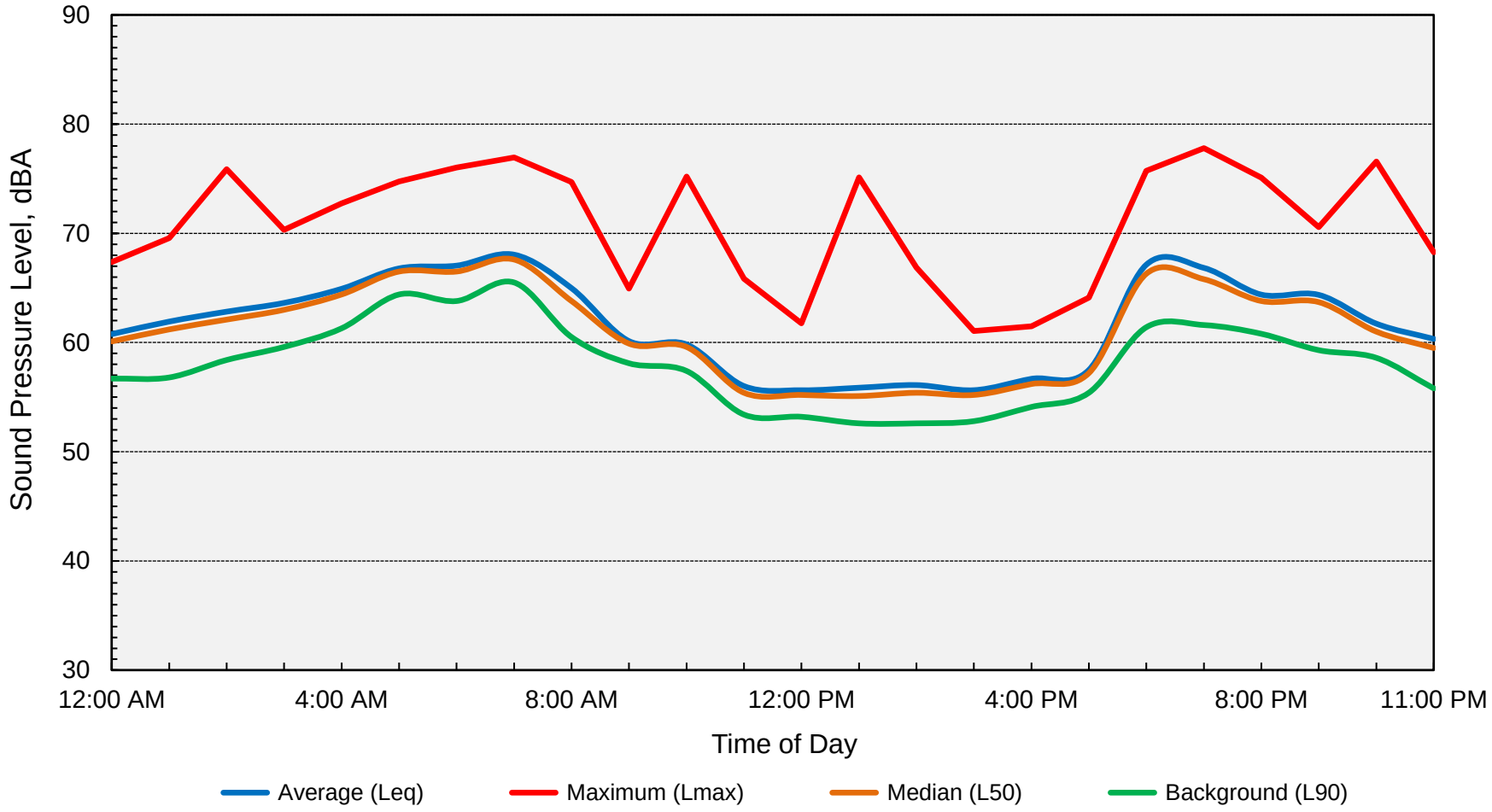
**Appendix C-6**
**Long-Term Ambient Noise Monitoring Results - Site 2**
**Upper Westside Specific Plan - Sacramento County, California**
**Thursday, September 23, 2021**




**Computed DNL = 62 dB**

BOLLARD
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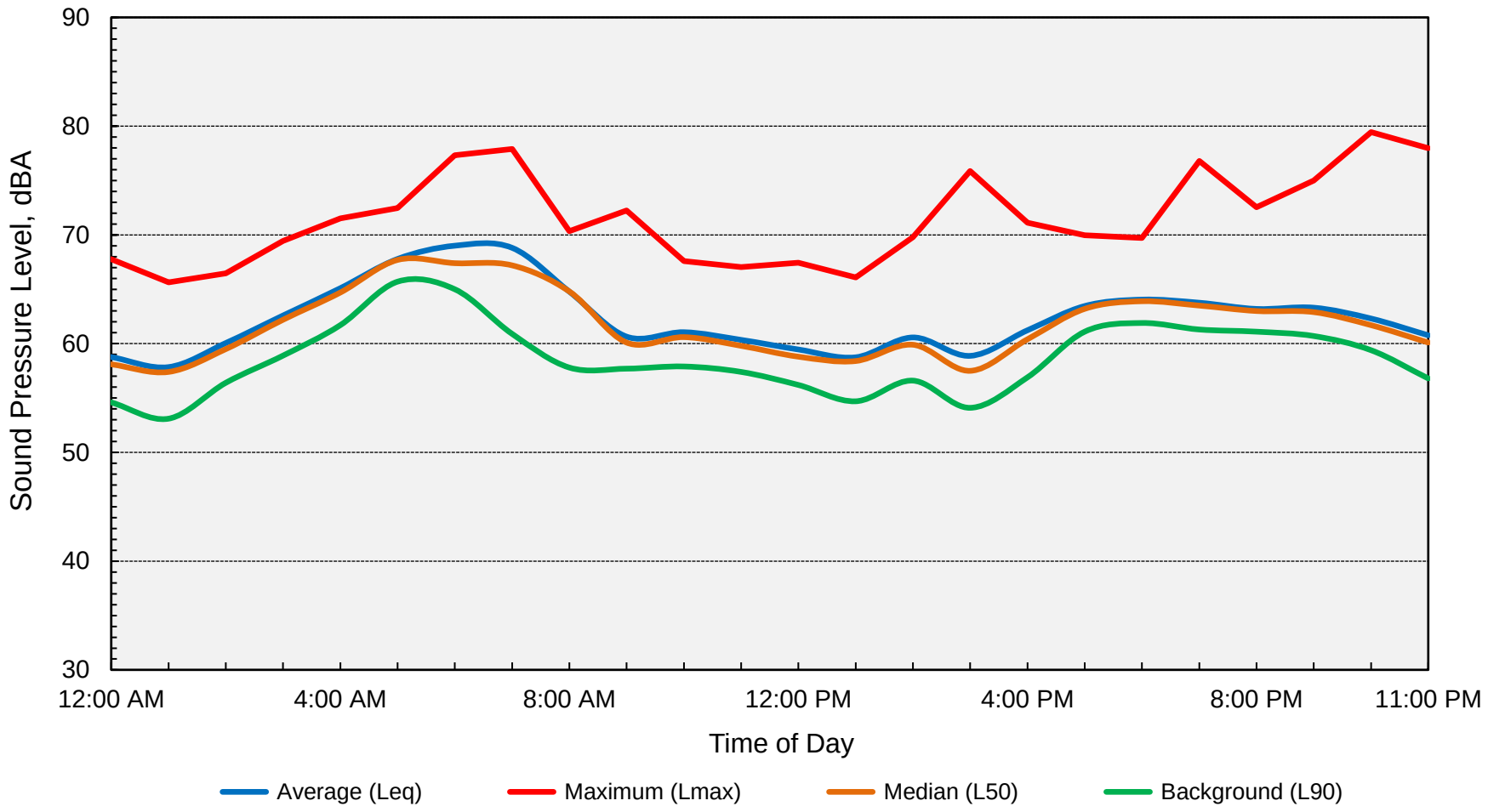
**Appendix C-7**
**Long-Term Ambient Noise Monitoring Results - Site 7**
**Upper Westside Specific Plan - Sacramento County, California**
**Tuesday, September 21, 2021**




**Computed DNL = 70 dB**

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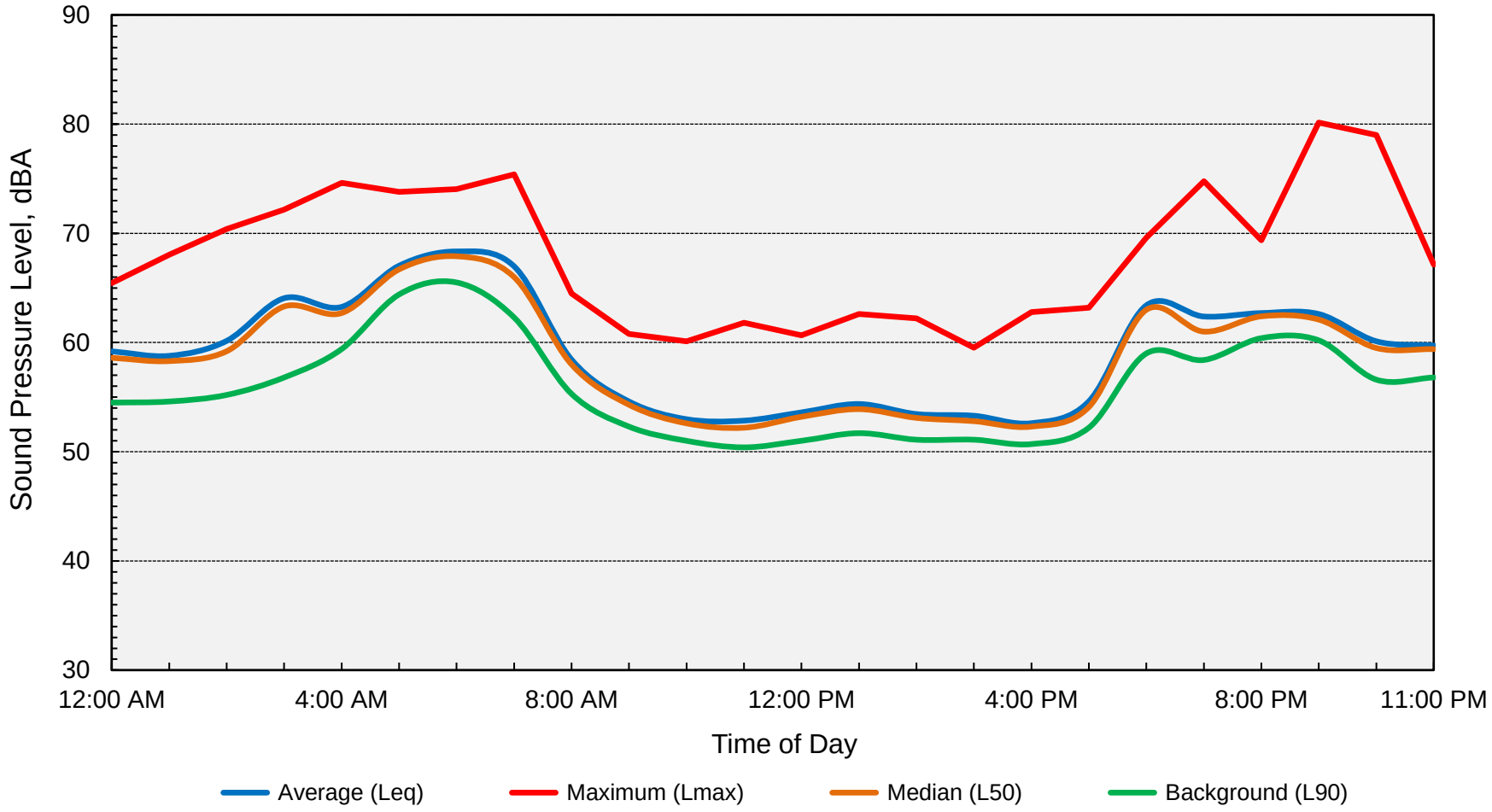
**Appendix C-8**
**Long-Term Ambient Noise Monitoring Results - Site 7**
**Upper Westside Specific Plan - Sacramento County, California**
**Wednesday, September 22, 2021**




**Computed DNL = 71 dB**

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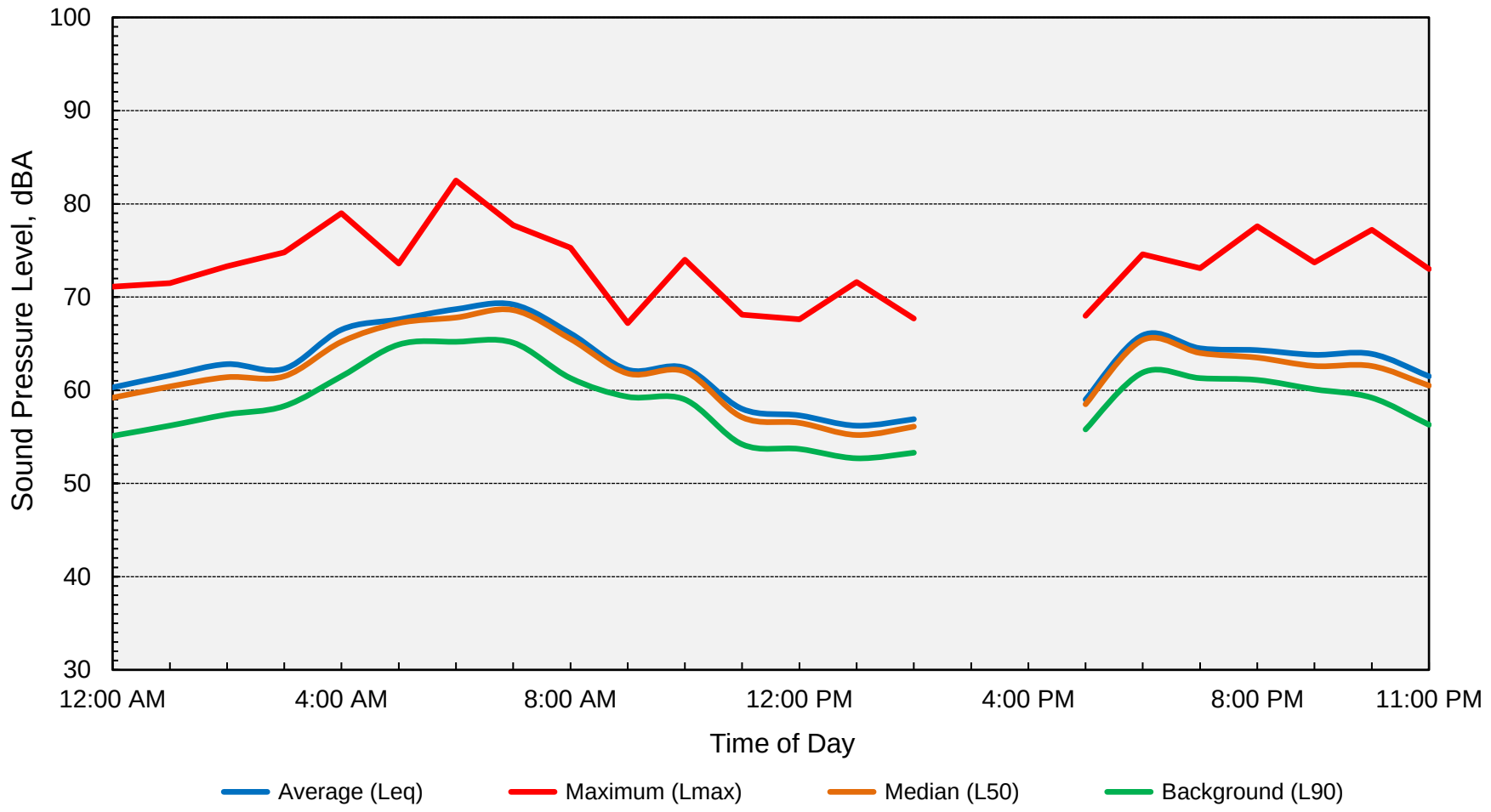
**Appendix C-9**
**Long-Term Ambient Noise Monitoring Results - Site 7**
**Upper Westside Specific Plan - Sacramento County, California**
**Thursday, September 23, 2021**




**Computed DNL = 70 dB**

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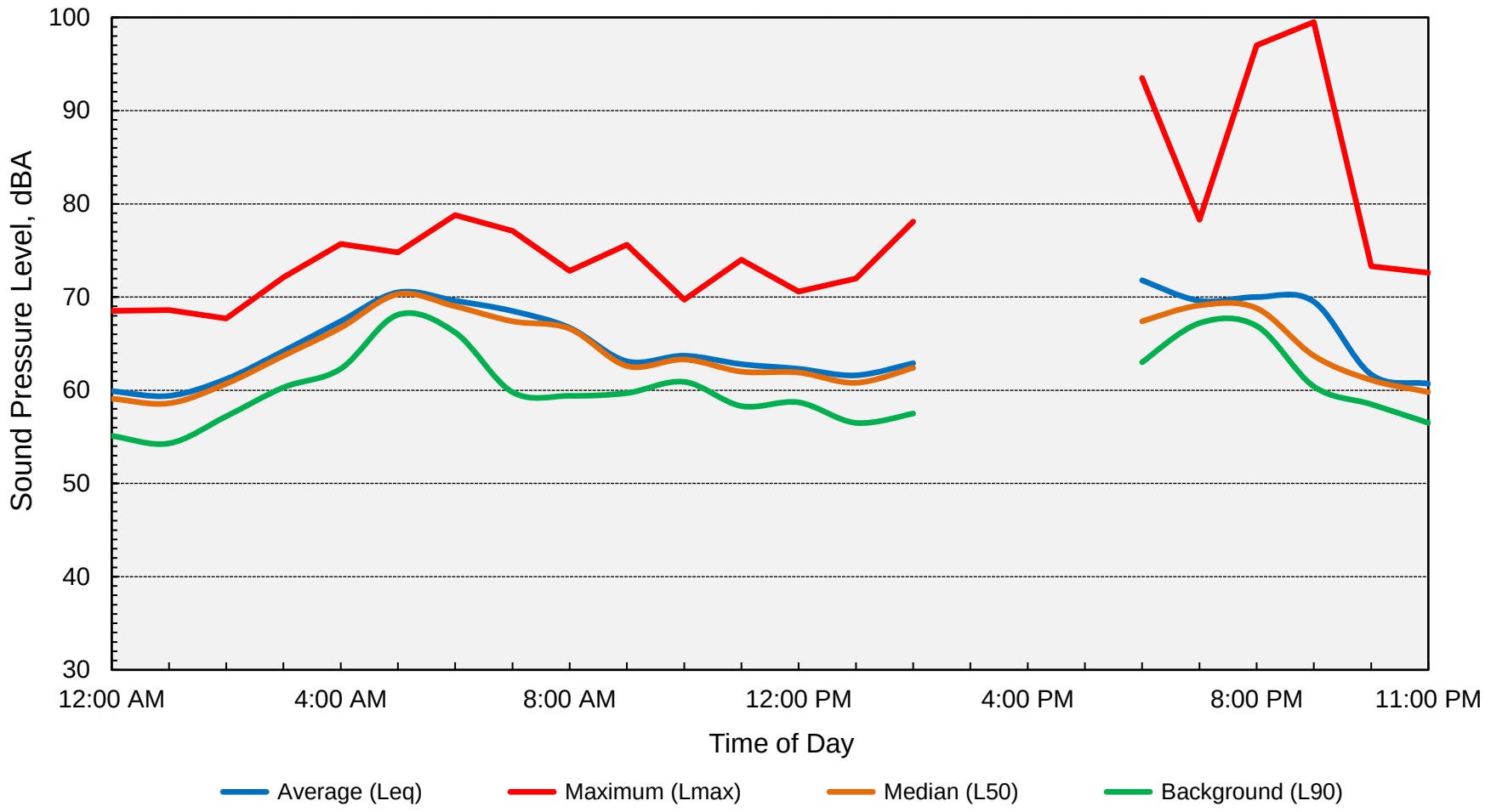
**Appendix C-10**
**Long-Term Ambient Noise Monitoring Results - Site 8**
**Upper Westside Specific Plan - Sacramento County, California**
**Tuesday, September 21, 2021**




**Computed DNL = 71 dB**

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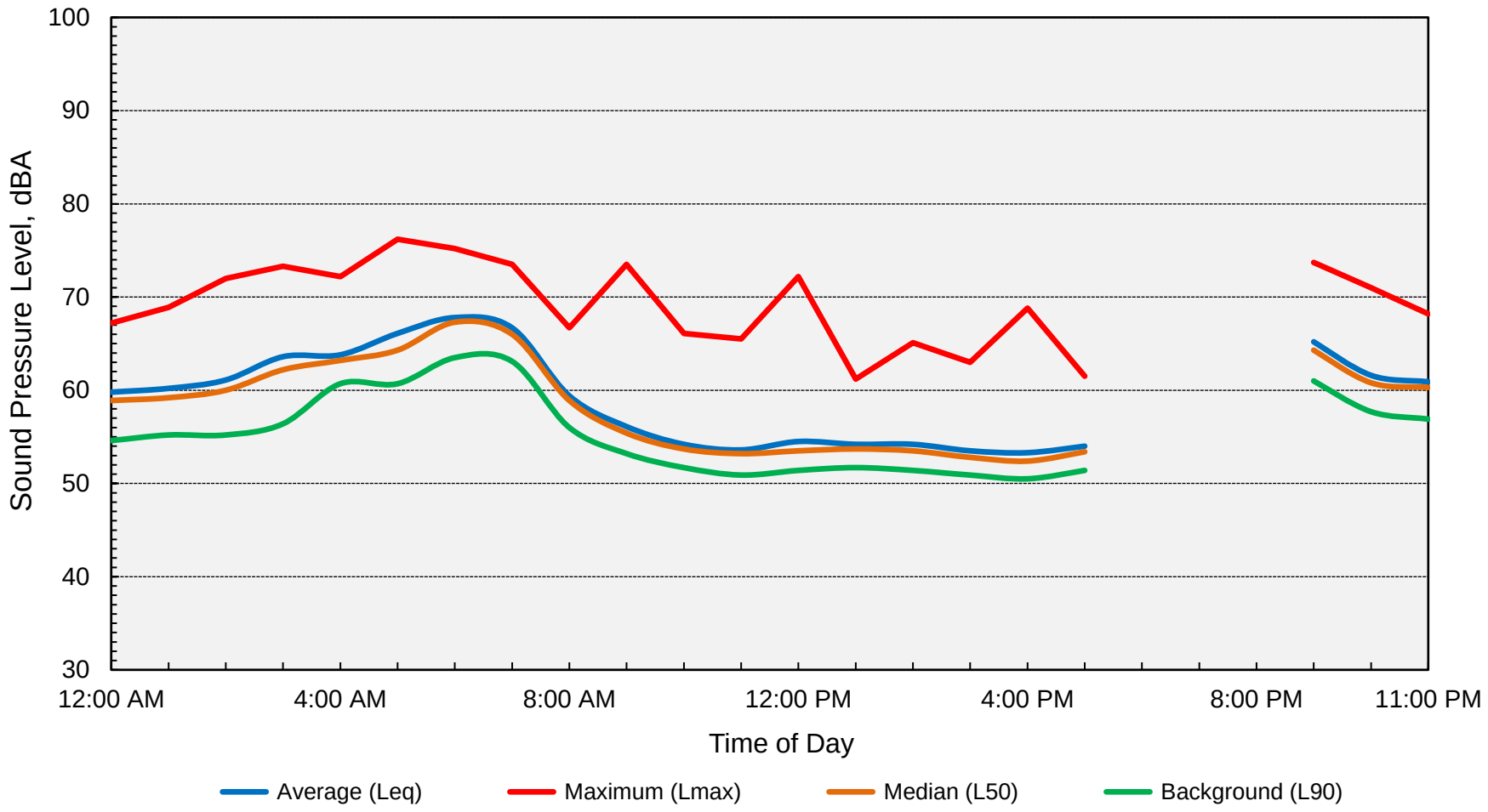
**Appendix C-11**
**Long-Term Ambient Noise Monitoring Results - Site 8**
**Upper Westside Specific Plan - Sacramento County, California**
**Wednesday, September 22, 2021**




**Computed DNL = 72 dB**

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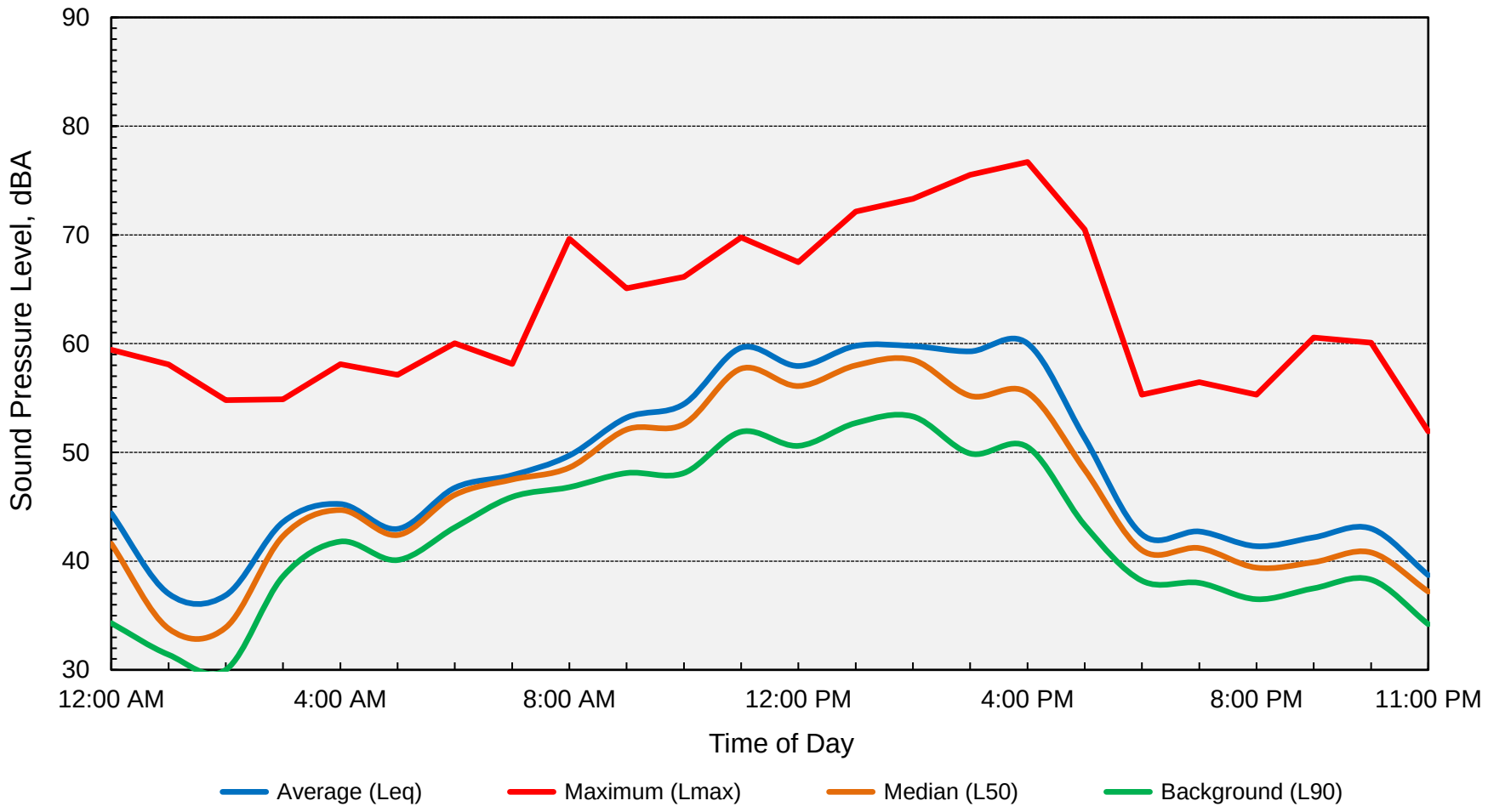
**Appendix C-12**
**Long-Term Ambient Noise Monitoring Results - Site 8**
**Upper Westside Specific Plan - Sacramento County, California**
**Thursday, September 23, 2021**




**Computed DNL = 70 dB**

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Acoustical Consultants

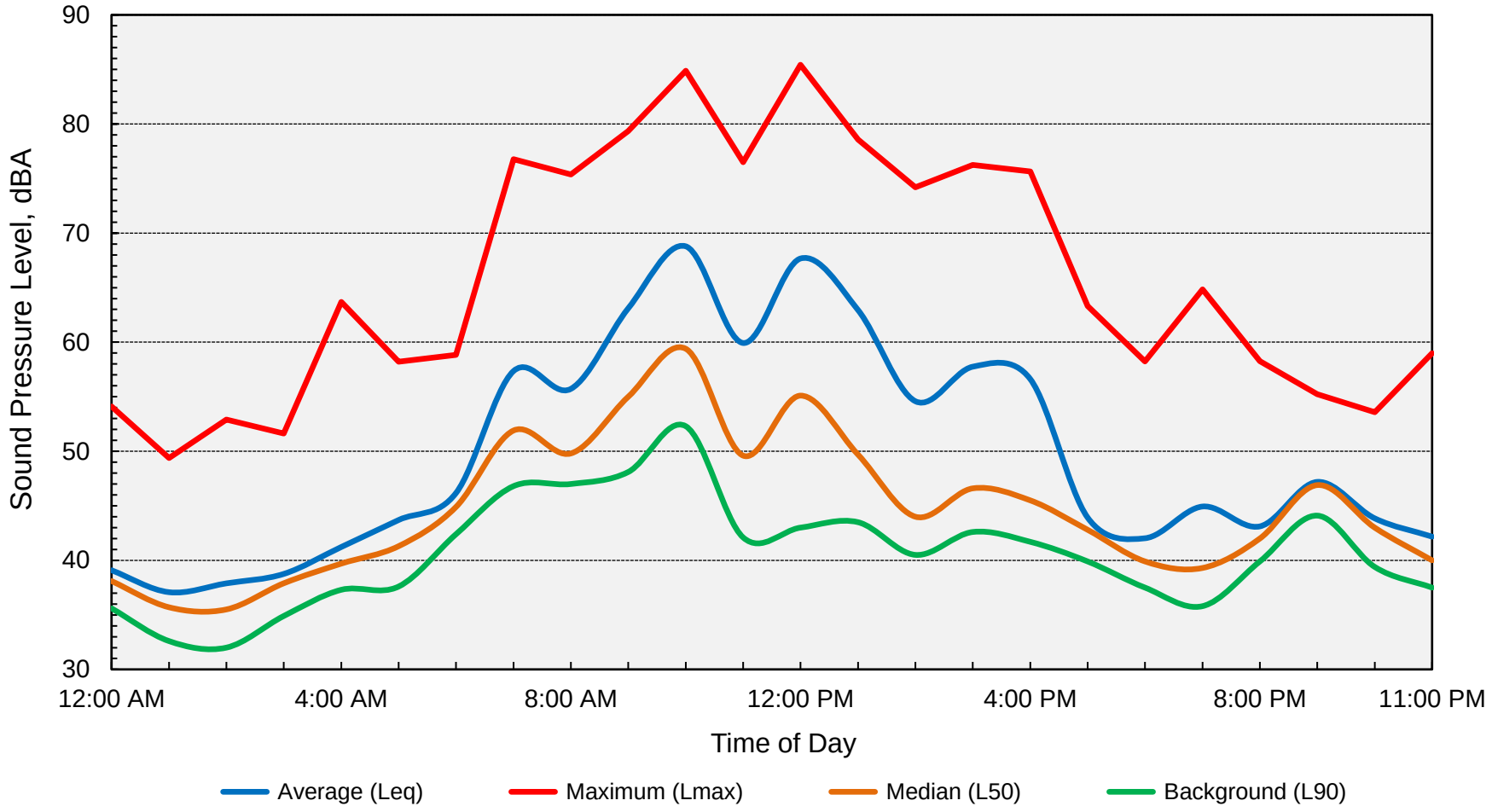
**Appendix C-13**
**Long-Term Ambient Noise Monitoring Results - Site 9**
**Upper Westside Specific Plan - Sacramento County, California**
**Tuesday, September 28, 2021**




**Computed DNL = 55 dB**

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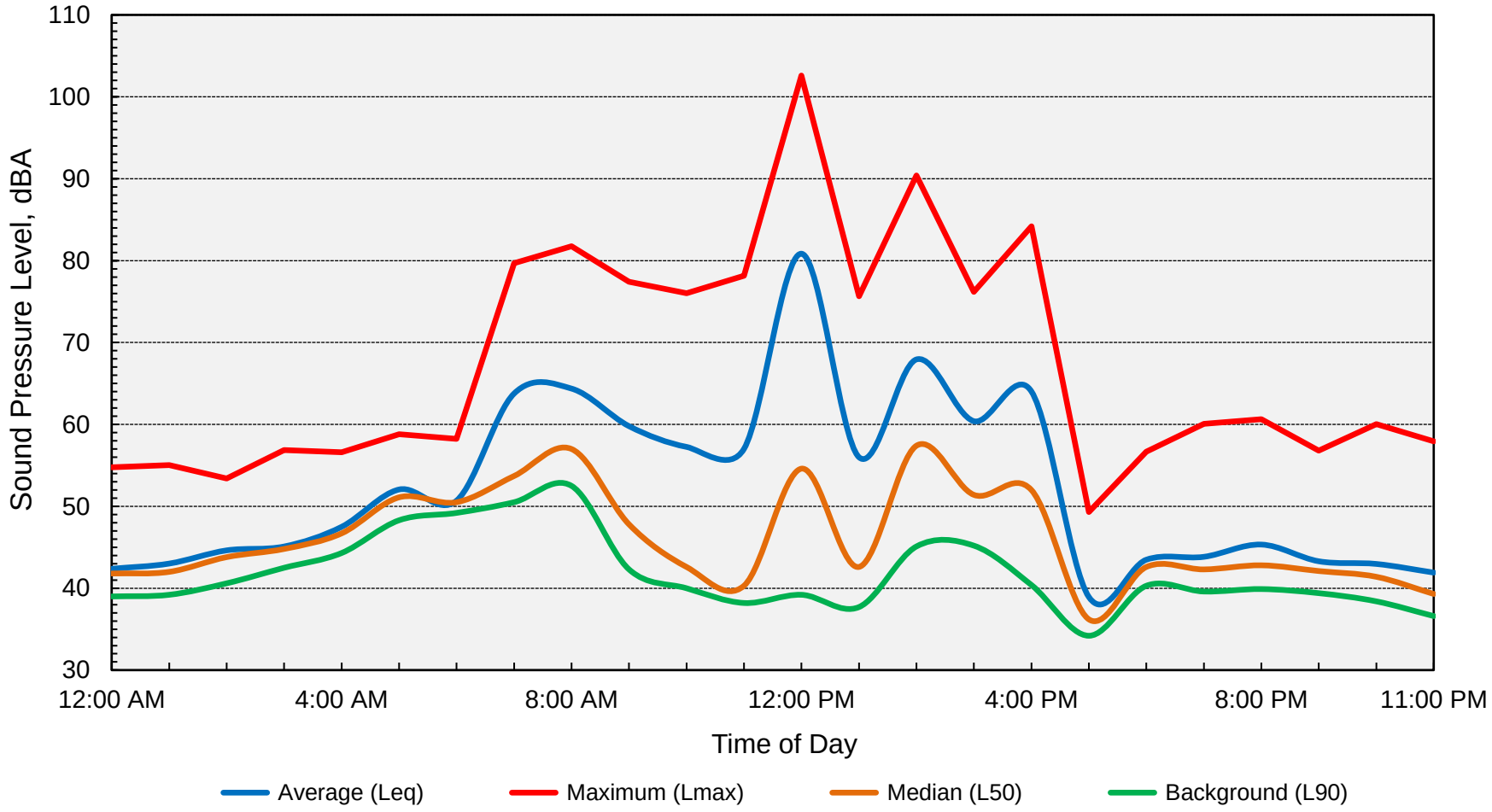
**Appendix C-14**
**Long-Term Ambient Noise Monitoring Results - Site 9**
**Upper Westside Specific Plan - Sacramento County, California**
**Wednesday, September 29, 2021**




**Computed DNL = 60 dB**

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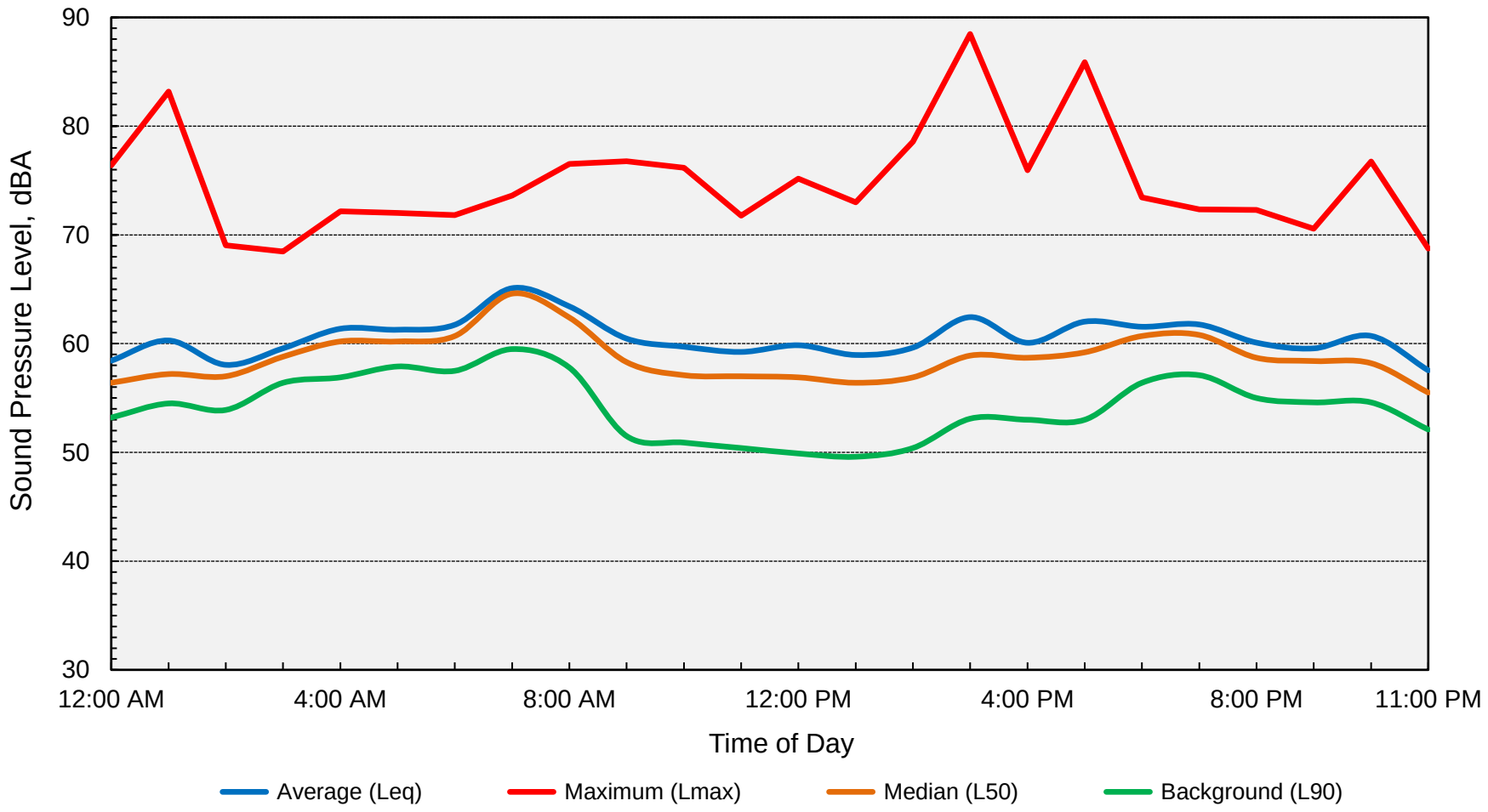
**Appendix C-15**
**Long-Term Ambient Noise Monitoring Results - Site 9**
**Upper Westside Specific Plan - Sacramento County, California**
**Thursday, September 30, 2021**




**Computed DNL = 68 dB**

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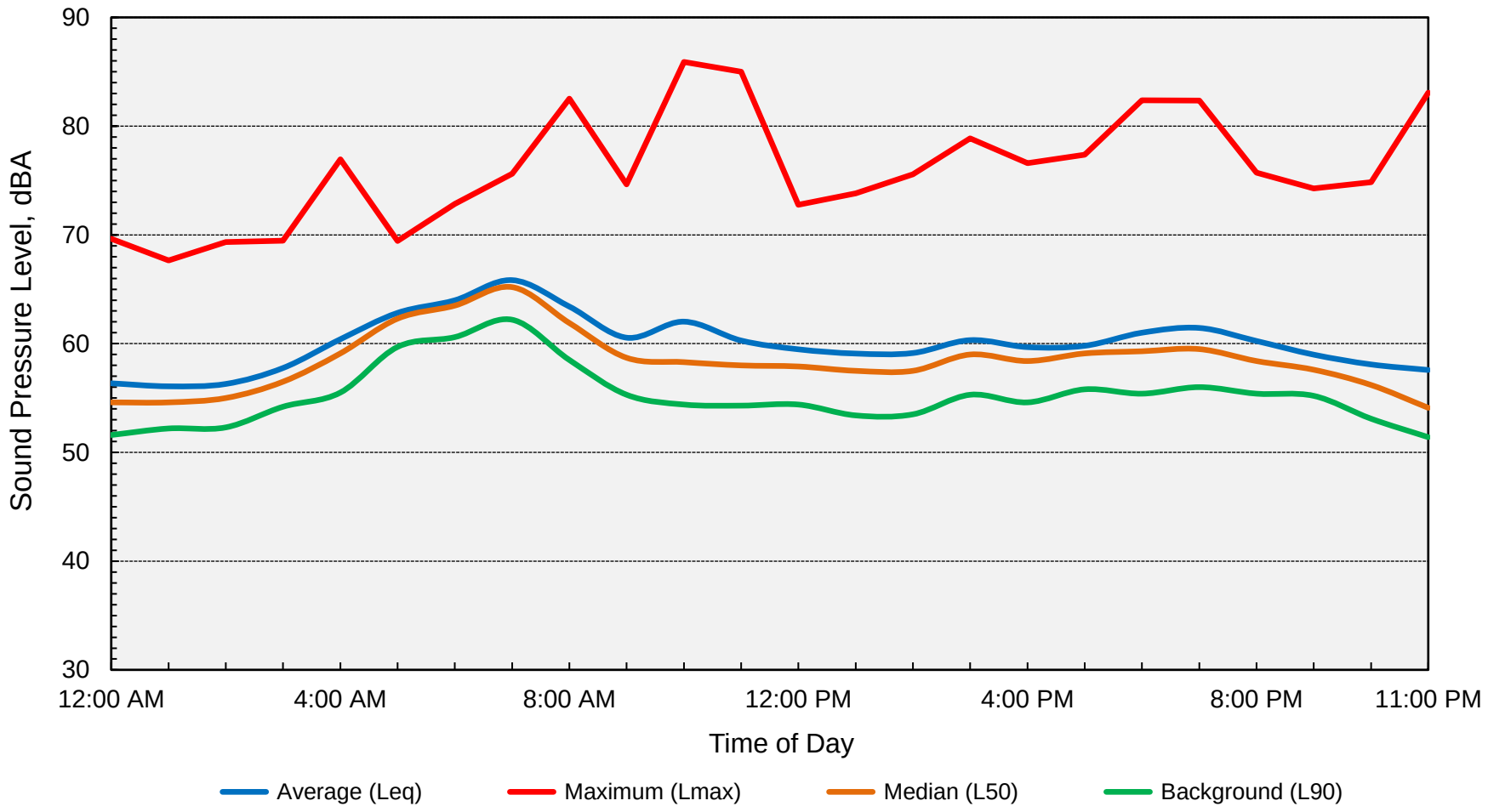
**Appendix C-16**
**Long-Term Ambient Noise Monitoring Results - Site 10**
**Upper Westside Specific Plan - Sacramento County, California**
**Tuesday, September 21, 2021**




**Computed DNL = 67 dB**

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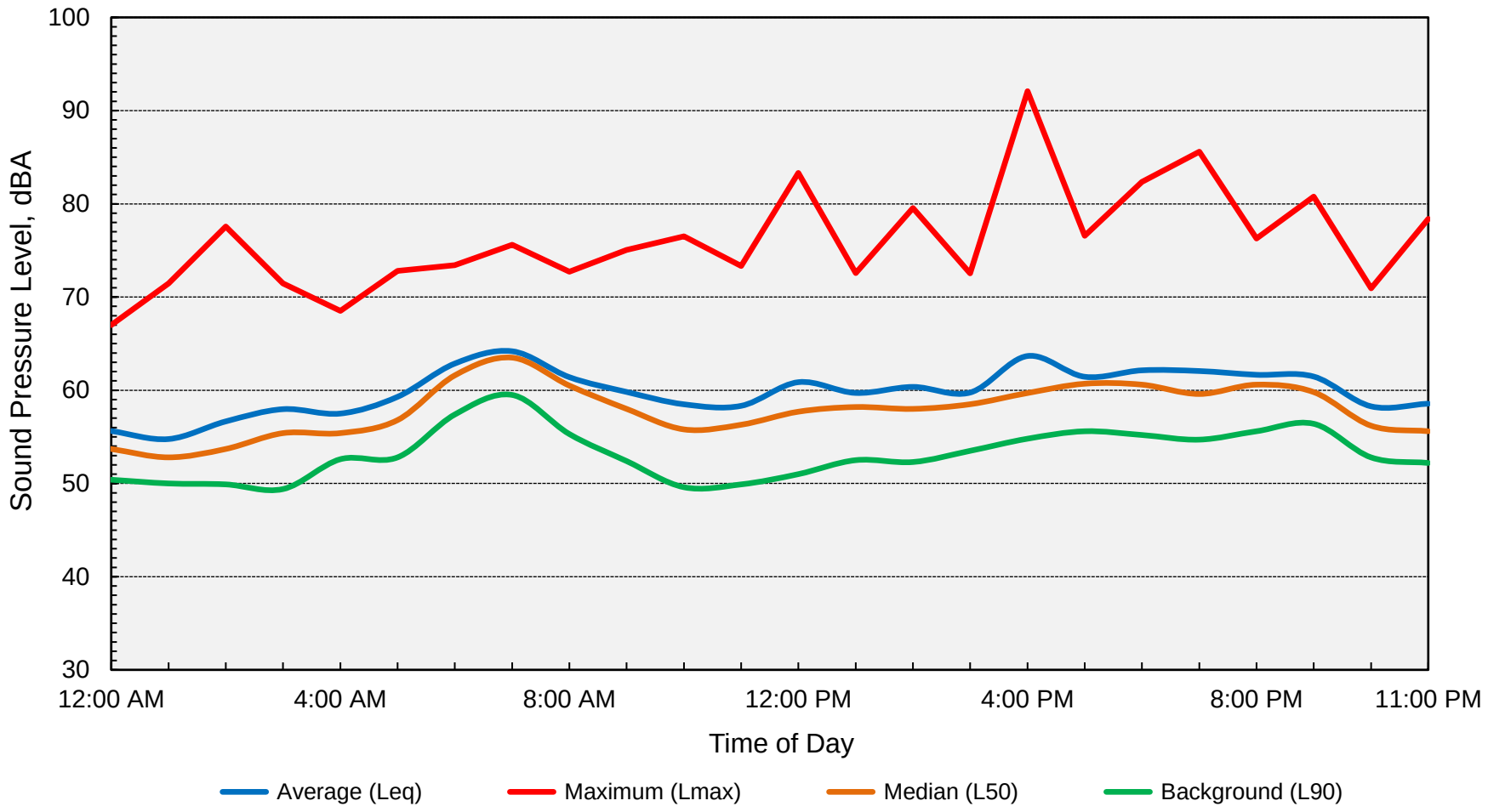
**Appendix C-17**
**Long-Term Ambient Noise Monitoring Results - Site 10**
**Upper Westside Specific Plan - Sacramento County, California**
**Wednesday, September 22, 2021**




**Computed DNL = 66 dB**

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Acoustical Consultants

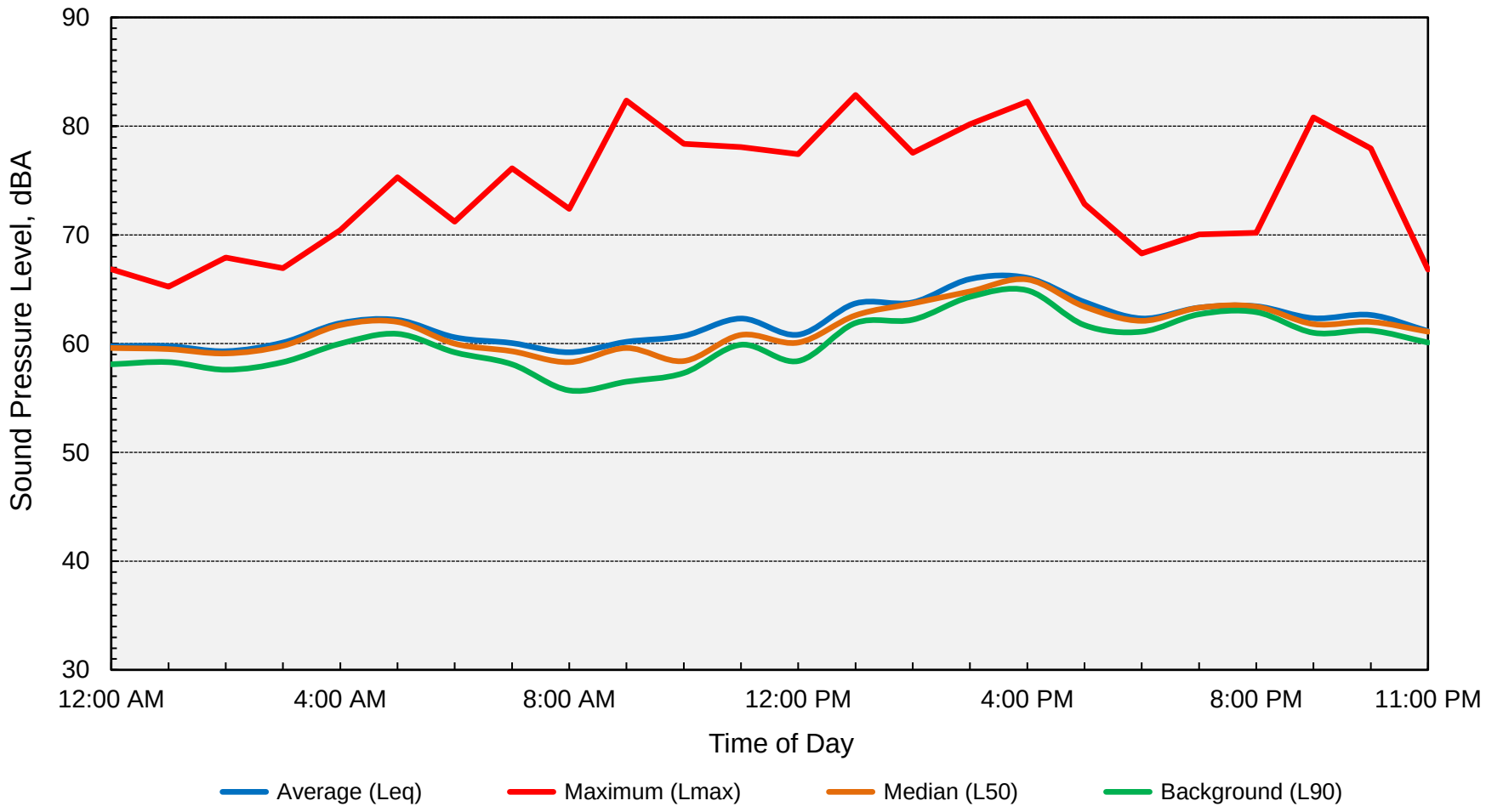
**Appendix C-18**
**Long-Term Ambient Noise Monitoring Results - Site 10**
**Upper Westside Specific Plan - Sacramento County, California**
**Thursday, September 23, 2021**




**Computed DNL = 66 dB**

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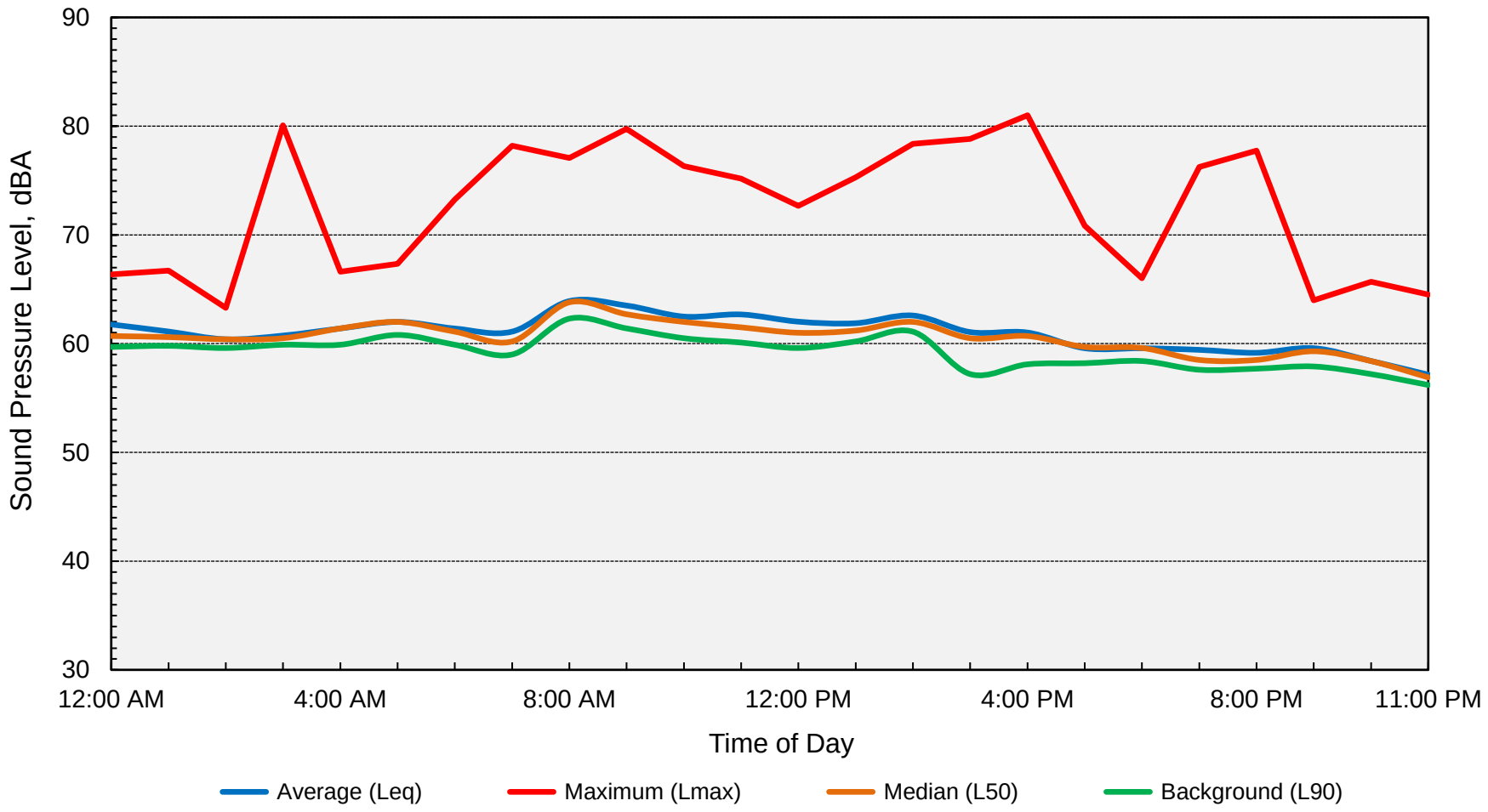
**Appendix C-19**
**Long-Term Ambient Noise Monitoring Results - Site 11**
**Upper Westside Specific Plan - Sacramento County, California**
**Tuesday, September 21, 2021**




**Computed DNL = 68 dB**

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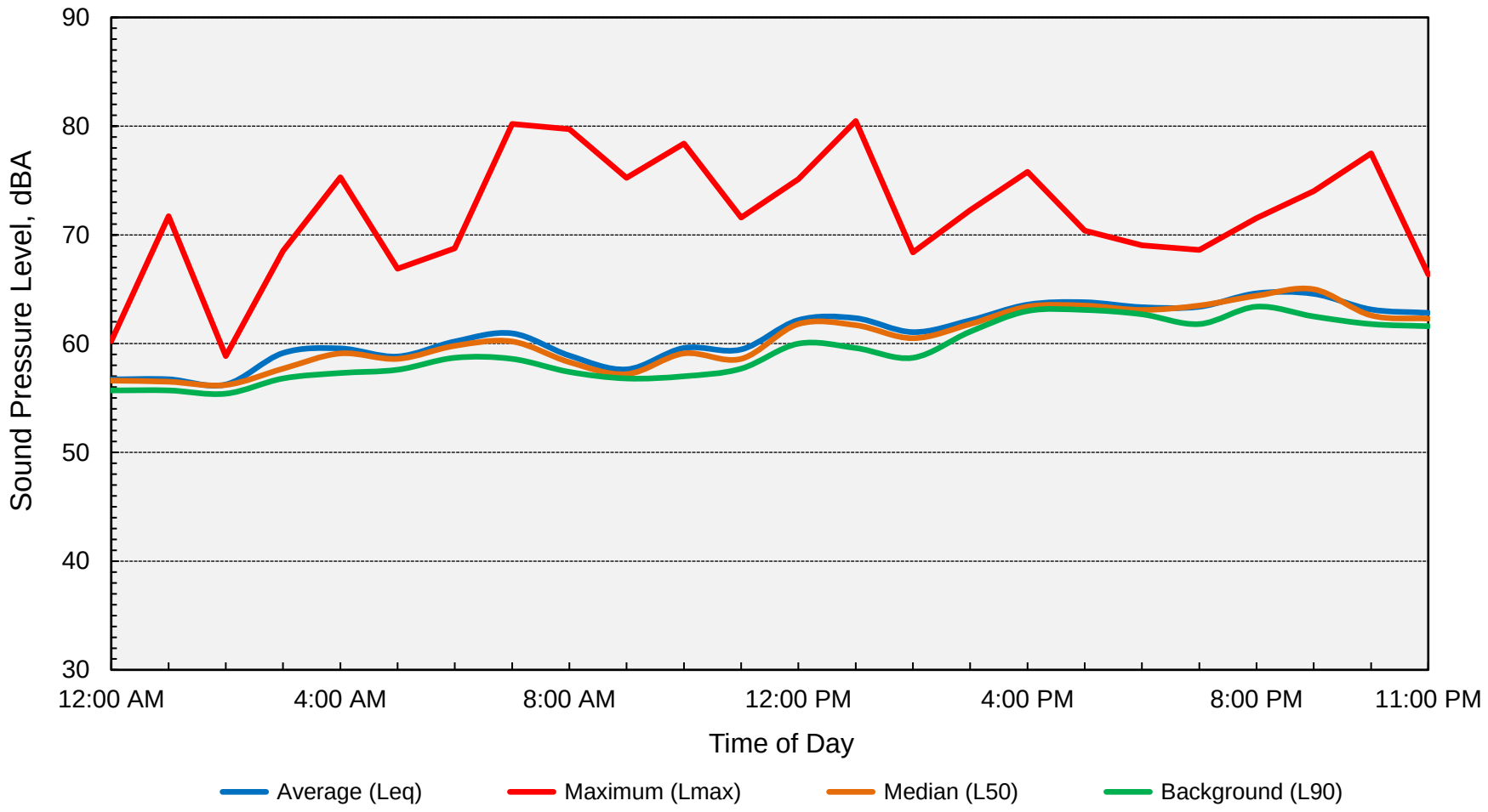
**Appendix C-20**
**Long-Term Ambient Noise Monitoring Results - Site 11**
**Upper Westside Specific Plan - Sacramento County, California**
**Wednesday, September 22, 2021**




**Computed DNL = 67 dB**

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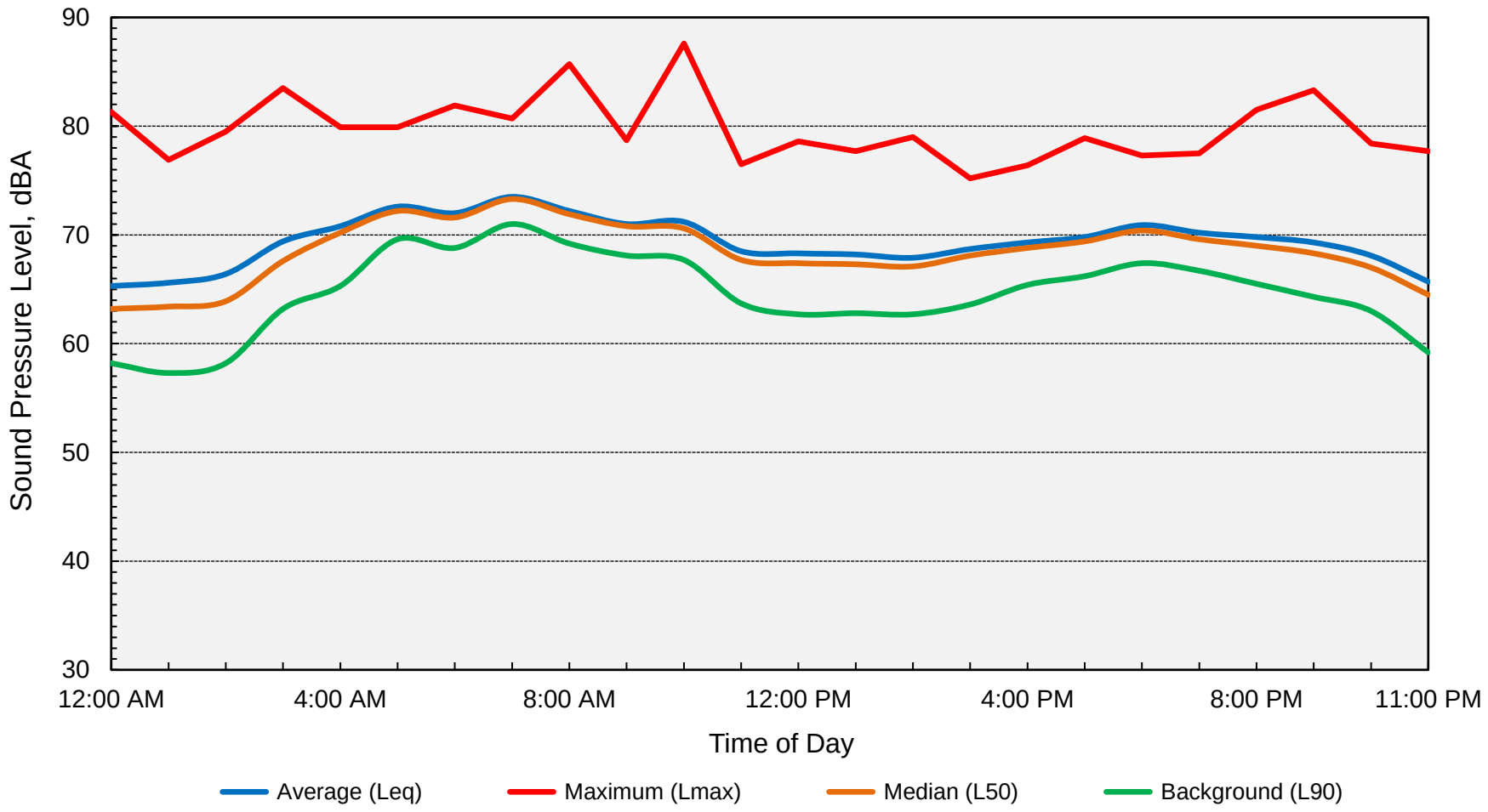
**Appendix C-21**
**Long-Term Ambient Noise Monitoring Results - Site 11**
**Upper Westside Specific Plan - Sacramento County, California**
**Thursday, September 23, 2021**




**Computed DNL = 67 dB**

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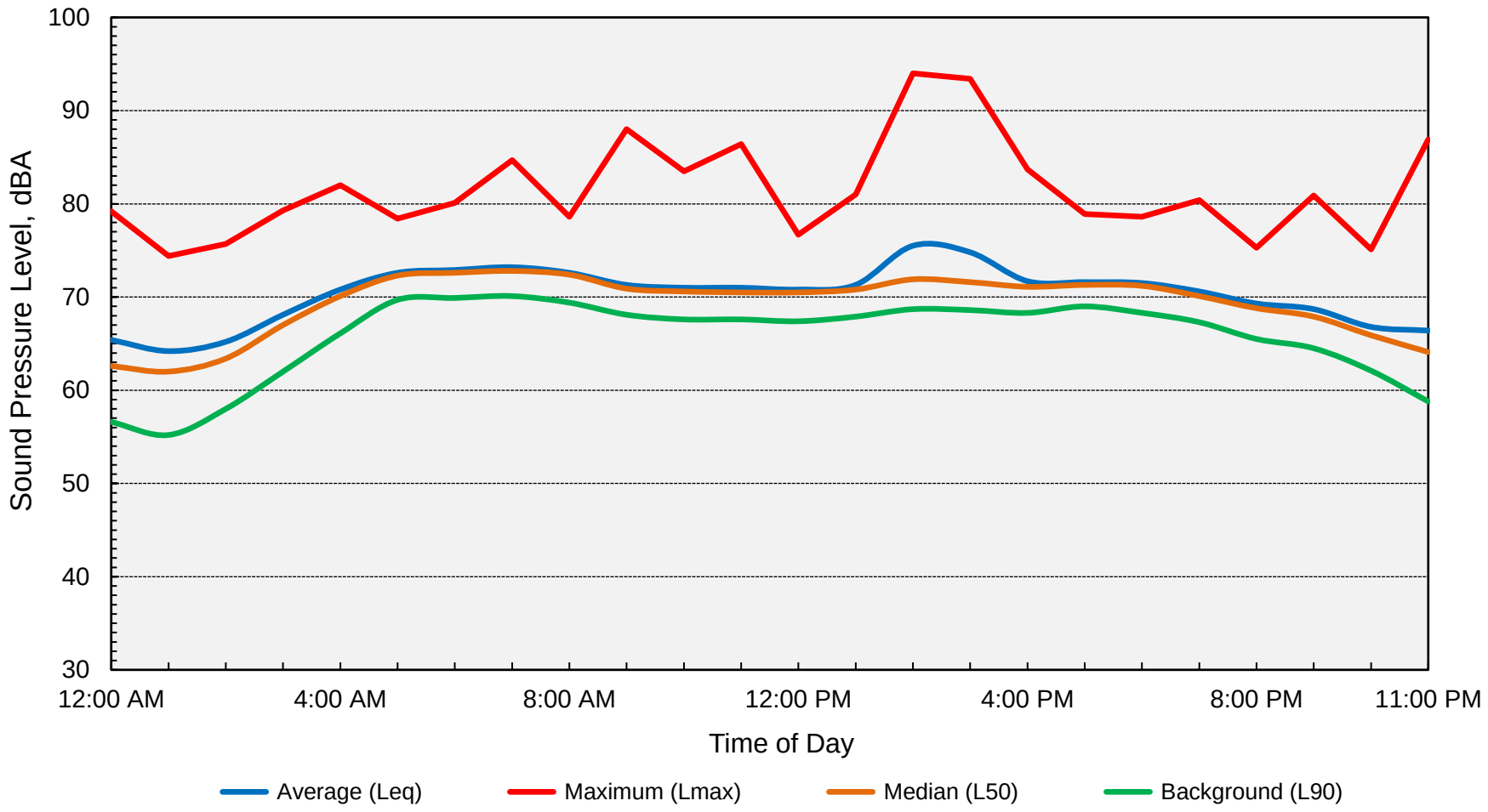
**Appendix C-22**
**Long-Term Ambient Noise Monitoring Results - Site 12**
**Upper Westside Specific Plan - Sacramento County, California**
**Tuesday, September 21, 2021**




**Computed DNL = 76 dB**

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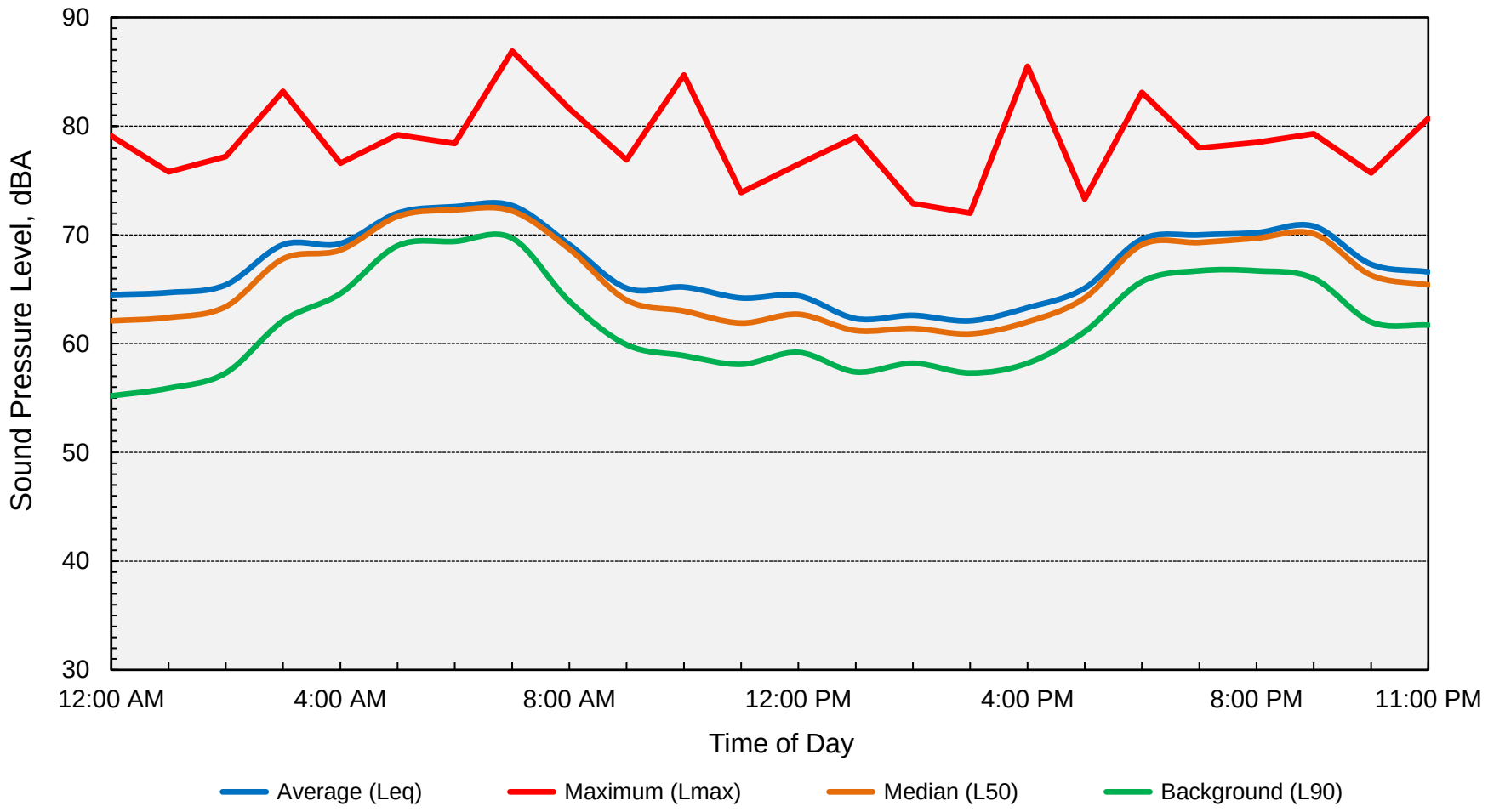
**Appendix C-23**
**Long-Term Ambient Noise Monitoring Results - Site 12**
**Upper Westside Specific Plan - Sacramento County, California**
**Wednesday, September 22, 2021**




**Computed DNL = 76 dB**

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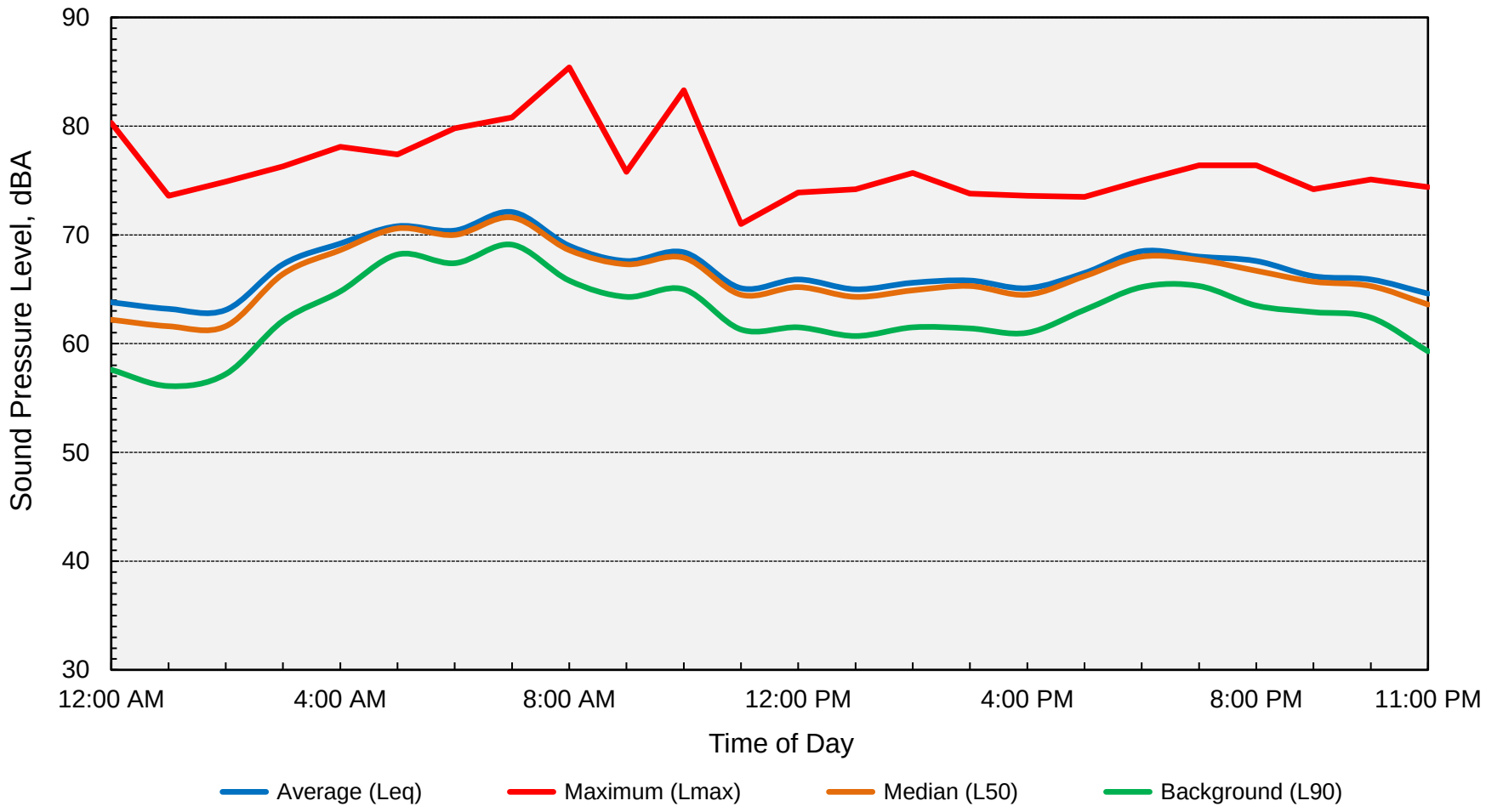
**Appendix C-24**
**Long-Term Ambient Noise Monitoring Results - Site 12**
**Upper Westside Specific Plan - Sacramento County, California**
**Thursday, September 23, 2021**




**Computed DNL = 75 dB**

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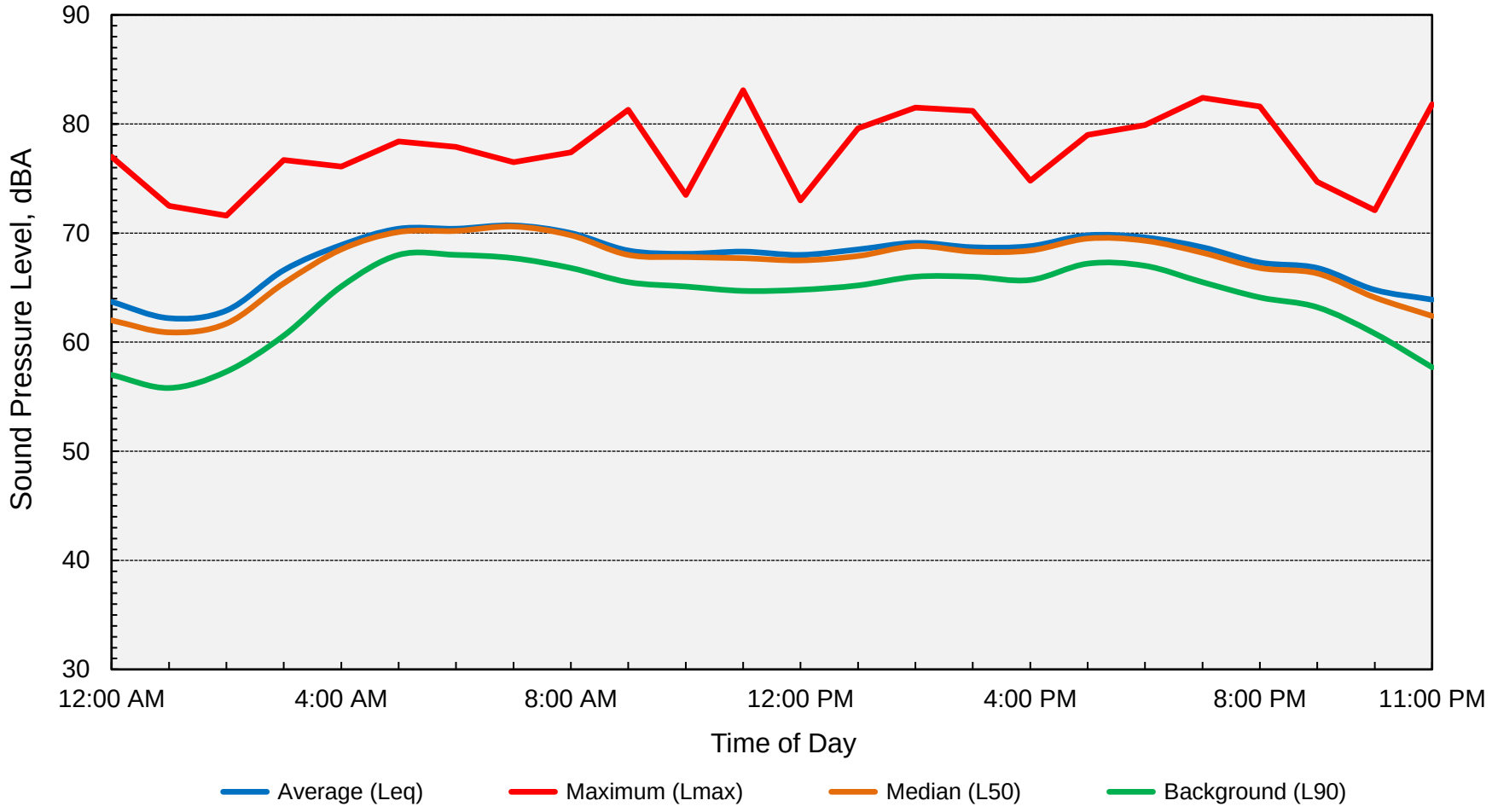
**Appendix C-25**
**Long-Term Ambient Noise Monitoring Results - Site 13**
**Upper Westside Specific Plan - Sacramento County, California**
**Tuesday, September 21, 2021**




**Computed DNL = 74 dB**

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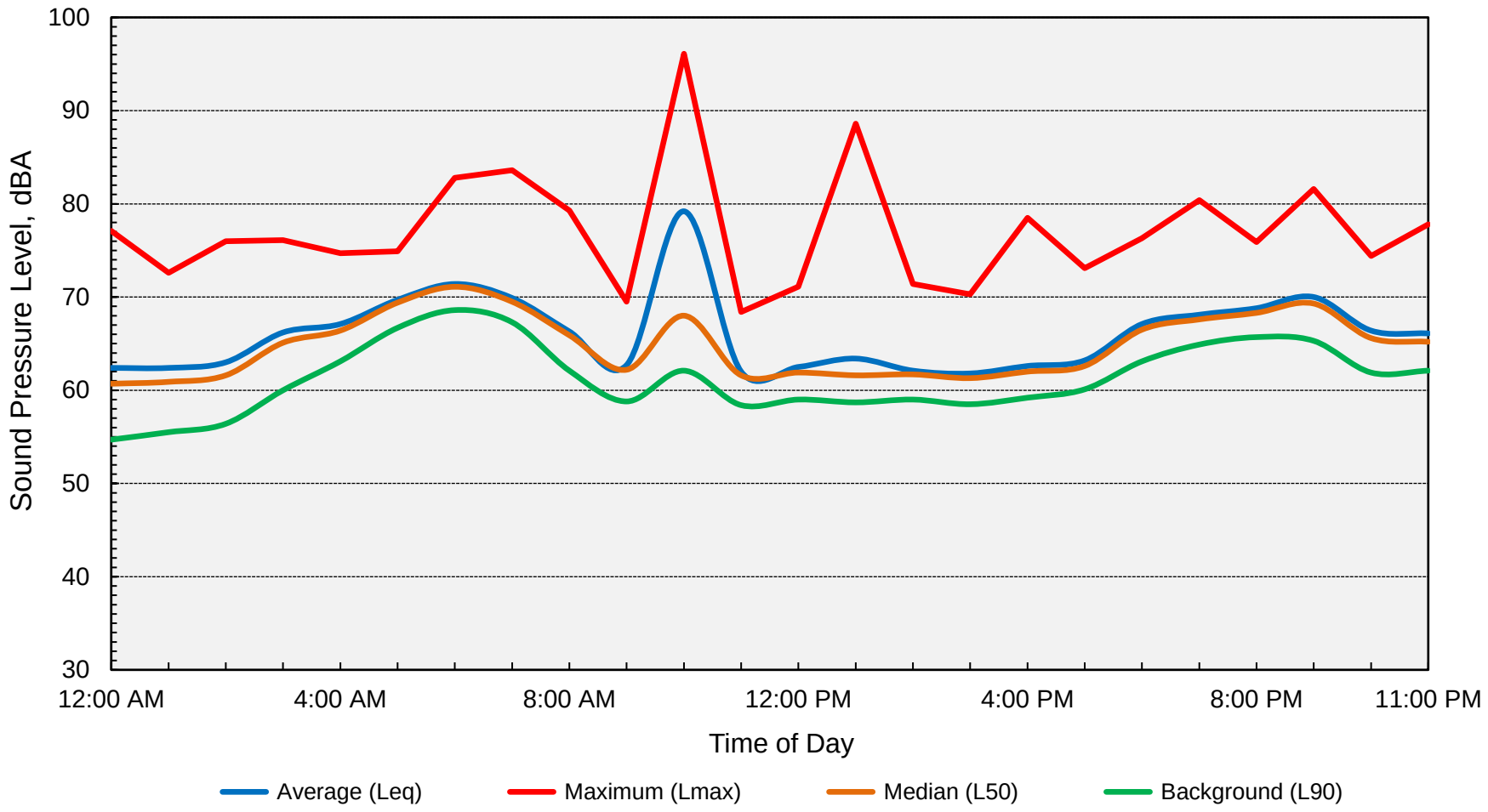
**Appendix C-26**
**Long-Term Ambient Noise Monitoring Results - Site 13**
**Upper Westside Specific Plan - Sacramento County, California**
**Wednesday, September 22, 2021**




**Computed DNL = 74 dB**

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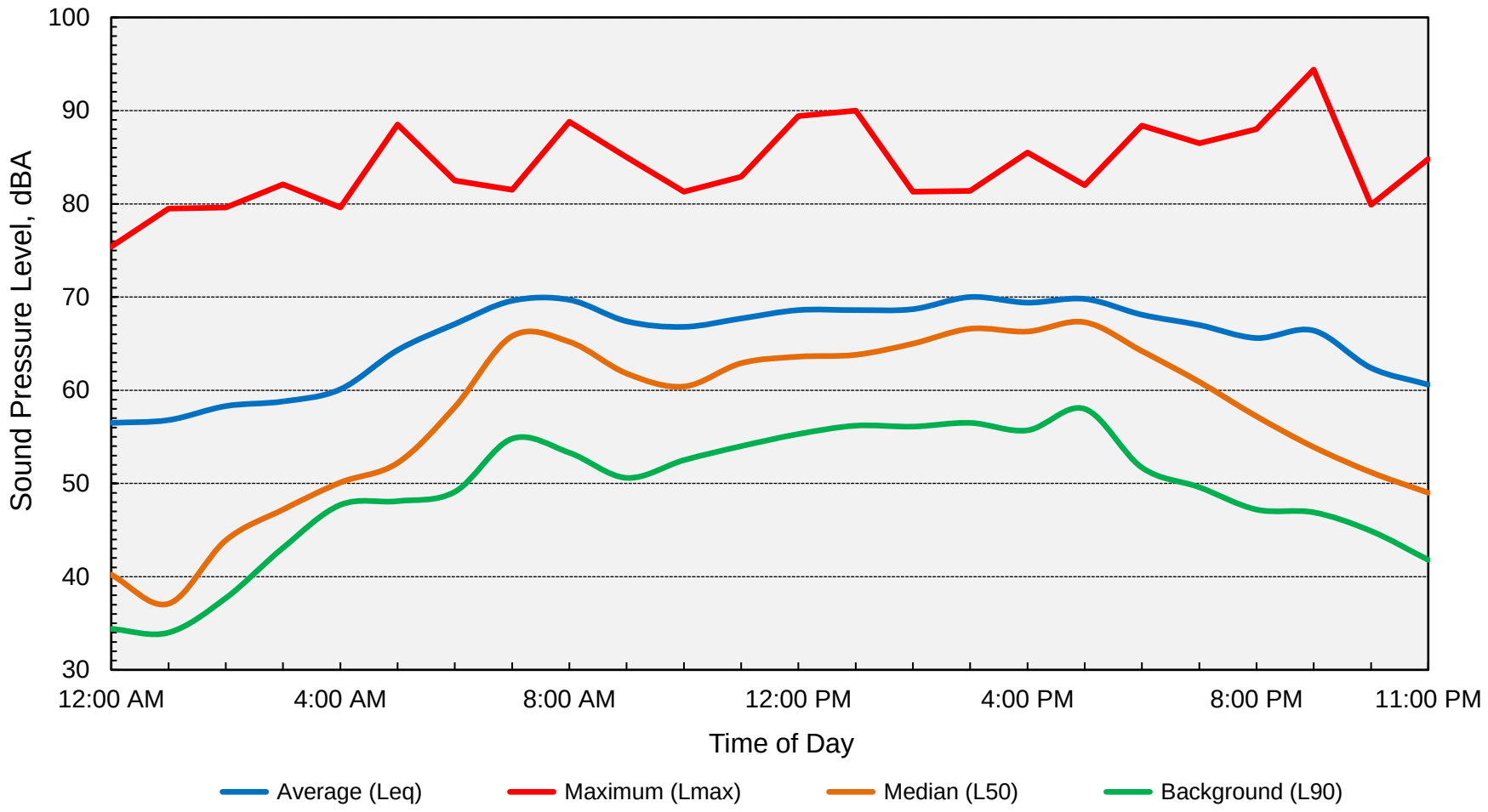
**Appendix C-27**
**Long-Term Ambient Noise Monitoring Results - Site 13**
**Upper Westside Specific Plan - Sacramento County, California**
**Thursday, September 23, 2021**




**Computed DNL = 74 dB**

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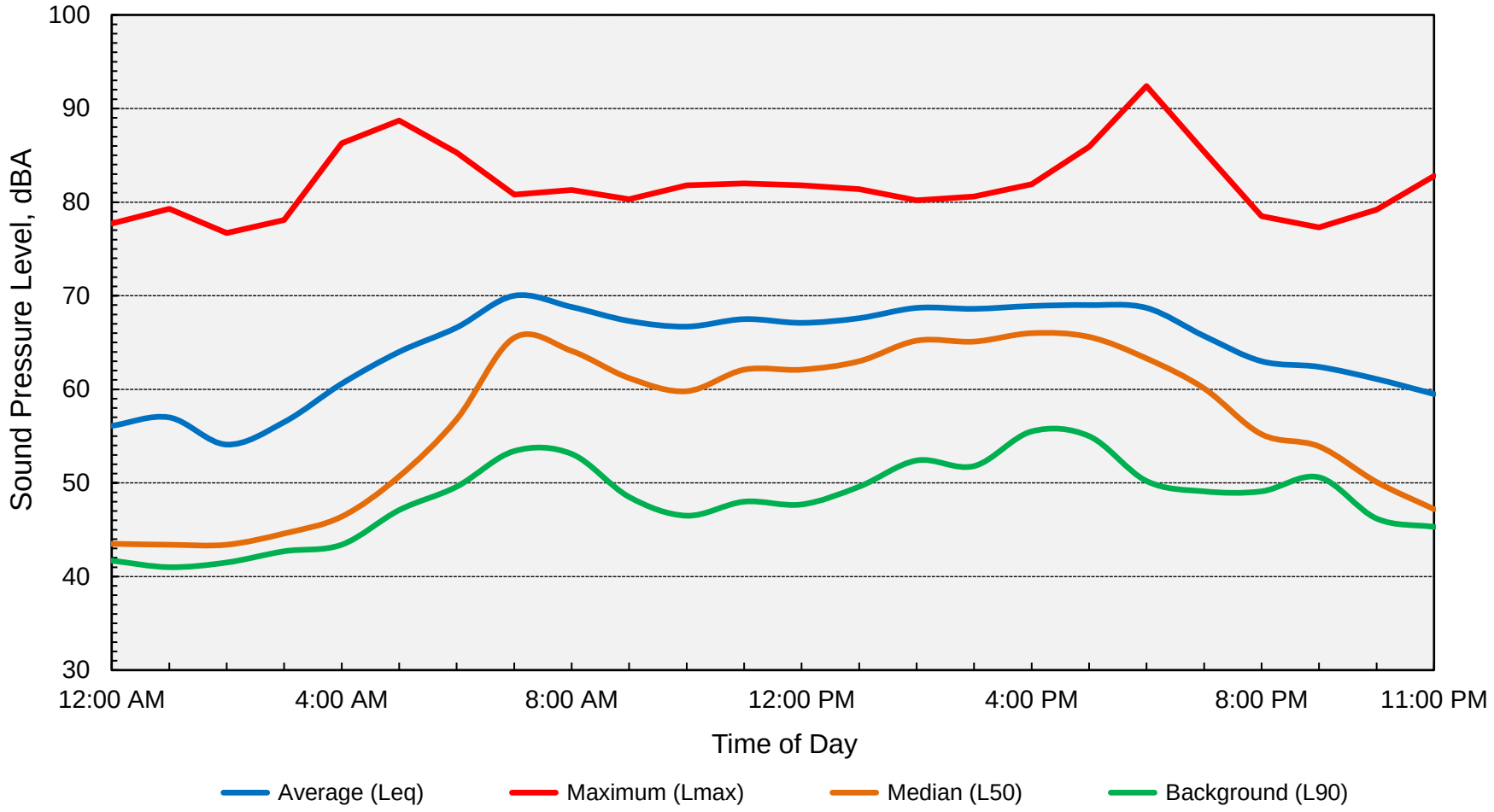
**Appendix C-28**
**Long-Term Ambient Noise Monitoring Results - Site 14**
**Upper Westside Specific Plan - Sacramento County, California**
**Tuesday, September 28, 2021**




**Computed DNL = 70 dB**

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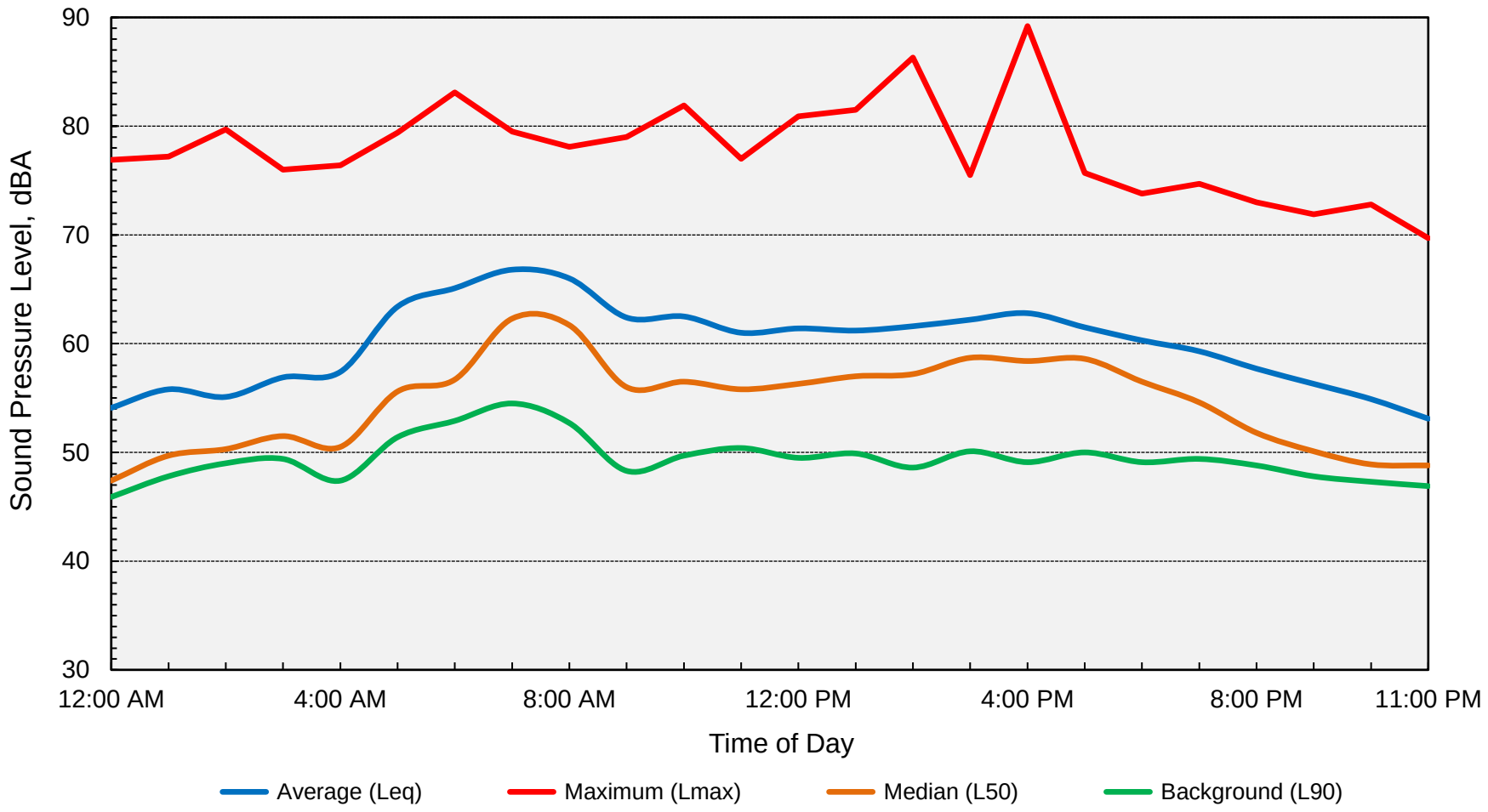
**Appendix C-29**
**Long-Term Ambient Noise Monitoring Results - Site 14**
**Upper Westside Specific Plan - Sacramento County, California**
**Wednesday, September 29, 2021**




**Computed DNL = 69 dB**

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Acoustical Consultants

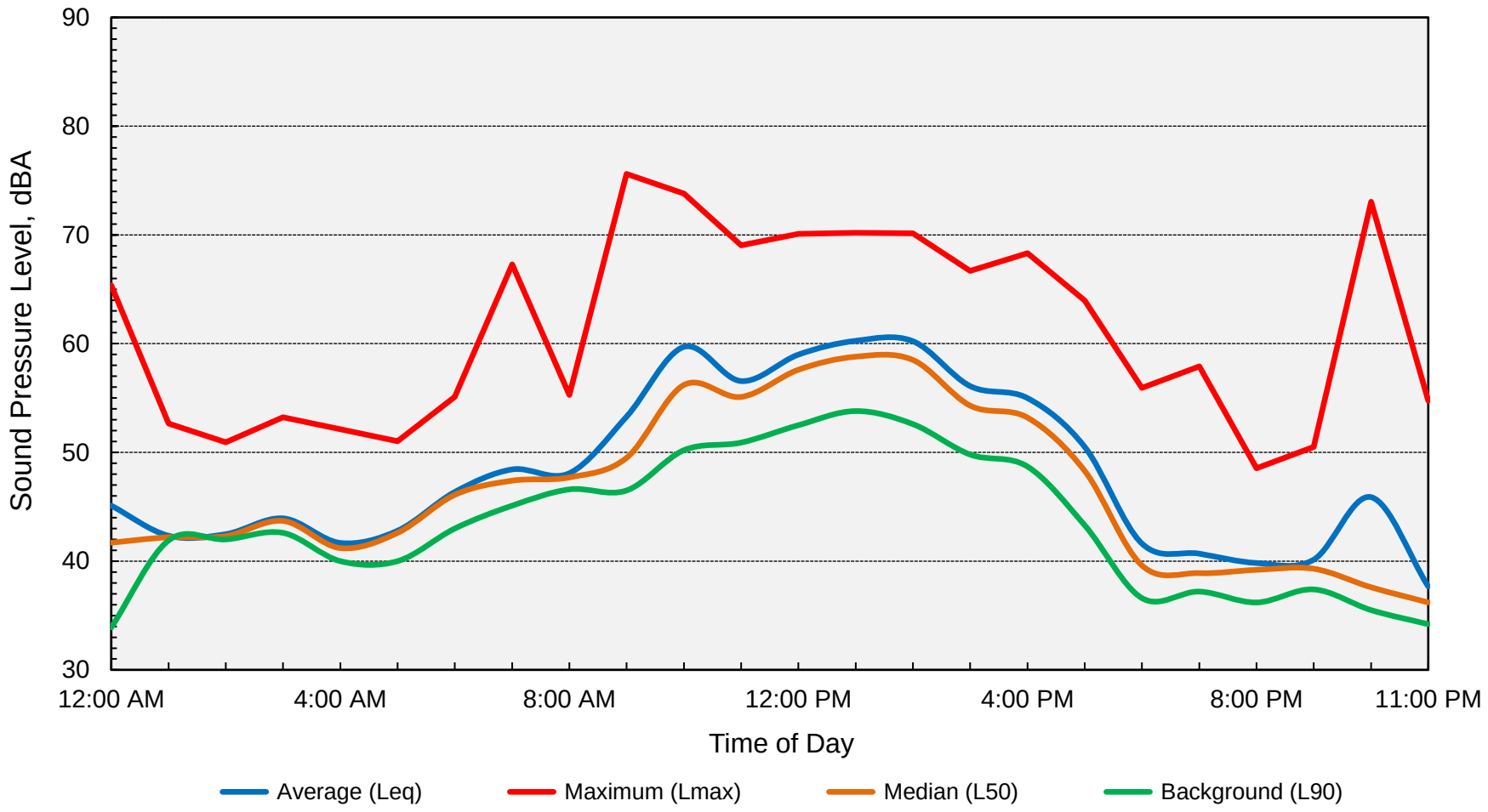
**Appendix C-30**
**Long-Term Ambient Noise Monitoring Results - Site 14**
**Upper Westside Specific Plan - Sacramento County, California**
**Thursday, September 30, 2021**




**Computed DNL = 66 dB**

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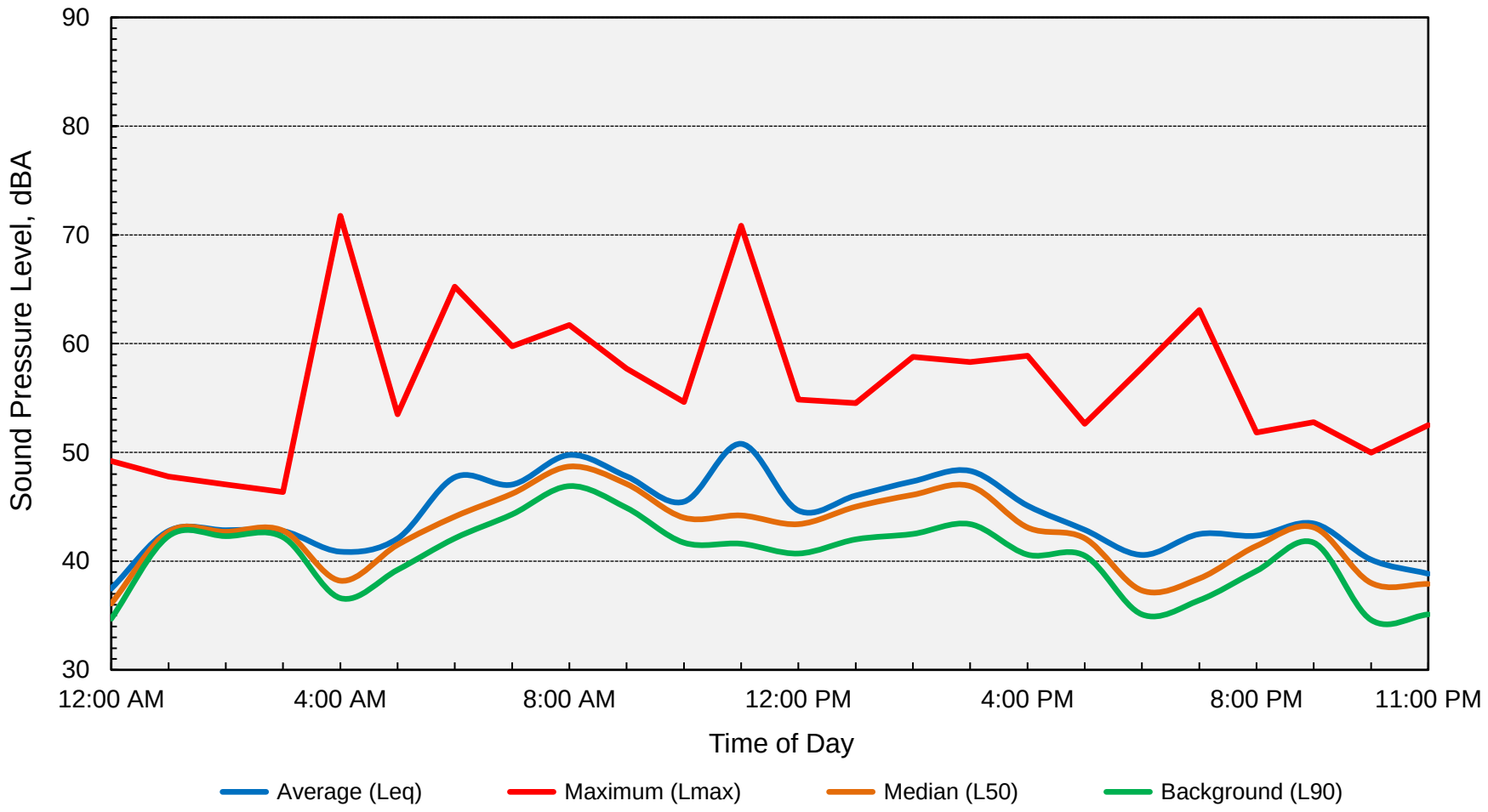
**Appendix C-31**
**Long-Term Ambient Noise Monitoring Results - Site 15**
**Upper Westside Specific Plan - Sacramento County, California**
**Tuesday, September 28, 2021**




**Computed DNL = 55 dB**

BOLLARD
Acoustical Consultants

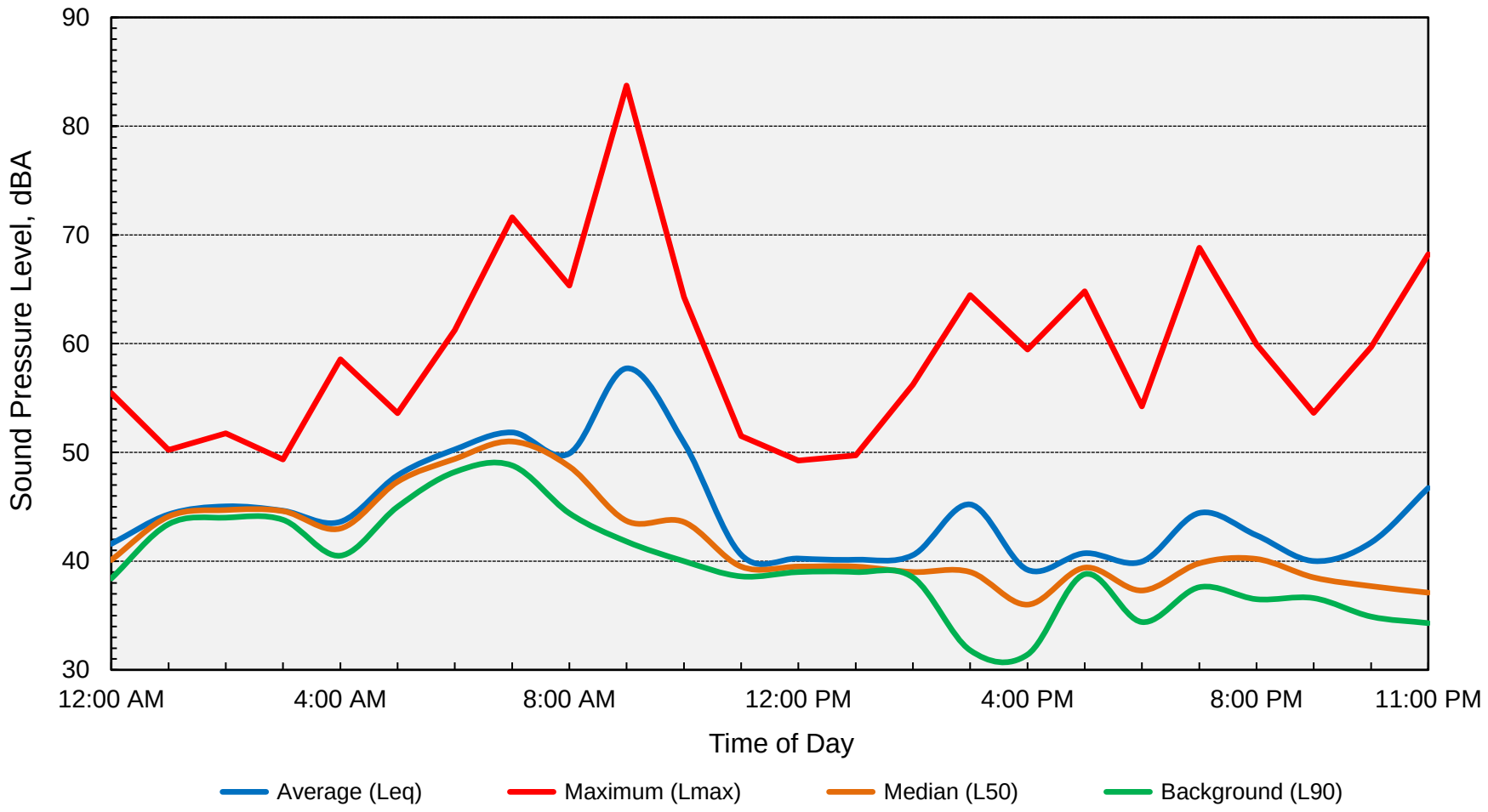
**Appendix C-32**
**Long-Term Ambient Noise Monitoring Results - Site 15**
**Upper Westside Specific Plan - Sacramento County, California**
**Wednesday, September 29, 2021**




**Computed DNL = 50 dB**

BOLLARD
Acoustical Consultants

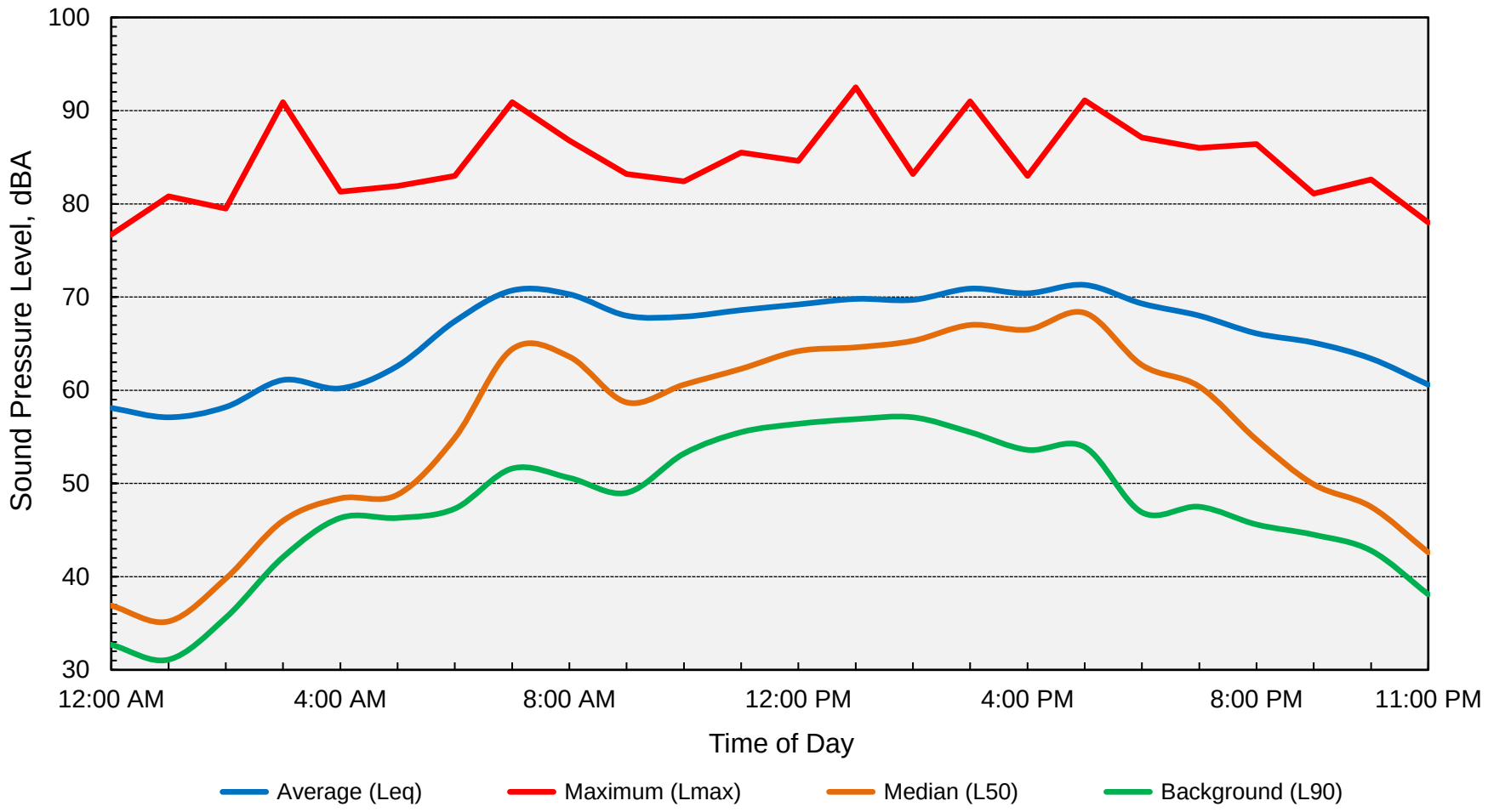
**Appendix C-33**
**Long-Term Ambient Noise Monitoring Results - Site 15**
**Upper Westside Specific Plan - Sacramento County, California**
**Thursday, September 30, 2021**




**Computed DNL = 53 dB**

BOLLARD
Acoustical Consultants

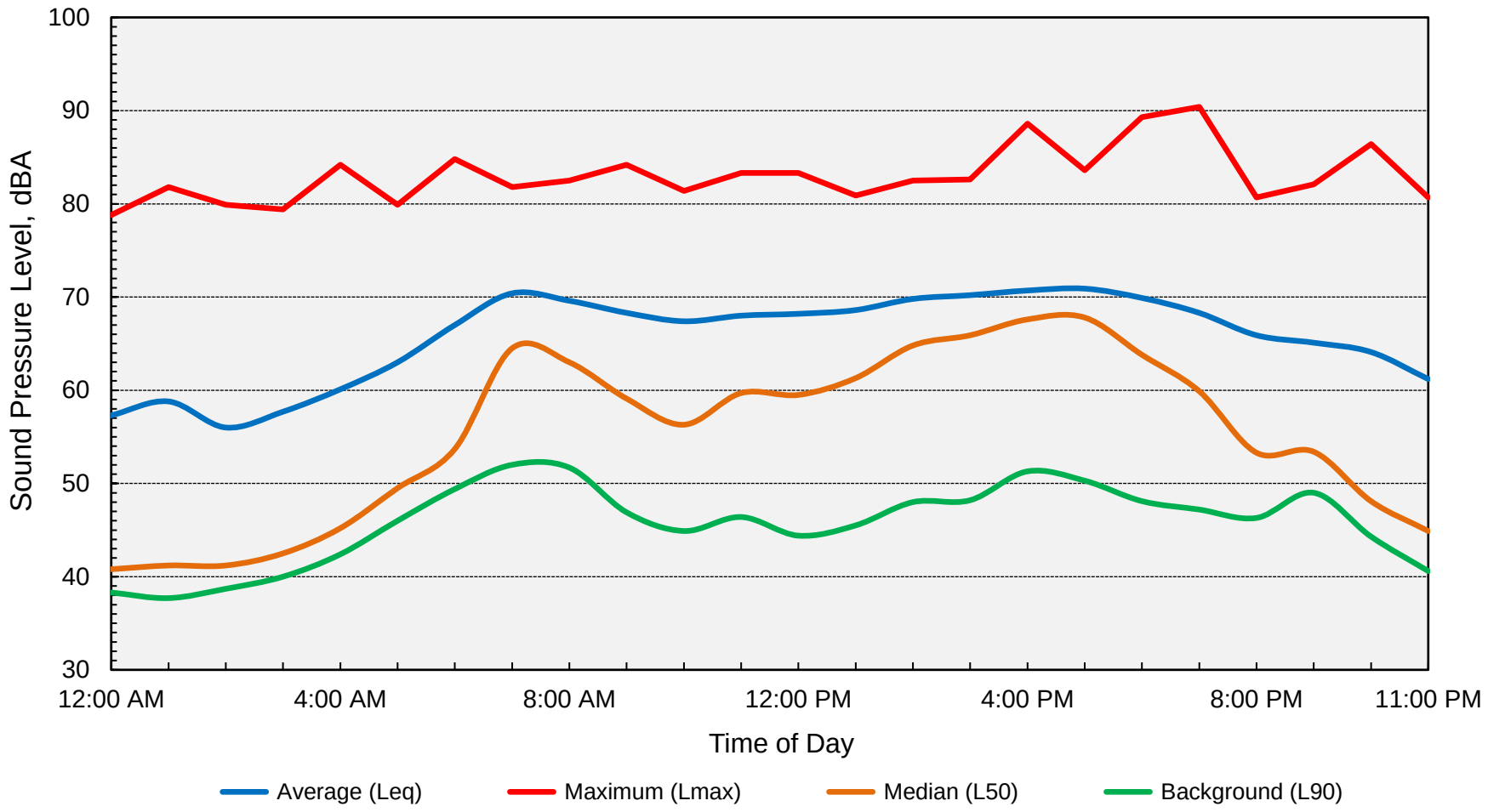
**Appendix C-34**
**Long-Term Ambient Noise Monitoring Results - Site 16**
**Upper Westside Specific Plan - Sacramento County, California**
**Tuesday, September 28, 2021**




**Computed DNL = 71 dB**

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Acoustical Consultants

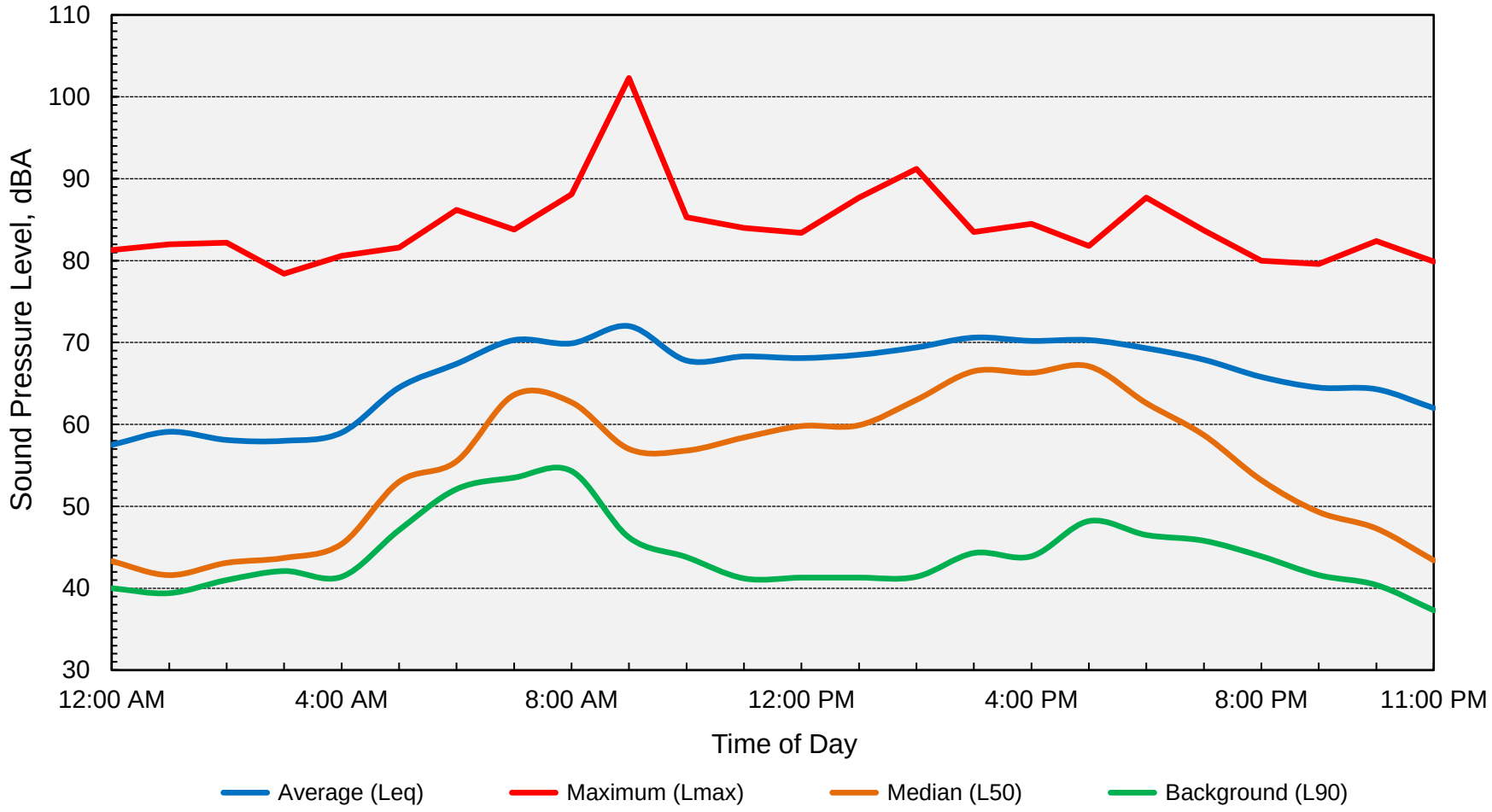
**Appendix C-35**
**Long-Term Ambient Noise Monitoring Results - Site 16**
**Upper Westside Specific Plan - Sacramento County, California**
**Wednesday, September 29, 2021**




**Computed DNL = 70 dB**

BOLLARD
Acoustical Consultants

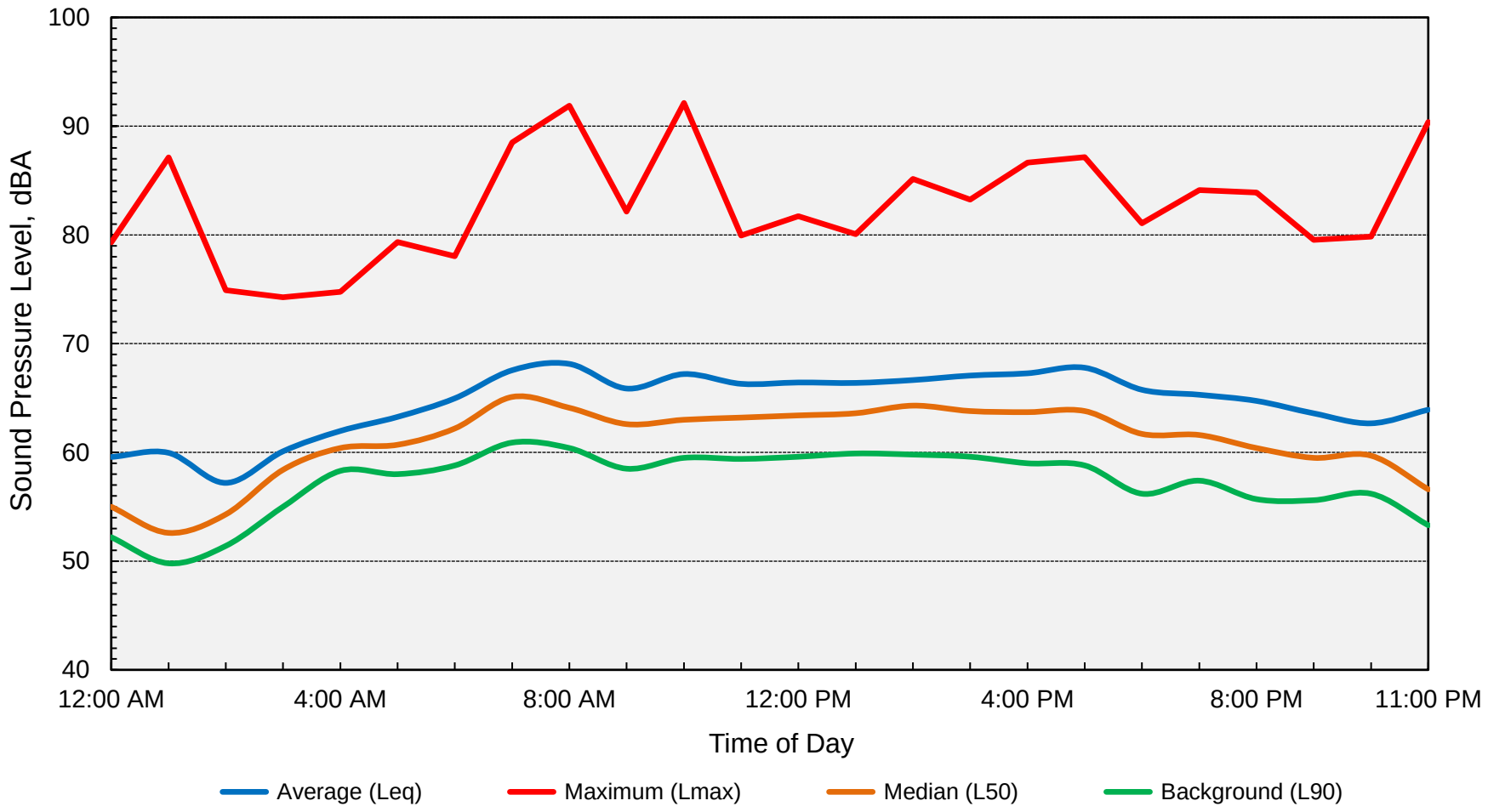
**Appendix C-36**
**Long-Term Ambient Noise Monitoring Results - Site 16**
**Upper Westside Specific Plan - Sacramento County, California**
**Thursday, September 30, 2021**




**Computed DNL = 71 dB**

BOLLARD
Acoustical Consultants

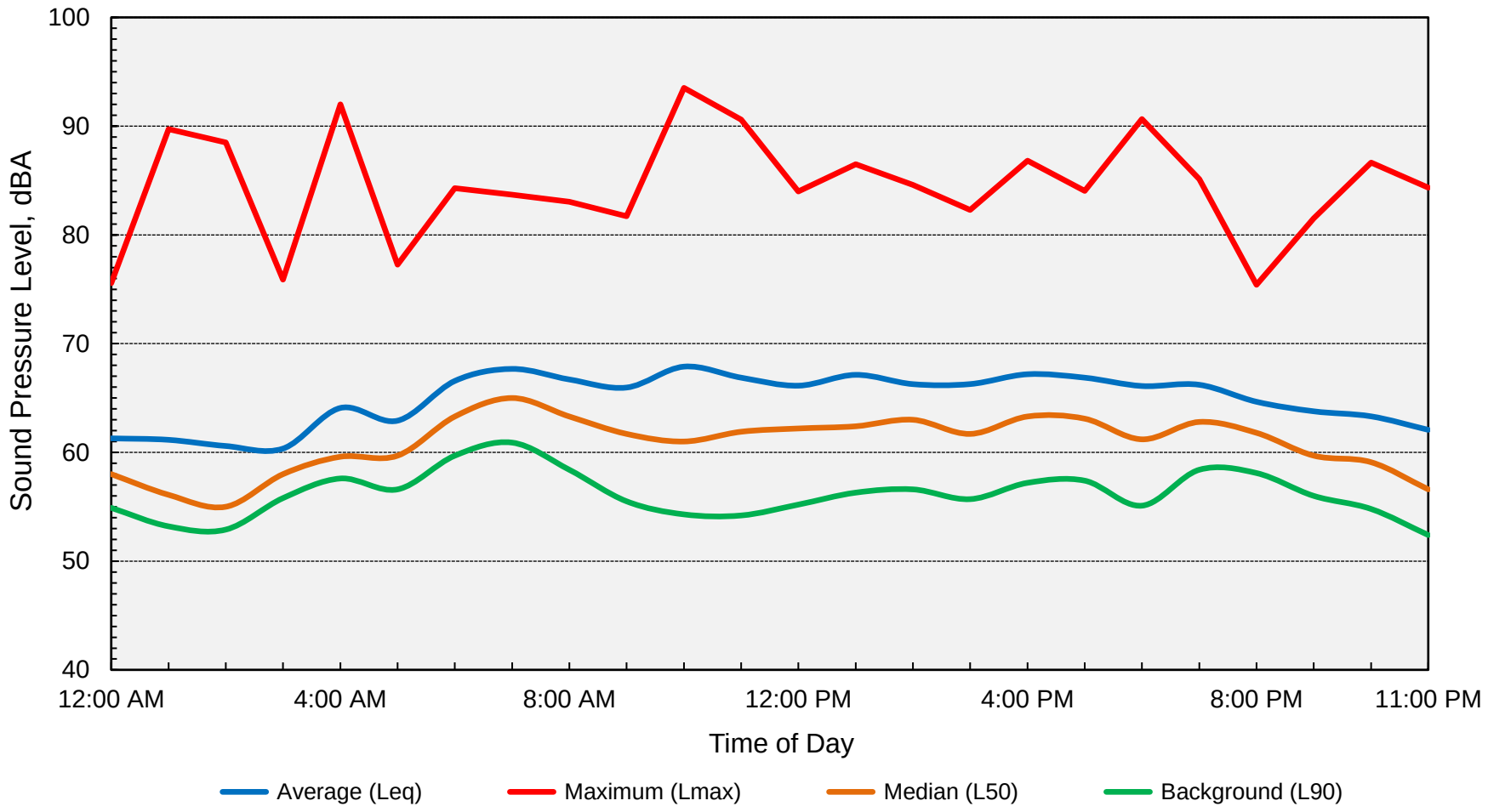
**Appendix C-37**
**Long-Term Ambient Noise Monitoring Results - Site 17**
**Upper Westside Specific Plan - Sacramento County, California**
**Tuesday, September 28, 2021**




**Computed DNL = 69 dB**

BOLLARD
Acoustical Consultants

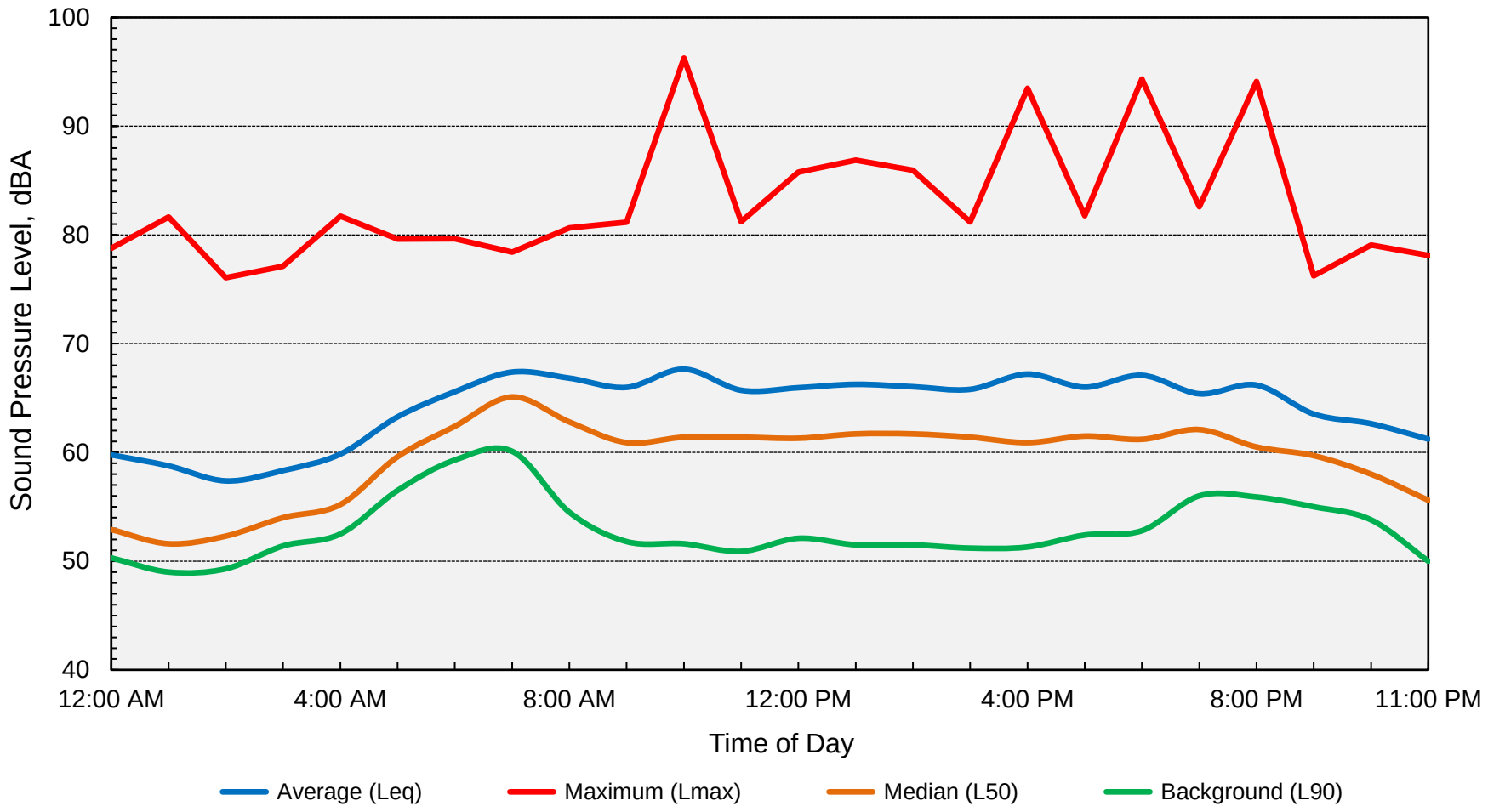
**Appendix C-38**
**Long-Term Ambient Noise Monitoring Results - Site 17**
**Upper Westside Specific Plan - Sacramento County, California**
**Wednesday, September 29, 2021**




**Computed DNL = 70 dB**

BOLLARD
Acoustical Consultants

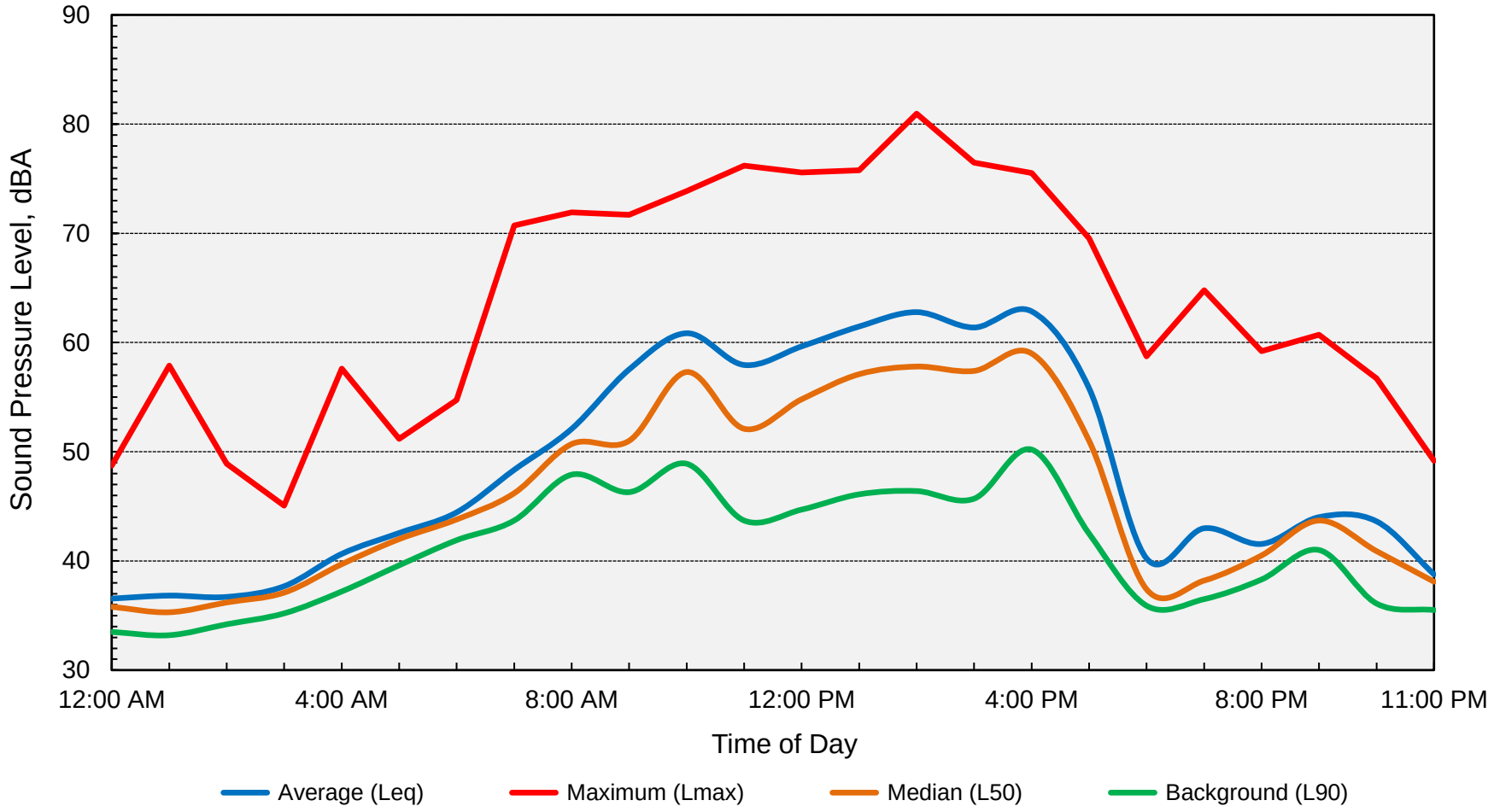
**Appendix C-39**
**Long-Term Ambient Noise Monitoring Results - Site 17**
**Upper Westside Specific Plan - Sacramento County, California**
**Thursday, September 30, 2021**




**Computed DNL = 69 dB**

BOLLARD
Acoustical Consultants

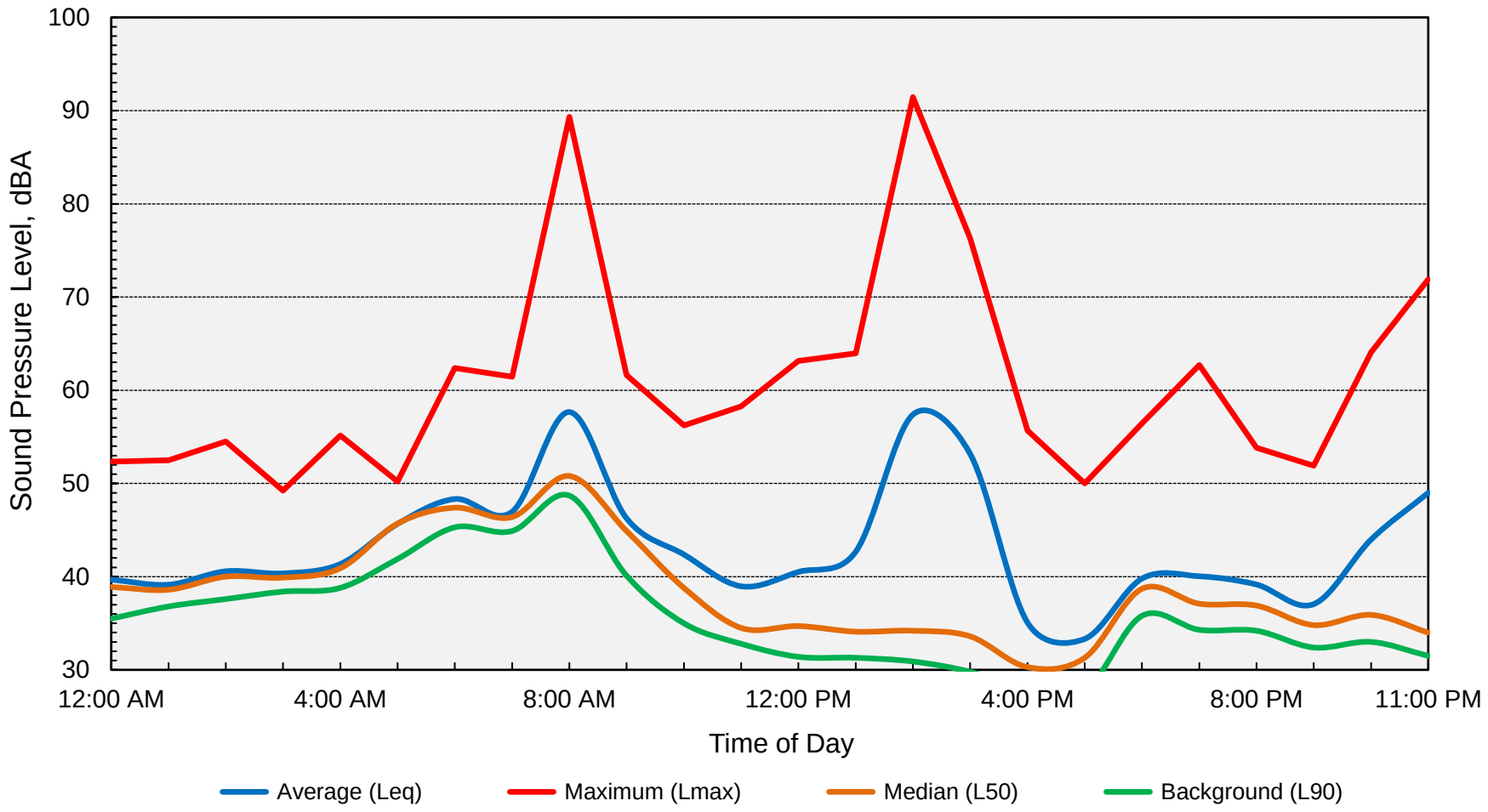
**Appendix C-40**
**Long-Term Ambient Noise Monitoring Results - Site 18**
**Upper Westside Specific Plan - Sacramento County, California**
**Wednesday, September 29, 2021**




**Computed DNL = 57 dB**

BOLLARD
Acoustical Consultants

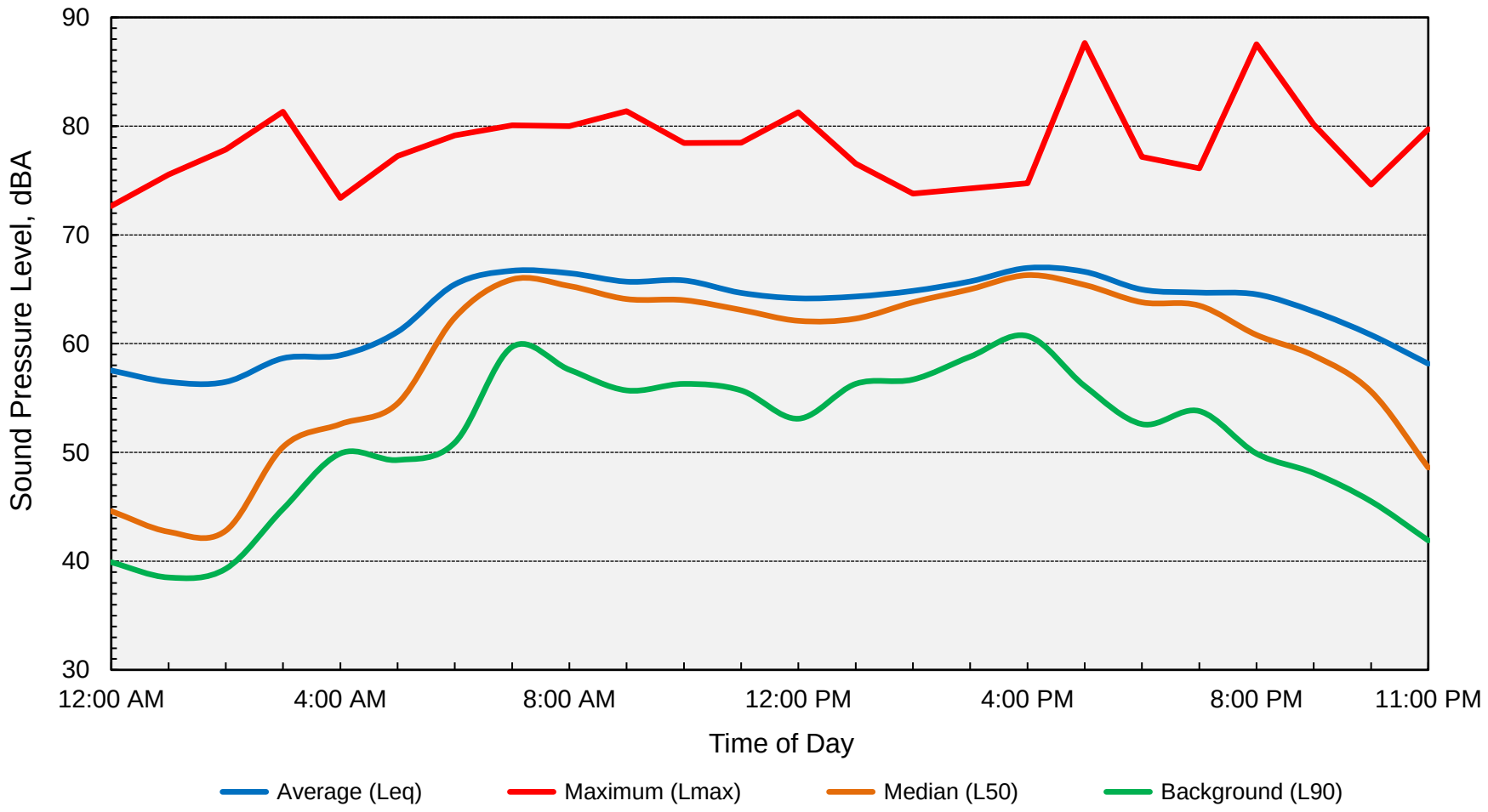
**Appendix C-41**
**Long-Term Ambient Noise Monitoring Results - Site 18**
**Upper Westside Specific Plan - Sacramento County, California**
**Thursday, September 30, 2021**




**Computed DNL = 52 dB**

BOLLARD
Acoustical Consultants

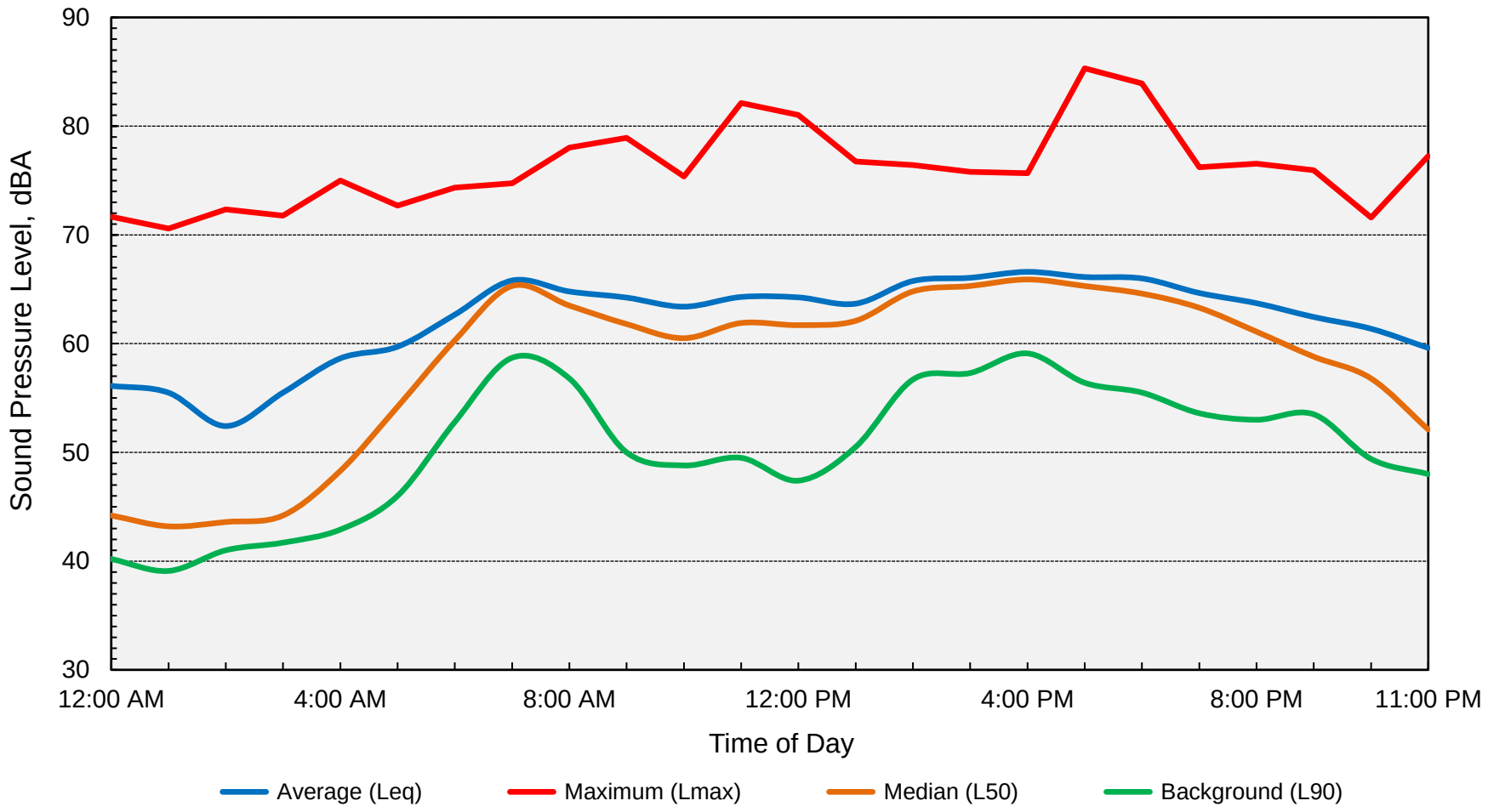
**Appendix C-42**
**Long-Term Ambient Noise Monitoring Results - Site 19**
**Upper Westside Specific Plan - Sacramento County, California**
**Tuesday, September 28, 2021**




**Computed DNL = 68 dB**

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Acoustical Consultants

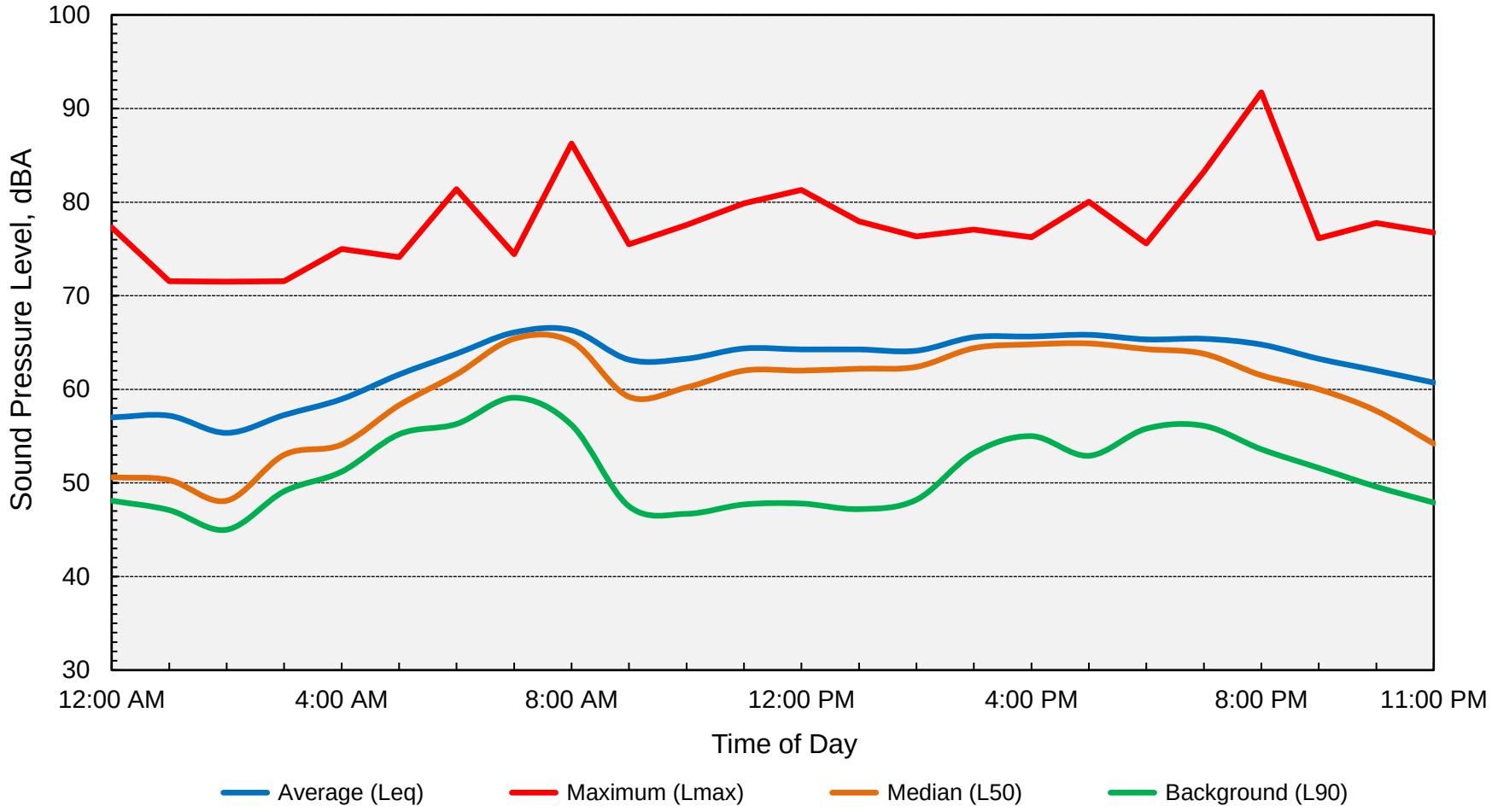
**Appendix C-43**
**Long-Term Ambient Noise Monitoring Results - Site 19**
**Upper Westside Specific Plan - Sacramento County, California**
**Wednesday, September 29, 2021**




**Computed DNL = 67 dB**

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**Appendix C-44**
**Long-Term Ambient Noise Monitoring Results - Site 19**
**Upper Westside Specific Plan - Sacramento County, California**
**Thursday, September 30, 2021**




**Computed DNL = 68 dB**

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**Appendix D**

**Federal Highway Administration Highway Traffic Noise Prediction Model Inputs (FHWA-RD-77-108)**

**Upper Westside Specific Plan Project**

**Nearest Off-Site, Noise-Sensitive Receptor Locations**

BOLLARD Acoustical Consultants

| | | | | Average Daily Traffic Volume (ADT) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Existing | Existing + | Cumulative | Cumulative | % Distribution | | Truck % | | | | Barrier |
| # | Roadway | From | To | No Project | Project | No Project | + Project | Day | Night | Medium | Heavy | Speed | Distance | Offset |
| 1 | Arena Blvd | El Centro Rd | Stemmler Dr | 7600 | 17600 | 14200 | 24000 | 75 | 25 | 2 | 1 | 45 | 80 | |
| 2 | Arena Blvd | Stemmler Dr | Duckhorn Dr | 10700 | 19800 | 18100 | 26900 | 75 | 25 | 2 | 1 | 45 | 80 | |
| 3 | Arena Blvd | Duckhorn Dr | Interstate 5 | 26900 | 35600 | 35700 | 41700 | 75 | 25 | 2 | 1 | 45 | 0 | |
| 4 | Arena Blvd | Interstate 5 | E Commerce Way | 24300 | 25400 | 48900 | 52800 | 75 | 25 | 2 | 1 | 45 | 0 | |
| 5 | Arena Blvd | E Commerce Way | Truxel Rd | 20800 | 22400 | 33500 | 36600 | 75 | 25 | 2 | 1 | 45 | 80 | |
| 6 | Azevedo Dr | West El Camino | San Juan Rd | 12700 | 12500 | 14600 | 14500 | 75 | 25 | 2 | 1 | 40 | 70 | |
| 7 | Del Paso Rd | Power Line Rd | Hovnanian Dr | 2200 | 2200 | 3300 | 3400 | 75 | 25 | 2 | 1 | 60 | 70 | -5 |
| 8 | Del Paso Rd | Hovnanian Dr | Natomas Central Dr | 8700 | 8700 | 9500 | 9600 | 75 | 25 | 2 | 1 | 45 | 65 | -5 |
| 9 | Del Paso Rd | Natomas Central Dr | El Centro Rd | 10500 | 11400 | 10900 | 11400 | 75 | 25 | 2 | 1 | 45 | 65 | |
| 10 | Del Paso Rd | El Centro Rd | Interstate 5 | 22800 | 31100 | 29200 | 35000 | 75 | 25 | 2 | 1 | 45 | 95 | -5 |
| 11 | Del Paso Rd | Interstate 5 | E Commerce Way | 43200 | 47000 | 52900 | 55200 | 75 | 25 | 2 | 1 | 45 | 150 | |
| 12 | Del Paso Rd | E Commerce Way | Truxel Rd | 33400 | 35800 | 60700 | 64700 | 75 | 25 | 2 | 1 | 45 | 85 | |
| 13 | El Centro Rd | Del Paso Rd | Duckhorn Dr | 11400 | 18000 | 21900 | 33500 | 75 | 25 | 2 | 1 | 45 | 90 | |
| 14 | El Centro Rd | Duckhorn Dr | Manera Rica Dr | 8400 | 16300 | 18600 | 30100 | 75 | 25 | 2 | 1 | 45 | 100 | -5 |
| 15 | El Centro Rd | Manera Rica Dr | Arena Blvd | 8100 | 13400 | 20400 | 31700 | 75 | 25 | 2 | 1 | 50 | 65+ | -5 |
| 16 | El Centro Rd | Arena Blvd | San Juan Rd | 7900 | 27000 | 14000 | 35900 | 75 | 25 | 2 | 1 | 50 | 80 | -5 |
| 17 | El Centro Rd | San Juan Rd | W El Camino Ave | 13400 | 33000 | 23700 | 45600 | 75 | 25 | 2 | 1 | 55 | 0 | |
| 18 | El Centro Rd | West El Camino | Southern Terminus | 2000 | 17800 | 2000 | 16900 | 75 | 25 | 2 | 1 | 55 | 0 | |
| 19 | Garden Highway | Truxel Road | Natomas Park Drive | 17100 | 17100 | 20700 | 20300 | 75 | 25 | 2 | 1 | 45 | 250 | |
| 20 | Garden Highway | Natomas Park Drive | Interstate 5 | 20900 | 21400 | 21200 | 23400 | 75 | 25 | 2 | 1 | 45 | 150 | |
| 21 | Garden Highway | Interstate 5 | Gateway Oaks Drive | 16300 | 19300 | 17400 | 21700 | 75 | 25 | 2 | 1 | 45 | 200 | |
| 22 | Garden Highway | Gateway Oaks Drive | Orchard Lane | 4500 | 7400 | 4000 | 8100 | 75 | 25 | 2 | 1 | 40 | 60 | |
| 23 | Garden Highway | Orchard Ln | Interstate 80 | 1900 | 4200 | 1700 | 5000 | 75 | 25 | 2 | 1 | 50 | 125 | |
| 24 | Garden Highway | Interstate 80 | San Juan Rd | 1800 | 2400 | 1100 | 2400 | 75 | 25 | 2 | 1 | 50 | 60 | |
| 25 | Garden Highway | San Juan Rd | Powerline Road | 2300 | 4200 | 3500 | 8500 | 75 | 25 | 2 | 1 | 50 | 60 | |
| 26 | Natomas Central Dr | Del Paso Rd | El Centro Rd | 2800 | 3700 | 3400 | 3600 | 75 | 25 | 2 | 1 | 40 | 60 | |
| 27 | Power Line Rd | Garden Hwy | Del Paso Rd | 2500 | 4400 | 3200 | 8000 | 75 | 25 | 2 | 1 | 60 | 0 | |
| 28 | Power Line Rd | Del Paso Rd | Interstate 5 | 2900 | 4800 | 4700 | 9500 | 75 | 25 | 2 | 1 | 60 | 0 | |
| 29 | San Juan Rd | Garden Hwy | El Centro Rd | 2300 | 4700 | 3200 | 6200 | 75 | 25 | 2 | 1 | 60 | 60 | |
| 30 | San Juan Rd | El Centro Rd | 80/5 Interchange | 6600 | 14300 | 7700 | 15500 | 75 | 25 | 2 | 1 | 45 | 75 | |
| 31 | San Juan Rd | 80/5 Interchange | Truxel Rd | 17400 | 21100 | 25300 | 26000 | 75 | 25 | 2 | 1 | 45 | 70 | |
| 32 | W El Camino Ave | El Centro Rd | Interstate 80 | 14200 | 83300 | 26200 | 88700 | 75 | 25 | 4 | 6 | 45 | 165 | |
| 33 | W El Camino Ave | Interstate 80 | Orchard Lane | 20900 | 43800 | 24200 | 45400 | 75 | 25 | 2 | 1 | 45 | 0 | |
| 34 | W El Camino Ave | Orchard Ln | Gateway Oaks Drive | 18600 | 39400 | 20800 | 40400 | 75 | 25 | 2 | 1 | 45 | 80 | |
| 35 | W El Camino Ave | Gateway Oaks Drive | Interstate 5 | 21100 | 40400 | 24100 | 41700 | 75 | 25 | 2 | 1 | 45 | 0 | |
| 36 | W El Camino Ave | Interstate 5 | Azevedo Dr | 25800 | 29300 | 29400 | 33600 | 75 | 25 | 2 | 1 | 45 | 100 | |
| 37 | W El Camino Ave | Azevedo Dr | Truxel Rd | 14000 | 17800 | 17500 | 22100 | 75 | 25 | 2 | 1 | 45 | 90 | |

**Appendix D (continued)**

**Federal Highway Administration Highway Traffic Noise Prediction Model Inputs (FHWA-RD-77-108)**

**Upper Westside Specific Plan Project**

**Nearest Off-Site, Noise-Sensitive Receptor Locations**

BOLLARD Acoustical Consultants

| | | | | Average Daily Traffic Volume (ADT) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| # | Roadway | From | To | Existing No Project | Existing + Project | Cumulative No Project | Cumulative + Project | % Distribution Day | % Distribution Night | Truck % Medium | Truck % Heavy | Speed | Distance | Barrier Offset |
| 38 | I-80 | Yolo County | W El Camino Ave | 89000 | 109000 | 133500 | 153500 | 75 | 25 | 4 | 6 | 65 | 150 | -10 |
| 39 | I-80 | West El Camino | I-5 | 83000 | 103000 | 124500 | 144500 | 75 | 25 | 5 | 6 | 65 | 175 | -10 |
| 40 | I-5 | I-80 | Arena Boulevard | 156000 | 171000 | 220000 | 235000 | 75 | 25 | 2 | 6 | 65 | 300 | |
| 41 | I-5 | Arena Blvd | Del Paso | 139000 | 149000 | 180000 | 190000 | 75 | 25 | 2 | 6 | 65 | 350 | |
| 42 | I-5 | Del Paso | Hwy 99 | 122500 | 130000 | 160000 | 167500 | 75 | 25 | 2 | 6 | 65 | 235 | |
| 43 | I-5 | Hwy 99 | Airport Blvd | 74000 | 79000 | 90600 | 95600 | 75 | 25 | 2 | 6 | 65 | 180 | |









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Appendix E-1
Short-Term Vibration Locations
Upper Westside Specific Plan – Sacramento County, CA









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Appendix E-2
Short-Term Vibration Locations
Upper Westside Specific Plan – Sacramento County, CA

**Appendix F**

**Federal Highway Administration Highway Traffic Noise Prediction Model Inputs (FHWA-RD-77-108)**

**Upper Westside Specific Plan Project**

**Internal Roadways / Roadways Affecting Project Development**

BOLLARD Acoustical Consultants

| # | Roadway | From | To | Existing + Project | Cumulative + Project | % Distribution Day | % Distribution Night | Truck % Medium | Truck % Heavy | Speed | Distance | Barrier Offset |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Bryte Bend Rd | Radio Head | San Juan Rd | 5100 | 5100 | 75 | 25 | 2 | 1 | 35 | 100 | |
| 2 | Bryte Bend Rd | San Juan Rd | Street 7 | 5400 | 7300 | 75 | 25 | 2 | 1 | 35 | 75 | |
| 3 | Bryte Bend Rd | Street 7 | Farm Rd | 6300 | 8500 | 75 | 25 | 2 | 1 | 35 | 70 | |
| 4 | Bryte Bend Rd | Farm Rd | Street 10 | 2200 | 3500 | 75 | 25 | 2 | 1 | 35 | 75 | |
| 5 | Bryte Bend Rd | Street 10 | W El Camino Ave | 3700 | 4700 | 75 | 25 | 2 | 1 | 35 | 75 | |
| 6 | Bryte Bend Rd | West El Camino | Street 8 | 2600 | 3200 | 75 | 25 | 2 | 1 | 35 | 75 | |
| 7 | Bryte Bend Rd | Street 8 | Street 2 | 1700 | 2600 | 75 | 25 | 2 | 1 | 35 | 75 | |
| 8 | Bryte Bend Rd | Street 2 | Street 1 | 2600 | 3700 | 75 | 25 | 2 | 1 | 35 | 70 | |
| 9 | Bryte Bend Rd | Street 1 | Garden Highway | 2100 | 2900 | 75 | 25 | 2 | 1 | 35 | 70 | |
| 10 | El Centro Rd | Arena | Radio Head | 27000 | 35900 | 75 | 25 | 2 | 1 | 35 | 100 | |
| 11 | El Centro Rd | Radio Head | San Juan Rd | 23000 | 33000 | 75 | 25 | 2 | 1 | 35 | 100 | |
| 12 | El Centro Rd | San Juan Rd | Street 7 | 28100 | 42100 | 75 | 25 | 2 | 1 | 35 | 15 | |
| 13 | El Centro Rd | Street 7 | Farm Rd | 33000 | 45600 | 75 | 25 | 2 | 1 | 35 | 15 | |
| 14 | El Centro Rd | Farm Rd | Street 6 | 43000 | 54300 | 75 | 25 | 2 | 3 | 35 | 90 | |
| 15 | El Centro Rd | Street 6 | Street 5 | 51200 | 61000 | 75 | 25 | 2 | 3 | 35 | 90 | |
| 16 | El Centro Rd | Street 5 | W El Camino Ave | 52600 | 62100 | 75 | 25 | 2 | 3 | 35 | 90 | |
| 17 | El Centro Rd | W El Camino Ave | Street 4 | 21700 | 20900 | 75 | 25 | 2 | 1 | 35 | 15 | |
| 18 | El Centro Rd | Street 4 | Street 3 | 17800 | 16900 | 75 | 25 | 2 | 1 | 35 | 15 | |
| 19 | El Centro Rd | Street 3 | Street 2 | 9100 | 8200 | 75 | 25 | 2 | 1 | 35 | 15 | |
| 20 | El Centro Rd | Street 2 | Street 1 | 900 | 900 | 75 | 25 | 2 | 1 | 35 | 15 | |
| 21 | Farm Road | Street F | Bryte Bend Rd | 2900 | 3100 | 75 | 25 | 2 | 1 | 35 | 15 | |
| 22 | Farm Road | Bryte Bend Rd | Street D | 5900 | 6200 | 75 | 25 | 2 | 1 | 35 | 75 | |
| 23 | Farm Road | Street D | Street C | 7200 | 7200 | 75 | 25 | 2 | 1 | 35 | 65 | |
| 24 | Farm Road | Street C | Street B | 8900 | 9200 | 75 | 25 | 2 | 1 | 35 | 65 | |
| 25 | Farm Road | Street B | Street A | 10100 | 11300 | 75 | 25 | 2 | 1 | 35 | 65 | |
| 26 | Farm Road | Street A | El Centro Rd | 11800 | 13500 | 75 | 25 | 2 | 1 | 35 | 65 | |
| 27 | Farm Road | El Centro Rd | Street H | 15600 | 16300 | 75 | 25 | 2 | 5 | 35 | 15 | |
| 28 | Garden Highway | San Juan Rd | Street 9 | 1900 | 2400 | 75 | 25 | 2 | 1 | 35 | 1300 | |
| 29 | Garden Highway | Street 9 | Bryte Bend Rd | 2400 | 2400 | 75 | 25 | 2 | 1 | 35 | 950 | |
| 30 | Orchard Lane | San Juan Rd | Street 7 | 2700 | 2500 | 75 | 25 | 2 | 1 | 35 | 15 | |
| 31 | Radio Head | Garden Highway | Street 12 W | 1300 | 4300 | 75 | 25 | 2 | 1 | 35 | 75 | |
| 32 | Radio Head | Street 12 W | Bryte Bend Rd | 800 | 1000 | 75 | 25 | 2 | 1 | 35 | 75 | |
| 33 | Radio Head | Bryte Bend Rd | Street 12 E | 3800 | 4300 | 75 | 25 | 2 | 1 | 35 | 75 | |
| 34 | Radio Head | Street 12 E | El Centro Rd | 17000 | 17100 | 75 | 25 | 2 | 1 | 35 | 75 | |
| 35 | San Juan Rd | Garden Highway | Bryte Bend Rd | 4700 | 6200 | 75 | 25 | 2 | 1 | 35 | 75 | |
| 36 | San Juan Rd | Bryte Bend Rd | El Centro Rd | 8400 | 9600 | 75 | 25 | 2 | 1 | 35 | 130 | |
| 37 | San Juan Rd | El Centro Rd | Orchard Lane | 13900 | 15600 | 75 | 25 | 2 | 1 | 35 | 130 | |
| 38 | Street 1 | Street C | Bryte Bend Rd | 1000 | 1100 | 75 | 25 | 2 | 1 | 35 | 60 | |

**Appendix F (continued)**

**Federal Highway Administration Highway Traffic Noise Prediction Model Inputs (FHWA-RD-77-108)**

**Upper Westside Specific Plan Project**

**Internal Roadways / Roadways Affecting Project Development**

BOLLARD Acoustical Consultants

| # | Roadway | From | To | Existing + Project | Cumulative + Project | % Distribution Day | % Distribution Night | Truck % Medium | Truck % Heavy | Speed | Distance | Barrier Offset |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 39 | Street 1 | Street C | Street B | 900 | 900 | 75 | 25 | 2 | 1 | 35 | 15 | |
| 40 | Street 1 | Street B | El Centro Rd | 900 | 900 | 75 | 25 | 2 | 1 | 35 | 15 | |
| 41 | Street 2 | Bryte Bend Rd | Street 3 | 3700 | 3300 | 75 | 25 | 2 | 1 | 35 | 70 | |
| 42 | Street 2 | Street D | Street C | 4700 | 4100 | 75 | 25 | 2 | 1 | 35 | 70 | |
| 43 | Street 2 | Street C | Street B | 5600 | 4900 | 75 | 25 | 2 | 1 | 35 | 70 | |
| 44 | Street 2 | Street B | Street A | 5800 | 5000 | 75 | 25 | 2 | 1 | 35 | 70 | |
| 45 | Street 2 | Street A | El Centro Rd | 6200 | 5300 | 75 | 25 | 2 | 1 | 35 | 70 | |
| 46 | Street 3 | Street 2 | Street C | 50 | 100 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 47 | Street 3 | Street B | Street A | 4400 | 4300 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 48 | Street 3 | Street A | El Centro Rd | 4900 | 4700 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 49 | Street 4 | Street E | Street D | 700 | 700 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 50 | Street 4 | Street D | Street C | 1100 | 1100 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 51 | Street 4 | Street B | Street A | 800 | 800 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 52 | Street 4 | Street A | El Centro Rd | 4200 | 4200 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 53 | Street 5 | Street E | Street D | 400 | 300 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 54 | Street 5 | Street D | Street C | 1400 | 6400 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 55 | Street 5 | Street B | El Centro Rd | 2800 | 2600 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 56 | Street 6 | Street E | Street C | 100 | 200 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 57 | Street 6 | Street D | Street C | 300 | 300 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 58 | Street 6 | Street B | Street A | 2100 | 1800 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 59 | Street 6 | El Centro Rd | Street A | 1800 | 1500 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 60 | Street 7 | Bryte Bend Rd | Street C | 100 | 100 | 75 | 25 | 2 | 1 | 35 | 15 | |
| 61 | Street 7 | Street C | Street B | 200 | 300 | 75 | 25 | 2 | 1 | 35 | 15 | |
| 62 | Street 7 | Street B | El Centro Rd | 2300 | 1500 | 75 | 25 | 2 | 1 | 35 | 15 | |
| 63 | Street 7 | El Centro Rd | Orchard Lane | 3900 | 3400 | 75 | 25 | 2 | 1 | 35 | 15 | |
| 64 | Street 7 | Orchard Lane | Street H | 900 | 1000 | 75 | 25 | 2 | 1 | 35 | 15 | |
| 65 | Street 8 | Street F | Bryte Bend Rd | 900 | 900 | 75 | 25 | 2 | 1 | 35 | 50 | |
| 66 | Street 8 | Street F | Street G | 800 | 1000 | 75 | 25 | 2 | 1 | 35 | 50 | |
| 67 | Street 8 | Street G | Bryte Bend Rd | 800 | 1000 | 75 | 25 | 2 | 1 | 35 | 50 | |
| 68 | Street 10 | Bryte Bend Rd | Street F | 1800 | 800 | 75 | 25 | 2 | 1 | 35 | 50 | |
| 69 | Street 10 | Street F | Street G | 120 | 100 | 75 | 25 | 2 | 1 | 35 | 50 | |
| 70 | Street A | Farm Rd | Street 6 | 1600 | 2500 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 71 | Street A | Street 6 | Street5 | 2200 | 3000 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 72 | Street A | Street 5 | W El Camino Ave | 6800 | 7100 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 73 | Street A | W El Camino Ave | Street 4 | 3900 | 3900 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 74 | Street A | Street 4 | Street 3 | 300 | 300 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 75 | Street A | Street 3 | Street 2 | 200 | 300 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 76 | Street B | Street 7 | Farm Rd | 600 | 1700 | 75 | 25 | 2 | 1 | 35 | 60 | |

**Appendix F (continued)**

**Federal Highway Administration Highway Traffic Noise Prediction Model Inputs (FHWA-RD-77-108)**

**Upper Westside Specific Plan Project**

**Internal Roadways / Roadways Affecting Project Development**

BOLLARD Acoustical Consultants

| # | Roadway | From | To | Existing + Project | Cumulative + Project | % Distribution Day | % Distribution Night | Truck % Medium | Truck % Heavy | Speed | Distance | Barrier Offset |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 77 | Street B | Farm Rd | Street 6 | 1700 | 2100 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 78 | Street B | Street 6 | Street 5 | 1900 | 2200 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 79 | Street B | Street 5 | W El Camino Ave | 900 | 1000 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 80 | Street B | W El Camino Ave | Street 4 | 1100 | 1200 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 81 | Street B | Street 4 | Street 3 | 700 | 800 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 82 | Street B | Street 3 | Street 2 | 200 | 100 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 83 | Street B | Street 2 | Street 1 | 400 | 300 | 75 | 25 | 2 | 1 | 35 | 15 | |
| 84 | Street C | Street 7 | Farm Rd | 800 | 800 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 85 | Street C | Farm Rd | Street 6 | 2000 | 2300 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 86 | Street C | Street 6 | Street 5 | 1300 | 1600 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 87 | Street C | Street 5 | W El Camino Ave | 3800 | 1500 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 88 | Street C | W El Camino Ave | Street 4 | 3300 | 3200 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 89 | Street C | Street 4 | Street 3 | 700 | 800 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 90 | Street C | Street 3 | Street 2 | 400 | 400 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 91 | Street C | Street 2 | Street 1 | 1300 | 1200 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 92 | Street D | Farm Rd | Street 6 | 1200 | 1300 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 93 | Street D | Street 6 | Street 5 | 1300 | 1400 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 94 | Street D | Street 5 | W El Camino Ave | 2700 | 1200 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 95 | Street D | W El Camino | Street 4 | 3300 | 2900 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 96 | Street D | Street 4 | Street 3 | 200 | 200 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 97 | Street D | Street 3 | Street 2 | 100 | 100 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 98 | Street E | Street 5 | W El Camino Ave | 500 | 100 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 99 | Street E | W El Camino | Street 4 | 900 | 1400 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 100 | Street E | Street 4 | Street 3 | 100 | 200 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 101 | Street F | Street 8 | Bryte Bend Rd | 600 | 1100 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 102 | Street F | Farm Rd | Street 10 | 1100 | 1200 | 75 | 25 | 2 | 1 | 35 | 60 | |
| 103 | Street G | Street 9 | Street 10 | 100 | 100 | 75 | 25 | 2 | 1 | 35 | 100 | |
| 104 | Street H | Street 7 | Farm Rd | 1000 | 900 | 75 | 25 | 2 | 1 | 35 | 15 | |
| 105 | W El Camino Ave | Bryte Bend Rd | Street E | 4500 | 4700 | 75 | 25 | 2 | 1 | 35 | 15 | |
| 106 | W El Camino Ave | Street E | Street D | 4500 | 2700 | 75 | 25 | 2 | 1 | 35 | 15 | |
| 107 | W El Camino Ave | Street D | Street C | 7200 | 6400 | 75 | 25 | 2 | 1 | 35 | 15 | |
| 108 | W El Camino Ave | Street C | Street B | 12800 | 11600 | 75 | 25 | 2 | 1 | 35 | 15 | |
| 109 | W El Camino Ave | Street B | Street A | 12200 | 11000 | 75 | 25 | 2 | 1 | 35 | 15 | |
| 110 | W El Camino Ave | Street A | El Centro Rd | 20100 | 18800 | 75 | 25 | 2 | 1 | 35 | 15 | |
| 111 | W El Camino Ave | El Centro Rd | Interstate 80 | 83300 | 88700 | 75 | 25 | 2 | 1 | 35 | 90 | |
| 112 | I-80 | Yolo County | W El Camino Ave | 109000 | 153500 | 75 | 25 | 4 | 6 | 65 | 220 | |
| 113 | I-80 | West El Camino | I-5 | 103000 | 144500 | 75 | 25 | 5 | 6 | 65 | 220 | |

# APPENDIX TR-1

## TRANSPORTATION IMPACT ANALYSIS

# Final Report

# CEQA Transportation Impact Analysis for Upper Westside Specific Plan

**Prepared for:**
**Sacramento County**

March 2022

RS20-3945

FEHR PEERS

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# 1. INTRODUCTION

This chapter describes the purpose of this report and presents an overview of the proposed Upper Westside Specific Plan ("Proposed Project").

## Study Purpose

In September 2020, Sacramento County released updated guidance, known as *Transportation Analysis Guidelines* (TAG), for the preparation of transportation analysis studies. The update was necessary to incorporate changes to the way that transportation impacts are measured under the California Environmental Quality Act (CEQA) that resulted from the passage of Senate Bill 743 (SB 743) in 2013. As of July 1, 2020, automobile delay and level of service (LOS) may no longer be used as the performance measure to determine the transportation impacts of land development and transportation projects under CEQA. This requirement did not modify the discretion lead agencies have to develop their own methodologies or guidelines, or to analyze impacts to other components of the transportation system, such as walking, bicycling, transit, and safety. Although SB 743 did not specify the use of a specific metric for transportation analysis, the use of vehicle miles traveled (VMT) has been recommended by the Governor's Office of Planning and Research (OPR).

The County's TAG specifies that the following two distinct types of studies be prepared for proposed land development projects:

- Part I – CEQA Transportation Impact Analysis
- Part II – Local Transportation Analysis (LTA)

This report, which represents Part I of the TAG requirement, focuses on the project's impacts to the transportation system based on its Vehicle Miles Traveled (VMT). It also addresses project impacts to the bicycle/pedestrian systems, transit systems, and safety. However, first, the project's land use and proposed circulation system are presented along with its anticipated travel characteristics. Technical calculations and other supporting information are provided in a separately bound technical appendix.

Part II analyzes project effects on traffic operations at nearby roadways and intersections. Part II is included as a separate report.

# Project Description

The Upper Westside Specific Plan would be situated on approximately 2,066 acres north of Interstate 80 (I-80) and west of Interstate 5 (I-5) in unincorporated Sacramento County. **Figure 1** shows the regional setting and the location of the Upper Westside Specific Plan.

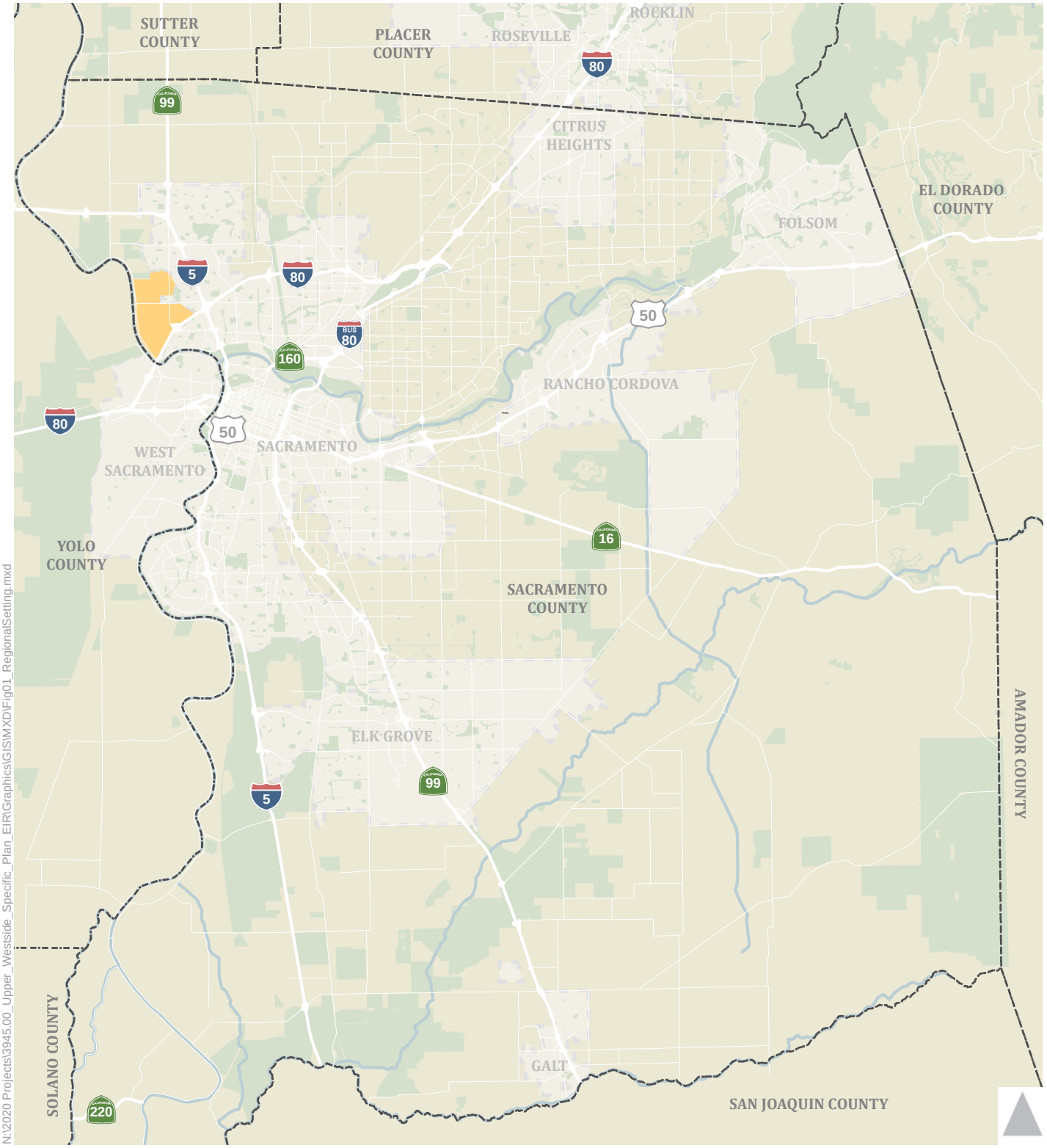
**Figure 2** shows the project site plan (*Upper Westside*, Wood Rodgers, May 2021). **Table 1** presents the proposed project land uses based on this site plan. As shown, the proposed project would include 9,356 dwelling units, 3.1 million square feet of business professional/commercial, schools, parks, and various open space elements. Chapter 2 provides a more detailed breakdown of land use types.

As shown on Figure 2, the project would be accessed via several existing roadways including:

- West El Camino Avenue at I-80
- San Juan Avenue west of I-5
- Arena Boulevard west of I-5 via El Centro Road
- Del Paso Boulevard west of I-5 via El Centro Road
- Garden Highway via four connections (existing San Juan Road, improvements to existing Radio Road, and two new connections in the southwest portion of the site)

**Figure 3** shows the project's internal roadway network. As shown, West El Camino Avenue would extend westerly from El Centro Road as the main street of the Town Center, which would be a dense, mixed-use environment consisting of a grid-based street system. Other key project roadways include: El Centro Road, Bryte Bend Road, Farm Road, San Juan Road, and Radio Road.

The Town Center would consist of a grid-based street system. North-south streets are labeled Street A through E (from right to left) from West El Camino Avenue to Bryte Bend Road. East-west streets are labeled Street 1 through 7 (from bottom to top) starting south of West El Camino Avenue to San Juan Road. The project would widen parts of El Centro Road and West El Camino Avenue from their current two lanes to the number of lanes shown on Figure 3. Additionally, it is assumed that project buildout would be supported by (and required to help fund) a reconstructed I-80/West El Camino Avenue interchange to provide increased roadway capacity and a more bicycle/pedestrian friendly design. Additional right-of-way would be necessary to support the interchange's reconstruction.



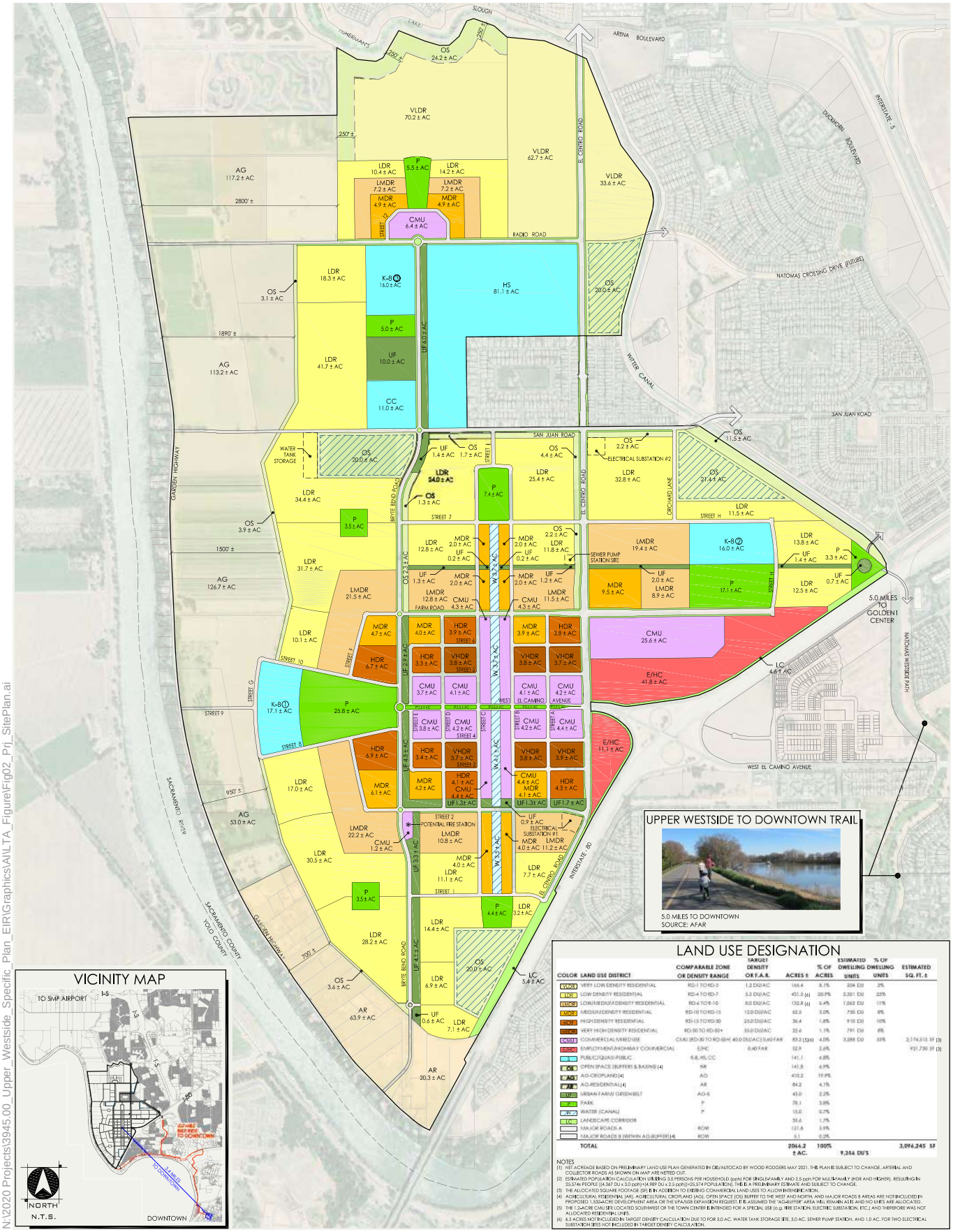

Upper Westside Specific Plan Boundary

City Boundary

County Boundary

Figure 1

# Regional Setting




## LAND USE DESIGNATION

| COLOR | LAND USE DISTRICT | COMPARABLE ZONE OR DENSITY RANGE | TARGET DENSITY OR F.A.R. | ACRES ± | % OF ACRES | ESTIMATED DWELLING UNITS | % OF DWELLING UNITS | ESTIMATED SQ. FT. ± |
|---|---|---|---|---|---|---|---|---|
| VLDR | VERY LOW DENSITY RESIDENTIAL | RD-1 TO RD-3 | 1.2 DU/AC | 166.4 | 8.1% | 204 DU | 2% | |
| LDR | LOW DENSITY RESIDENTIAL | RD-4 TO RD-7 | 5.5 DU/AC | 431.5 (6) | 20.9% | 2,351 DU | 25% | |
| LMDR | LOW/MEDIUM DENSITY RESIDENTIAL | RD-4 TO R-10 | 8.0 DU/AC | 132.8 (6) | 6.4% | 1,063 DU | 11% | |
| MDR | MEDIUM DENSITY RESIDENTIAL | RD-10 TO RD-15 | 12.0 DU/AC | 62.5 | 3.0% | 750 DU | 8% | |
| HDR | HIGH DENSITY RESIDENTIAL | RD-15 TO RD-30 | 25.0 DU/AC | 36.4 | 1.8% | 910 DU | 10% | |
| VHDR | VERY HIGH DENSITY RESIDENTIAL | RD-30 TO RD-50+ | 35.0 DU/AC | 22.6 | 1.1% | 791 DU | 8% | |
| CMU | COMMERCIAL MIXED USE | C-1(A) (RD-30 TO RD-50+) | 40.0 DU/AC \| 0.60 FAR | 93.2 (5)(6) | 4.5% | 3,388 DU | 35% | 2,176,513 SF (3) |
| E/HC | EMPLOYMENT/HIGHWAY COMMERCIAL | E/HC | 0.40 FAR | 52.9 | 2.6% | | | 921,730 SF (3) |
| P | PUBLIC/QUASI-PUBLIC | K-8, HS, CC | | 141.1 | 6.8% | | | |
| OS | OPEN SPACE (BUFFERS & BASINS) (4) | NR | | 141.8 | 6.9% | | | |
| AG | AG-CROPLAND (4) | AG | | 410.2 | 19.9% | | | |
| AR | AG-RESIDENTIAL (4) | AR | | 84.2 | 4.1% | | | |
| UF | URBAN FARM/ GREENBELT | AG-B | | 43.0 | 2.2% | | | |
| PARK | PARK | P | | 78.1 | 3.8% | | | |
| W | WATER (CANAL) | P | | 13.0 | 0.7% | | | |
| LC | LANDSCAPE CORRIDOR | | | 33.6 | 1.7% | | | |
| | MAJOR ROADS A | ROW | | 121.8 | 5.9% | | | |
| | MAJOR ROADS B (WITHIN AG-BUFFER) (4) | ROW | | 5.1 | 0.2% | | | |
| | TOTAL | | | 2064.2 ± AC. | 100% | 9,356 DU'S | | 3,096,245 SF |

NOTES
(1) NET ACREAGE BASED ON PRELIMINARY LAND USE PLAN GENERATED IN GIS/AUTOCAD BY WOOD RODGERS MAY 2021. THE PLAN IS SUBJECT TO CHANGE. ARTERIAL AND COLLECTOR ROADS AS SHOWN ON MAP ARE NETTED OUT.
(2) ESTIMATED POPULATION CALCULATION UTILIZING 3.0 PERSONS PER HOUSEHOLD (pph) FOR SINGLE-FAMILY AND 2.5 pph FOR MULTI-FAMILY (HDR AND HIGHER), RESULTING IN 25,574± PEOPLE ((4,367 DU x 3.0 pph)+(4,989 DU x 2.5 pph))=25,574 POPULATION). THIS IS A PRELIMINARY ESTIMATE AND SUBJECT TO CHANGE.
(3) THE ALLOCATED SQUARE FOOTAGE (SF) IS IN ADDITION TO EXISTING COMMERCIAL LAND USES TO ALLOW INTENSIFICATION.
(4) AGRICULTURAL RESIDENTIAL (AR), AGRICULTURAL CROPLAND (AG), OPEN SPACE (OS) BUFFER TO THE WEST AND NORTH, AND MAJOR ROADS B AREAS ARE NOT INCLUDED IN PROPOSED 1,552-ACRE DEVELOPMENT AREA OR THE UPA/USE EXPANSION REQUEST. IT IS ASSUMED THE "AG-BUFFER" AREA WILL REMAIN AS IS AND NO UNITS ARE ALLOCATED.
(5) THE 1.2-ACRE CMU SITE LOCATED SOUTHWEST OF THE TOWN CENTER IS INTENDED FOR A SPECIAL USE (e.g. FIRE STATION, ELECTRIC SUBSTATION, ETC.) AND THEREFORE WAS NOT ALLOCATED RESIDENTIAL UNITS.
(6) 6.3 ACRES NOT INCLUDED IN TARGET DENSITY CALCULATION DUE TO FOR 3.0 AC. WATER TANK STORAGE SITE, 3.0 AC. SEWER PUMP STATION, AND 1.0 AC. FOR TWO ELECTRICAL SUBSTATION SITES NOT INCLUDED IN TARGET DENSITY CALCULATION.

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Figure 2

# Project Site Plan

*Source: Wood Rodgers*

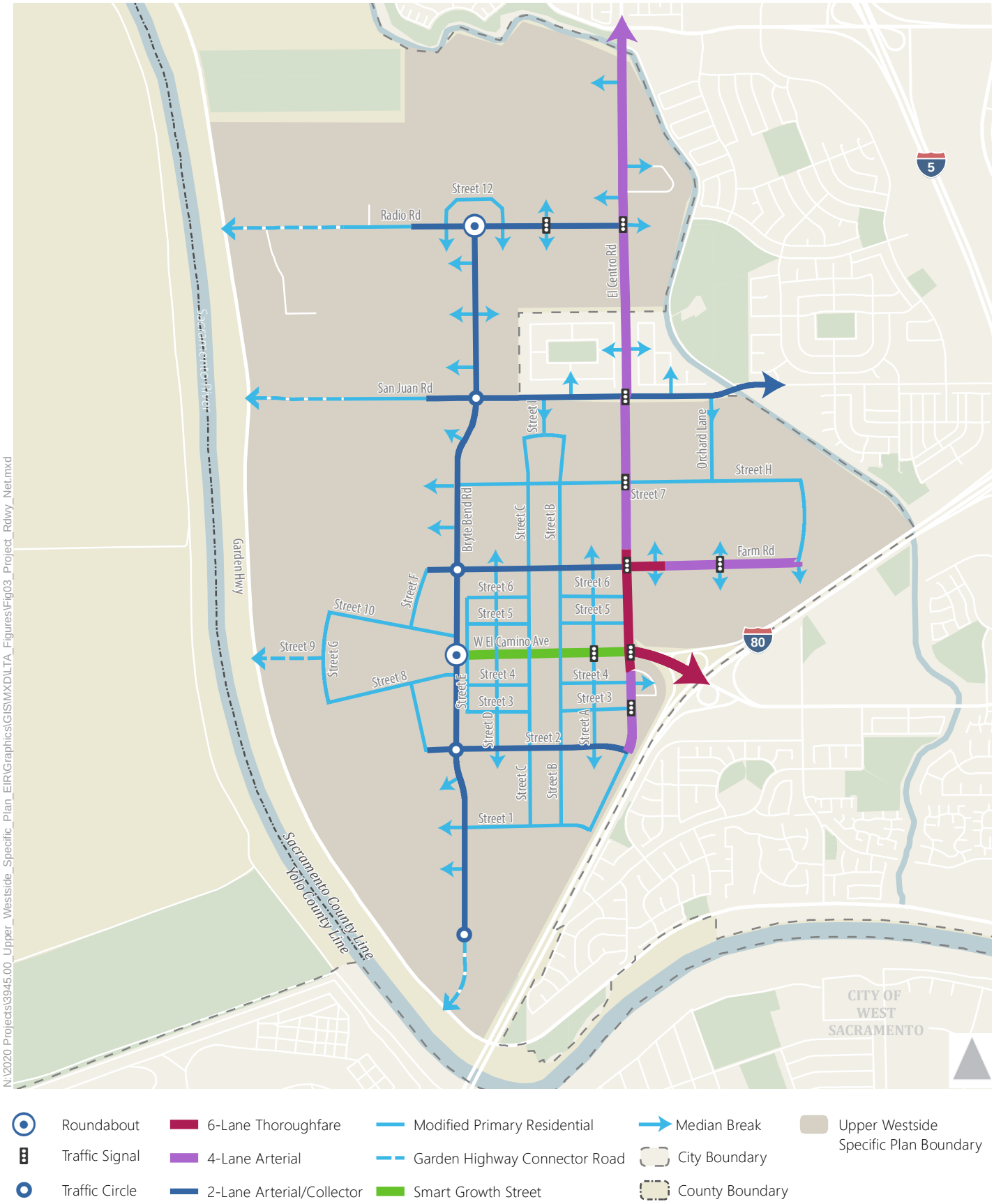



Figure 3

## Project Roadway Network

**Table 1:**
**Upper Westside Specific Plan Land Use Summary**

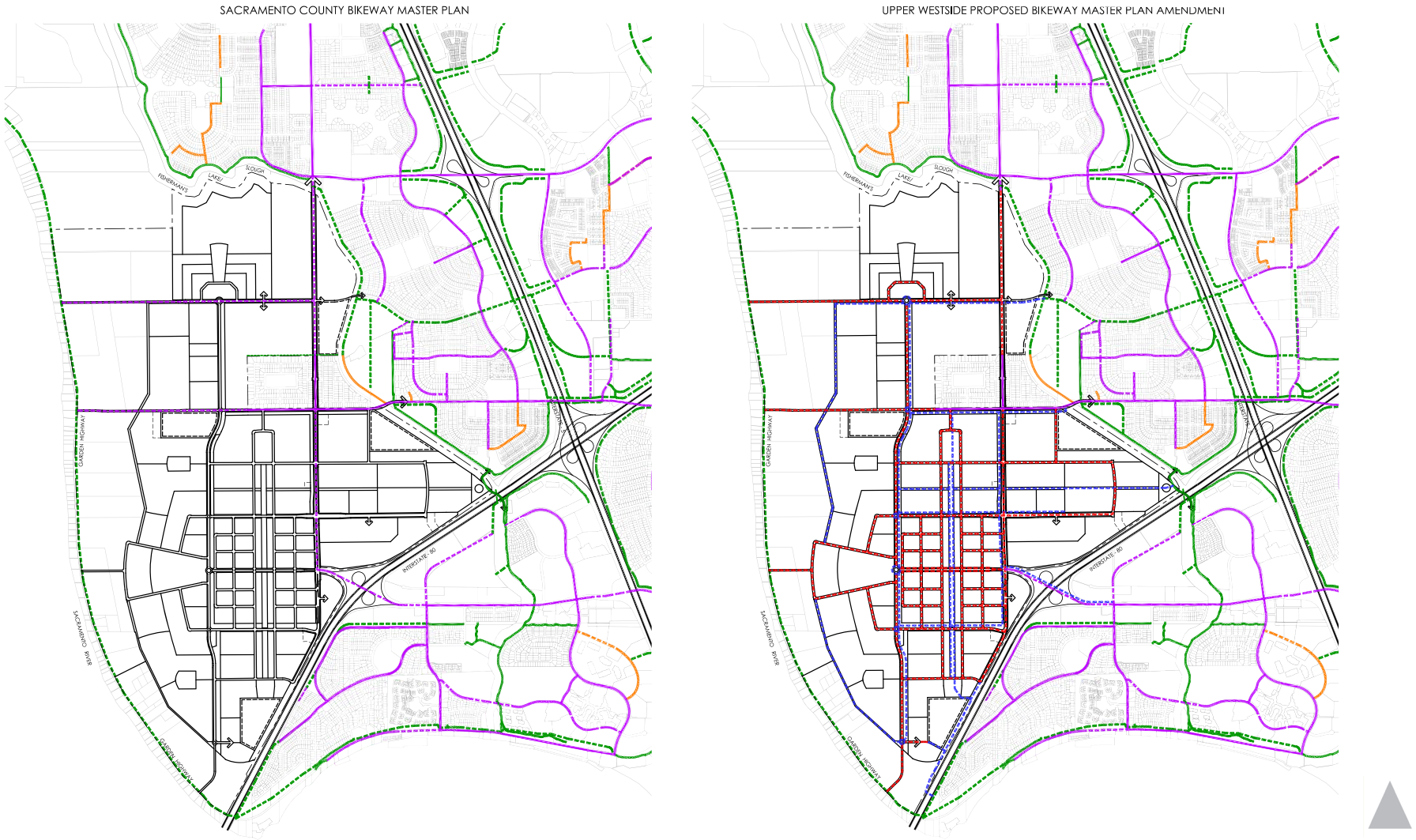
| Land Use | Acres | Percent of Project | Dwelling Units | Square Feet |
|---|---|---|---|---|
| Very Low Density Residential | 166.1 | 8.1% | 204 | - |
| Low Density Residential | 431.5 | 20.9% | 2,351 | - |
| Low/Medium Density Residential | 132.8 | 6.4% | 1,062 | - |
| Medium Density Residential | 62.5 | 3.0% | 750 | - |
| High Density Residential | 36.4 | 1.8% | 910 | |
| Very High Density Residential | 22.6 | 1.1% | 791 | - |
| Commercial Mixed Use | 83.2 | 4.0% | 3,288 | 2,174,515 |
| Employment / Highway Commercial | 52.9 | 2.6% | - | 921,730 |
| Community College, High School, K-8 School | 141.1 | 6.8% | - | - |
| Parks, Urban Farm/Greenbelt, and Canal | 136.1 | 6.5% | | |
| Open Space / Agriculture, | 674.1 | 32.6% | | |
| Proposed Major Circulation | 126.9 | 6.1% | | |
| **Total Upper Westside Specific Plan** | **2,066.2** | **100%** | **9,356** | **3,096,245** |

Source: *Upper Westside Site Plan*, Wood Rodgers, May 2021.

**Figure 4** shows the project's planned bicycle network. Key components of the bicycle network include:

- A set of north-south and east-west Class I (off-street) bicycle/pedestrian paths would be constructed. The north-south path would extend southerly from San Juan Road through the Town Center to Garden Highway. The east-west path would extend parallel and north of Farm Road from Bryte Bend Road easterly to connect to an existing Class I network (near Peregrine Park), which includes an overcrossing of I-80 that can be used to walk or bike to South Natomas and Downtown Sacramento.
- Class I and/or Class II bike lanes (on-street with appropriate signs and pavement markings) would be provided throughout the plan area.

**Figure 5** shows the project's planned transit system, which includes an on-site shuttle that would operate along key roadways during peak periods.

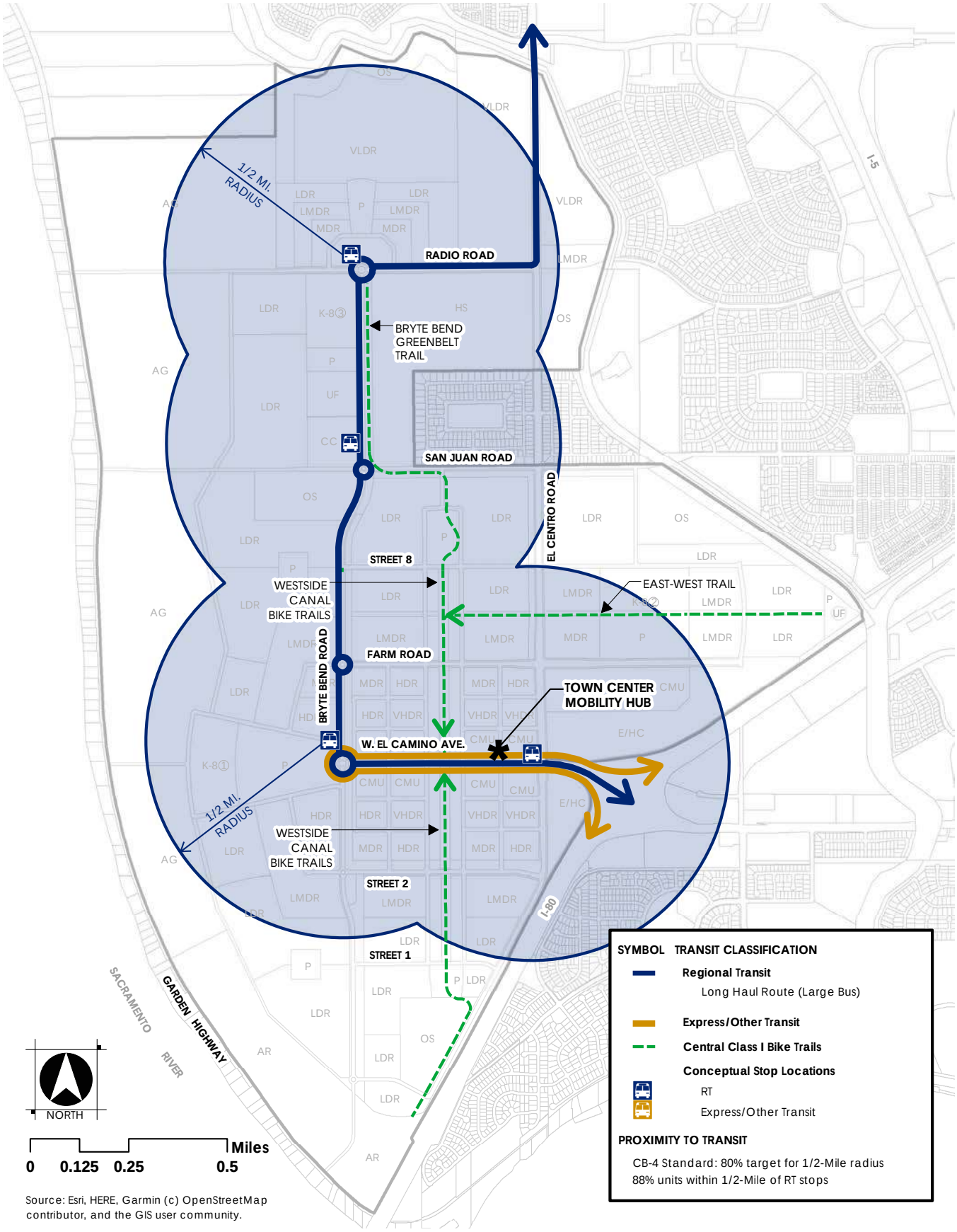



This side-by-side comparison depcits how the Upper Westside Specific Plan would modify the Sacramento County Bikeway Master Plan.

Figure 4

## Project Bicycle Network

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Source: Esri, HERE, Garmin (c) OpenStreetMap contributor, and the GIS user community.

Figure 5

## Project Transit System

# 2. PROJECT TRAVEL CHARACTERISTICS

This chapter presents the proposed project's anticipated travel characteristics. This information helps inform the project's VMT analyses (presented in Chapter 3) and is used directly in the separate LTA report.

## Detailed Project Land Use Assumptions

Table 1 displayed the amount of proposed non-residential development, expressed in terms of total square feet of office or commercial, and school acreage. This section refines those land use totals (based on information provided by the project applicant) to reflect the expected mix and quantity of specific non-residential uses.

The retail component of the Commercial Mixed-Use (CMU) parcels would be developed with 50 percent business professional and 50 percent general retail, entertainment, grocery stores, restaurants, institutional/religious, and specialized uses (e.g., vocational schools, medical-office, etc.). These parcels would be integrated mixed-use properties developed at high densities (i.e., 60 percent floor-to-area ratio and 40 dwelling units per acres).

The two Employment/Highway Commercial (E/HC) parcels would be developed with 60 percent business professional and 40 percent general retail, entertainment, grocery stores, restaurants, institutional/religious, and specialized uses (e.g., vocational schools, medical-office, etc.). These two parcels would develop at a 40 percent floor-to-area ratio.

The project applicant has indicated that the CMU and E/HC parcels will typically provide sufficient on-site parking to meet projected demands. This implies, given the proposed densities, that structured parking will be required, though surface parking may also be provided in some areas. It also means that all parcels are assumed "to park themselves"; meaning trips generated by the parcel are assigned to that parcel (versus a nearby public garage).

# Project Trip Generation

The proposed project's trip generation was estimated using the Mixed-Use Trip Generation Model (MXD+), which was originally developed for the US Environmental Protection Agency (EPA) to estimate internal trip-making and external trips made by non-auto travel modes. This model, which was originally developed by consultants and academic researchers based on empirical evidence at 240 mixed-use projects located across the U.S, has been used in numerous EIRs throughout California. The model considers various built environment variables such as land use density, regional location, proximity to transit, and various design variables when calculating the project's internal trips and external trips made by non-auto modes. In Fall 2019, the model underwent a revalidation that confirmed it is still applicable to current (non-COVID) conditions. Moreover, the model was found to validate well against large mixed-use projects such as Upper Westside. Refer to separately bound appendix for that revalidation report.

## Trip Generation Rates

MXD+ begins by estimating gross trips generated by project land uses based on data included in *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers, 2017), which is the most recent version of the manual. It then estimates internal trips and external trips made by non-auto modes of travel. **Table 2** presents the unadjusted vehicular trip generation rates for each project land use category. In most instances, weighted average trip rates were applied due to the absence of fitted curve equations that estimate trips based on land use quantity. At the time the analysis was performed, the 11th Edition of the *Trip Generation Manual* (September 2021) had not yet been released.

Rates chosen for several specific land uses in Table 2 warrant further explanation as described below:

- Trip generation for single-family and multi-family residential units was estimated based on weighted average trip rates. Use of fitted curve equation rates would have led to differing (and unreasonable) trip rates for adjacent residential areas based solely on their differing unit counts.
- Trip generation for professional office and shopping center land use categories[1] was estimated using fitted curve equations based on guidance from the *Trip Generation Handbook* (Institute of Transportation Engineers, 2017). Retail and office land use quantities within the Town Center and

[1] A variety of retail-type uses were assumed on retail parcels including supermarkets, sit-down restaurants, fast-food restaurants, and health/fitness clubs, in addition to general shopping center uses. This approach, which emphasizes the variety of likely retail uses, results in greater total trips, but also more internalization of traffic and an overall more accurate trip estimate (versus using exclusively the shopping center category).

employment/Highway Commercial zone (east of El Centro Road) were estimated separately based on the square footages proposed.

**Table 2:**
**Unadjusted Trip Generation Rates by Land Use Type**

| Land Use | ITE Code | Unit Type | Daily Trip Rate [1] | AM Peak Hour [1] | | PM Peak Hour [1] | |
|---|---|---|---|---|---|---|---|
| | | | | Trip Rate | %in/ %out | Trip Rate | %in/ %out |
| Single-Family Detached Housing [2] | 210 | du's | 9.44 | 0.74 | 25%/75% | 0.99 | 63%/37% |
| Multi-Family Housing Mid-Rise [3,4] | 221 | du's | 5.44 | 0.36 | 26%/74% | 0.99 | 61%/39% |
| Professional Office [3,5] | 710 | ksf | 9.74 – 10.25 | 0.99 – 1.16 | 86%/14% | 1.05 – 1.15 | 16%/84% |
| Medical Office [2] | 720 | ksf | 36.32 | 2.45 | 78%/22% | 3.44 | 28%/72% |
| Hotel [2] | 310 | rooms | 8.36 | 0.47 | 59%/41% | 0.60 | 51%/49% |
| Business Hotel [2] | 312 | rooms | 4.02 | 0.39 | 42%/58% | 0.32 | 55%/45% |
| Government Office [2] | 730 | ksf | 22.59 | 3.33 | 75%/25% | 1.72 | 26%/74% |
| Shopping Center [3] | 820 | ksf | 50.64 – 66.26 | 1.39 – 2.56 | 62%/38% | 4.73 – 5.88 | 48%/52% |
| Health/Fitness Club [2] | 492 | ksf | 26.67 | 1.33 | 50%/50% | 3.47 | 58%/42% |
| Supermarket [3] | 850 | ksf | 95.14 – 106.8 | 3.80 – 3.82 | 60%/40% | 9.27 – 9.32 | 51%/49% |
| High-Turnover (Sit-Down) Restaurant [2] | 932 | ksf | 112.18 | 9.94 | 55%/45% | 9.77 | 62%/38% |
| Fast-Food Restaurant with Drive-Through Window [2] | 934 | ksf | 471.00 | 40.22 | 51%/49% | 32.67 | 52%/48% |
| Recreational Community Center [2,3] | 495 | ksf | 28.80 – 28.83 | 1.77 – 3.85 | 66%/34% | 2.31 – 3.60 | 47%/53% |
| Middle School/Junior High School [2] | 522 | students | 2.13 | 0.58 | 54%/46% | 0.17 | 49%/51% |
| High School [2] | 530 | students | 2.03 | 0.52 | 67%/33% | 0.14 | 48%/52% |
| Vocational School | 540 | ksf | 20.25 | 2.07 | 77%/23% | 1.86 | 50%/50% |
| Junior/Community College | 540 | students | 1.15 | 0.11 | 81%/19% | 0.11 | 56%/44% |

Note:
1. All rates derived from the *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers, 2017).
2. Weighted average trip rate applied.
3. Fitted curve equation applied.
4. Multi-Family Mid-Rise category chosen given densities proposed (i.e., buildings will range between 3 and 10 floors, which meets the definition of this use type).
5. Range of trip rates shown because varying sized facilities are proposed in different areas of the plan and fitted curve equations yield different trip rates by size.

ksf = thousand square feet. du's = dwelling units.

Source: Fehr & Peers, 2021.

## Project Trip Generation

**Table 3** presents the project's expected trip generation (prior to any consideration of existing land uses whose trips would be eliminated with the project). The following trip summaries are shown:

1. Gross Project Trips – represents total amount of project travel assuming all trips would be made by vehicle and that no internalization of trips would occur.

2. Net External Vehicular Project Trips – accounts for internal trips between complementary on-site land uses (e.g., residential and retail), and external trips made by walking, biking and transit to estimate external vehicle trips.

3. Net New External Vehicular Trips – further refines external vehicle trip estimate by removing vehicle trips that are "pass-by"[2] from the adjacent street and "diverted-link"[3] from I-80 or I-5.

4. Net New External and Diverted Link Vehicular Trips – adds diverted link trips to the above estimate.

Item #3 above represents the number of new project vehicle trips that would be assigned to study intersections/roadways throughout the study area (based on the expected spatial distribution of those trips). Item #4 above represents the approximate total number of vehicle trips the project would add to its gateway streets (i.e., West El Camino Avenue north of I-80, Arena Boulevard west of I-5, Del Paso Road west of I-5, Garden Highway north of Radio Road and under I-5, and San Juan Road under I-5) including those trips that would be diverted off I-5 and I-80.

As shown in Table 3, the proportion of project trips that would remain internal to the site would vary between 23 and 35 percent depending on the time period. Internalization is greatest during the AM peak hour due to the effect of matched trips between the residences and schools.

[2] A "pass-by" trip to a retail use is made by a motorist already on the adjacent street while en route to a different primary destination. Pass-by trips do not add traffic to the adjacent street, but contribute trips to the driveway(s) serving the retail center. Checks were performed to ensure that primary adjacent roadways (i.e., El Centro Road and West El Camino Avenue) would have sufficient volumes of traffic under "plus project" conditions, from which pass-by trips could be taken.

[3] A "diverted-link" trip (in this context) is made by a motorist traveling on a nearby freeway who chooses to exit the freeway to access a retail use. Diverted-link trips are added both to the freeway on/off ramps, surface streets, and driveway(s) serving the retail center.

| Table 3:<br>Proposed Project Trip Generation | | | | |
|---|---|---|---|---|
| **Land Use** | **Quantity [1]** | **Trips** | | |
| | | **Daily** | **AM Peak Hour** | **PM Peak Hour** |
| Single-Family Detached Housing | 4,367 du's | 41,224 | 3,232 | 4,323 |
| Multi-Family Housing Mid-Rise | 4,989 du's | 27,140 | 1,796 | 2,195 |
| Professional Office | 1,573 ksf | 15,669 | 1,689 | 1,730 |
| Medical Office | 41.6 ksf | 1,511 | 102 | 143 |
| Hotel | 410 rooms | 3,428 | 193 | 246 |
| Business Hotel | 410 rooms | 1,648 | 160 | 131 |
| Government Office | 74 ksf | 1,681 | 248 | 128 |
| Shopping Center | 245 ksf | 13,549 | 426 | 1,242 |
| Health/Fitness Club | 65 ksf | 1,730 | 86 | 225 |
| Supermarket | 65 ksf | 6,359 | 248 | 605 |
| High-Turnover (Sit-Down) Restaurant | 104 ksf | 11,644 | 1,032 | 1,014 |
| Fast-Food Restaurant with Drive-Through | 24 ksf | 11,303 | 965 | 784 |
| Recreational Community Center | 72 ksf | 2,075 | 169 | 192 |
| Middle School/Junior High School | 3,000 students | 6,390 | 1,740 | 510 |
| High School | 1,500 students | 3,045 | 780 | 210 |
| Vocational School & Junior College | 208 ksf & 2,500 students | 7,087 | 706 | 662 |
| | **Gross Project Trips** | **155,483** | **13,572** | **14,340** |
| | *Trip Adjustments* | | | |
| | Internal Trips [2] | -34,890 | -4,724 | -3,664 |
| | External Transit Trips [3] | -3,576 | -271 | -315 |
| | Walk/Bike Trips [4] | -622 | -81 | -72 |
| | **Net External Vehicular Project Trips** | **116,395** | **8,495** | **10,289** |
| | Pass-by Trips [5] | -6,614 | -366 | -1,048 |
| | Diverted Link Trips [6] | -4,372 | -221 | -726 |
| | **Net New External Vehicular Trips** | **105,409** | **7,908** | **8,515** |
| | **Net New External and Diverted Link Vehicular Trips** | **109,781** | **8,129** | **9,241** |

**Table 3:**
**Proposed Project Trip Generation**

| Land Use | Quantity [1] | Trips | | |
|---|---|---|---|---|
| | | Daily | AM Peak Hour | PM Peak Hour |

Note:
1. Does not account for eliminated trips due to removal of existing uses. See following tables.
2. Internal trips estimated to be 22.5 percent on a daily basis, 34.9 percent during the AM peak hour, and 25.6 percent during the PM peak hour.
3. Estimated proportion of total external trips made by transit ranges from 2.0 to 2.3 percent depending on time period.
4. Estimated proportion of total external trips made by walking or biking ranges from 0.4 to 0.6 percent depending on time period.
5. Pass-by trips are made to retail uses from the adjacent street. Pass-by percentages are based on the Trip Generation Handbook (Institute of Transportation Engineers, 2017).
6. Diverted link trips come from I-80 or I-5. Percentages are from the Trip Generation Handbook (Institute of Transportation Engineers, 2017).

Source: Fehr & Peers, 2021.

According to this table, use of transit for travel to external destinations is estimated at two percent for the proposed project. It should be noted that a modest amount of transit use is already built into the default ITE trip generation rates that form the starting point of the project trip generation estimate. Thus, this transit estimate represents an increased level of transit use beyond the "base" level that is typically associated with suburban settings, free parking, and modest levels of bus service. A more geographically focused evaluation determined that the Town Center, Employment/Highway Commercial Zone, and adjacent high-density residential would have a combined four percent transit mode split. This is reasonable given that transit use is typically greater for employees versus residents, and in mixed-use urban areas versus suburban settings.

According to this table, selection of walking or biking for travel to external destinations is estimated at 0.5 percent for the proposed project. Again, this represents a modest increase above the default ITE estimate. The project would provide a direct linkage to the multi-use path east of the project site (near Peregrine Park) that connects to the bike/pedestrian bridge over I-80. From that bridge, a number of different destinations in South Natomas can be reached within a 10 to 15 minute bike ride. Downtown Sacramento can be reached by bike in about 25 to 30 minutes depending on travel speed.

Overall, the complementary nature of land uses within the project site, combined with the availability of transit and walking/biking, would result in a combined 25 percent reduction in gross daily vehicle trips. During the AM and PM peak hours, this reduction would increase to 37 percent and 28 percent, respectively.

When retail trips that are pass-by or diverted-link are also considered, the overall reduction percentages climb to 32 percent on a daily basis, 42 percent during the AM peak hour, and 41 percent during the PM peak hour. After these adjustments are made, the project would generate approximately 105,400 new daily vehicle trips, 7,900 new AM peak hour vehicle trips, and 8,500 new PM peak hour vehicle trips.

The above trip totals do not consider potential changes in travel associated with the current COVID-19 pandemic or the next phase "COVID Endemic" condition. In all likelihood, reductions in travel will occur for certain land uses, such as offices, though specific details and estimates of those changes are not known at this time. This analysis is therefore reasonably conservative because it did not consider those changes.

## Trip Generation of Existing Land Uses to be Removed

The trip generation estimates in Table 3 do not consider the removal of existing trip generating land uses on the project site. Those trips are shown in **Table 4.** As shown, elimination of these existing land uses would remove 4,568 new daily vehicle trips, 375 new AM peak hour vehicle trips, and 316 new PM peak hour vehicle trips (after considering reductions for pass-by and diverted-link trips to the uses).

## Net Increase in Vehicle Trips Generated by the Proposed Project

**Table 5** shows the net increase in vehicle trips generated by the proposed project during all three study time periods. This represents the total project trips minus the trips associated with the existing uses that would be removed.

This table indicates that the proposed project would result in a net increase in approximately 100,800 new daily vehicle trips, with 7,530 occurring during the AM peak hour and 8,200 occurring during the PM peak hour. During both peak hours, a fairly equal distribution of inbound versus outbound traffic is expected (i.e., 50 percent inbound/50 percent outbound during the AM peak hour, and 52 percent inbound/48 percent outbound during the PM peak hour).

**Table 4:**
**Existing Trip Generating Land Uses to be Removed**

| Land Use | Quantity [1] | Trips | | |
|---|---|---|---|---|
| | | Daily | AM Peak Hour | PM Peak Hour |
| Single-Family Detached Housing | 20 du's | 189 | 15 | 20 |
| Professional Office | 40 ksf | 390 | 46 | 46 |
| Self-Storage Facility | 70 ksf | 98 | 6 | 7 |
| Business Hotel (2) | 145 rooms | 583 | 57 | 46 |
| High-Turnover (Sit-Down) Restaurant | 9 ksf | 965 | 85 | 84 |
| Fast-Food Restaurant with Drive-Through | 3 ksf | 1,507 | 129 | 105 |
| Gas station with Convenience Market | 12 fueling positions | 2,464 | 150 | 168 |
| Light Industrial | 45 ksf | 223 | 31 | 29 |
| Golf Driving Range | 12 tee positions | 164 | 5 | 15 |
| Truck Stop [1] | Fueling area, conv. market | 3,373 | 172 | 213 |
| **Net External Vehicular Project Trips** | | **9,956** | **696** | **733** |
| Pass-by Trips [2] | | 1,773 | 118 | 156 |
| Diverted Link Trips [3] | | 3,615 | 203 | 261 |
| Net New External Vehicular Trips | | 4,568 | 375 | 316 |
| **Net New External and Diverted Link Vehicular Trips** | | **8,183** | **578** | **577** |

Note:

1. Trip rates estimated based on data from *Trip Generation Manual* (Institute of Transportation Engineers, 2017), with exception of 49er Truck Stop located at corner of West El Camino Avenue/El Centro Road whose AM and PM peak hour vehicle trips were estimated in early December 2020. Daily trips for that use was estimated by factoring up peak hour trip rates for the Gas Station with Convenience Market land use category from *Trip Generation Manual*.
2. Pass-by trips are made to retail uses from the adjacent street. Pass-by percentages are based on the *Trip Generation Handbook* (Institute of Transportation Engineers, 2017).
3. Diverted link trips come from I-80 or I-5. Percentages are from the *Trip Generation Handbook* (Institute of Transportation Engineers, 2017).

Source: Fehr & Peers, 2021.

**Table 5:**
**Net Increase in Vehicle Trips Generated by Proposed Project**

| Scenario | Trips | | | | | | |
|---|---|---|---|---|---|---|---|
| | Daily | AM Peak Hour | | | PM Peak Hour | | |
| | | Inbound | Outbound | Total | Inbound | Outbound | Total |
| *Net New External Vehicular Trips* | | | | | | | |
| Proposed Project | 105,409 | 3,953 | 3,955 | 7,908 | 4,410 | 4,107 | 8,515 |
| Existing Uses To be Removed | 4,568 | -214 | -161 | -375 | -137 | -179 | -316 |
| **Difference** | **100,841** | **3,740** | **3,794** | **7,534** | **4,273** | **3,929** | **8,199** |
| *Net New External and Diverted Link Vehicular Trips* | | | | | | | |
| Proposed Project | 109,781 | 4,076 | 4,053 | 8,129 | 4,796 | 4,448 | 9,241 |
| Existing Uses To be Removed | -8,183 | -318 | -260 | -578 | -272 | -305 | -577 |
| **Difference** | **101,598** | **3,758** | **3,793** | **7,551** | **4,524** | **4,143** | **8,664** |

Note:
1. Refer to Table 2 for proposed project trips and Table 3 for existing uses trips.
2. Some volumes may not sum perfectly due to rounding.

Source: Fehr & Peers, 2021.

# 3. VMT ANALYSIS

This chapter analyzes the proposed project's VMT impacts.

## Regulatory Background

***Senate Bill 743***

SB 743, passed in 2013, required the California Governor's Office of Planning and Research (OPR) to develop new CEQA guidelines that address traffic metrics under CEQA. As stated in the legislation, upon adoption of the new guidelines, "automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to this division, except in locations specifically identified in the guidelines, if any." In December 2018, OPR published *Technical Advisory on Evaluating Transportation Impacts in CEQA ("Technical Advisory")*, which provided guidance for implementing SB 743. On December 28, 2018, the Resources Agency adopted CEQA Guidelines Section 15064.3. Under this guideline, VMT is the primary metric used to identify transportation impacts. On July 1, 2020, the provisions of Section 15064.3 became effective statewide.

***Sacramento County TAG***

This document provides considerable guidance regarding the County's preferred methods for analyzing the VMT of land use and transportation projects. The TAG incorporates various elements of the *Technical Advisory*, OPR, but refinements and clarifications have been added to reflect local conditions. Technical guidance from the TAG is referenced throughout this chapter.

## Analysis Methodology

By definition, one VMT occurs when a vehicle is driven one mile. A given VMT value is representative of the amount of travel during an entire weekday. VMT is calculated in different ways for different purposes as described below.

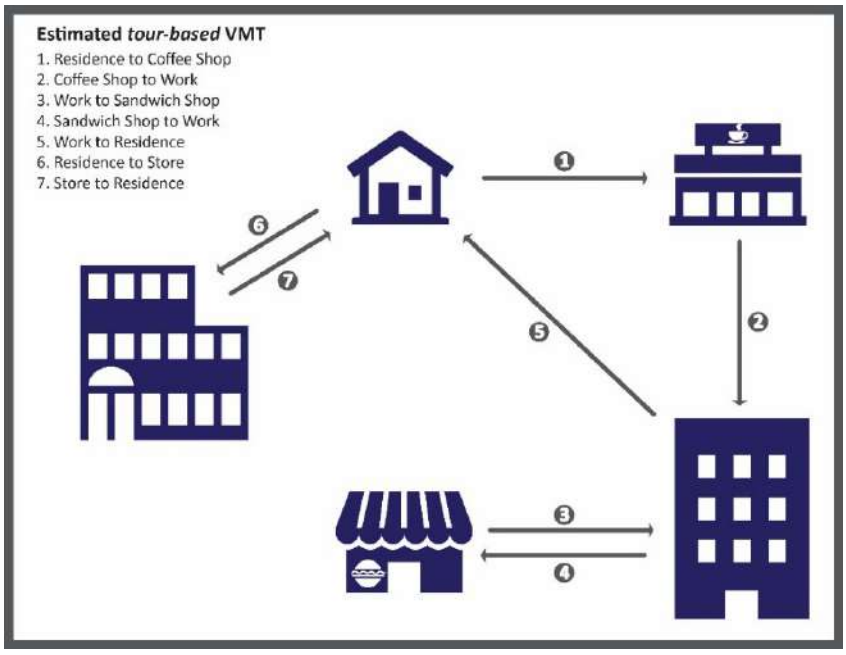
Per the TAG, VMT analysis is performed using the Sacramento Area Council of Government's (SACOG) SACSIM19 tour-based travel demand model. The version of the model that was used is similar to what was used as the basis for SACOG's 2020 MTP/SCS, but has been improved upon by considering the length of trips generated by land uses within the SACOG region that have an origin or destination outside the region.

SACSIM19 simulates people's activities on a typical weekday and tracks travel of individuals throughout the day in trip tours. The model allocates household and employment at a parcel level, which allows the model to capture smaller-scale land use changes and demographic differences. SACSIM19 is sensitive to the local physical environment, including the presence (or absence) of pedestrian and bicycle facilities, the patterns of local street networks (e.g., grid vs. cul-de-sacs), and the density, proximity and mix of surrounding land uses (i.e. employment destinations, schools, retail, parks, etc.). SACSIM19 forecasts automobile, transit, bicycle, and walk trips. SACSIM19 requires a detailed definition of household characteristics, population/demographics and employment by type at a parcel-level of geography.

Key metrics from SACSIM19 used in the VMT analysis include the following (though other types of VMT are analyzed later in this chapter):

- VMT per Capita – includes all vehicle tours (both work/commute vehicle tours and non-work vehicle tours) that start and end at residential units. Tours made by a household resident that do not begin or end at home (e.g., mid-day travel from a worksite for lunch or personal business) are not included in the VMT per Capita estimates. Per the TAG, Household VMT includes trip types #1, 2, 5, 6 & 7 from the figure below. It excludes work-based subtours (Trips #3 and #4).

- VMT per Employee – applies to office/business professional and industrial employment projects and includes all work/commute vehicle tours that start and end at the worksite (including intermediate stops). Per the TAG, Household VMT includes trips #1, 2, and 5 from the figure below.



## Significance Thresholds

Table 3-3 of the TAG identifies significance thresholds for various types of land development projects. The following thresholds are utilized in this study:

- Project VMT per capita exceeds 85 percent of the regional average VMT per capita.
- Project VMT per employee exceeds 85 percent of the regional average VMT per employee.
- The project's regional retail land uses causes a net increase in regional VMT.
- The project's proposed widening of "regional roadways" is expected to result in an increase in regional VMT.

When reviewing the project's VMT effects for the above thresholds, it is important to consider the project's overall VMT efficiency. In other words, the broader view of VMT properly considers the net effect, for instance, of a slight exceedance of one threshold versus a "substantially below threshold" outcome for another.

## VMT per Capita and per Employee

The TAG describes the specific analytical process to be used to calculate both VMT per capita and VMT per employee both for the project and for the regional average. This process was followed, and the results are shown in **Table 6** for baseline conditions, which is represented by the base (Year 2016) SACSIM19 travel demand model. Refer to separately bound appendix for technical calculations.

As indicated in the table, the project's VMT per capita and VMT per employee would be below (i.e., perform better than) the 85 percent threshold of the regional average.

**Table 6:**
**VMT per Capita and per Employee – Baseline Conditions**

| Measure | Work Tour VMT Per Employee [1] | Household VMT per Capita [1] |
|---|---|---|
| Regional Average [2] | 18.48 | 17.44 |
| Threshold [3] | 15.70 | 14.83 |
| Project [4, 5, 6] | 15.31 | 14.34 |

1 Calculated per Sacramento County TAG.

2 Regional Average is from Existing No Project Model run. VMT includes the entire length of trips outside of SACOG Region, whereas Sacramento County TAG threshold didn't include trip length outside SACOG Region; hence, values are slightly different.

3 85% of Regional Average per Sacramento County TAG.

4 Project was added to the base year MTP/SCS model. Average trip distance outside of SACOG region for the project was estimated using the average of nearby TAZs.

5 SACSIM estimated that 15.4% of home-based household trips would be internal to the project site, which is low given the diversity and proximity of on-site land uses. In contrast, the MXD+ mixed-use trip generation model estimated 22.9% of home-based trips being internal. Because SACSIM is a regional travel demand model, while MXD+ was developed to more accurately estimate internal trips associated with mixed-use projects, the household VMT estimate from SACSIM was adjusted to reflect this expected level of internal resident trips.

6 Adjustments were not made to work tour VMT per employee because results appeared reasonable and this VMT represents a relatively small (i.e., about 20%) component of the project's total VMT.

Source: Fehr & Peers, 2021.

## Project Regional Retail Effect on VMT

The project's regional retail consists of the retail component of land uses proposed on the east side of El Centro Road both north and south of West El Camino Avenue. These retail uses are considered regional-serving because they are situated nearest to and visible from I-80. In contrast, the retail uses that are part of the CMU parcels within the Town Center would not have the same type of regional retail orientation.

The SACSIM model was run without and with the Regional Retail (but with the remainder of Upper Westside assumed to be developed). The results are shown in **Table 7**. As shown, the proposed project without its regional retail generates more VMT than the project with the regional retail added.

Regional retail is situated at the I-80/Truxel Road interchange in the City of Sacramento and at the I-80/Reed interchange in the City of West Sacramento. These uses are about five miles apart. There is a substantial number of households situated in North and South Natomas, and west of I-5 (north of I-80), many whom visit these regional retail destinations. The project would introduce an additional 9,356 units to this total. Placing regional retail at the I-80/West El Camino Avenue interchange (i.e., between the two existing regional retail destinations) decreases the travel distance for many of residents who are traveling to a regional retail destination. Hence, the conclusion that the project's regional retail would reduce VMT makes sense.

| Table 7:<br>Effect of Project's Regional Retail on VMT – Baseline Conditions | | |
|---|---|---|
| **Measure** [1] | **Base Year SACSIM Model Plus Project** | **Base Year SACSIM Model Plus Project Without Regional Retail** |
| Total Regional VMT | 42,992,142 | 43,014,069 |

1 Calculated using Daysim trip tables, which is a step within the overall SACSIM model.
Source: Fehr & Peers, 2021.

## Project Roadway Widening Effect on VMT

The proposed project would construct new roadways and widen existing roadways. These capacity expansions could induce more VMT due to changes in background travel demand, route choice, and other factors. The following specific roadway widenings, which are considered regional in nature, are proposed as part of the project:

- Approximate 2,150-foot widening of West El Camino Avenue from two to six lanes from El Centro Road to just east of I-80.
- 1,375-foot widening of El Centro Road from two to six lanes from West El Camino Avenue to just north of Farm Road.
- 1.5-mile widening of El Centro Road from two to four lanes from just north of Farm Road to just south of Arena Boulevard.

The above widenings represent an addition of 5.7 lane-miles to the County's roadway network. According to the TAG, secondary roadways (e.g., Bryte Bend Road, Farm Road, Radio Road, etc.) are normally not expected to induce more travel due to their local-serving nature and are therefore not considered in the induced travel VMT analysis.

The SACSIM model was run without and with the aforementioned regional roadway widenings (but with all other components of the Upper Westside project included). The net change in VMT is shown in **Table 8**. As shown, the isolated effect of widening these three segments would be a net increase in 1,800 VMT. Review of the model runs indicated that the roadway widenings would eliminate "out of way" travel that would otherwise occur on roadways such as San Juan Road and Garden Highway. But by virtue of providing more roadway capacity to access I-80, the widenings also contribute to longer trip lengths, which more than offsets the eliminated "out of way" travel.

| Table 8:<br>VMT Effects of Project Roadway Widening - Baseline Conditions | |
|---|---|
| **Scenario [1]** | **VMT [2]** |
| With Roadway Widenings | 57,062,857 |
| Without Roadway Widenings | 57,061,058 |
| Difference | + 1,799 |

1 See above text for description of regional roadway widening projects.

2 VMT is calculated for the entire model network. TAZ connectors and gateways are excluded.

Source: Fehr & Peers, 2021.

## Project Overall Effect on VMT

The prior analyses have utilized both efficiency metrics (i.e., VMT per capita and per employee) and absolute VMT value changes (i.e., due to regional retail and roadway widenings) when evaluating various elements of the project's VMT. To allow for the project's overall effect on VMT to be evaluated, the VMT efficiency metric results were translated into absolute VMT values. The translation process shown in **Table 9** calculates how much VMT is saved by virtue of the project's VMT per capita and employee being less than the applicable thresholds.

| Table 9: Project Employee and Resident VMT Savings – Baseline Conditions | | |
|---|---|---|
| **Measure [1]** | **Work Tour VMT Budget** | **Household VMT Budget** |
| Project VMT [1] | 87,594 | 351,276 |
| Number of Employees | 5,722 | - |
| Work Tour VMT Savings [2] | 2,231 | - |
| Number of Residents | - | 24,491 |
| Household VMT Savings [3] | - | 12,000 |

1 Source: SACSIM model.

2 Per Table 6, Work Tour VMT per employee could increase from 15.31 to 15.70 while remaining under the 85% regional average threshold. The VMT savings is calculated as VMT saved per employee multiplied by number of employees (i.e., 0.39 x 5,722= 2,231).

3 Per Table 6, Household VMT per capita could increase from 14.34 to 14.83 while remaining under the 85% of regional average threshold. The VMT savings is calculated as VMT saved per resident multiplied by number of residents. (i.e., 0.49 x 24,491= 12,000).

Source: Fehr & Peers, 2021.

**Table 10** provides a reconciliation of the project's VMT budget, noting both savings and exceedances. This table indicates that the project's net increase in VMT due to roadway widenings (1,799 VMT) is more than offset by its beneficial land use efficiency and regional retail VMT saving benefits, which represent a combined savings of 36,158 VMT. The net result is that the project represents 34,359 VMT less than the VMT budgets established by the significance thresholds.

**Table 10:**
**Project VMT Budget Reconciliation – Baseline Conditions**

| Metric | VMT Saved / Exceeded |
|---|---|
| VMT Savings by Project Land Use Efficiency [1] | - 14,231 |
| VMT Savings by Placement of Regional Retail 2 | - 21,927 |
| VMT Added by Regional Roadway Widenings [3] | +1,799 |
| Net VMT | -34,359 |

1 Source: Table 9.
2 Source: Table 7.
3 Source: Table 8.
Source: Fehr & Peers, 2021.

# 4. ROADWAY TRAFFIC FORECASTS

This chapter presents average daily traffic forecasts within the study area under various scenarios. This information is presented for informational purposes only so that reviewers may understand existing levels of traffic and the amount of traffic the project would add to nearby project roadways.

## Analysis Scenarios

Average daily traffic (ADT) forecasts are presented for the following scenarios:

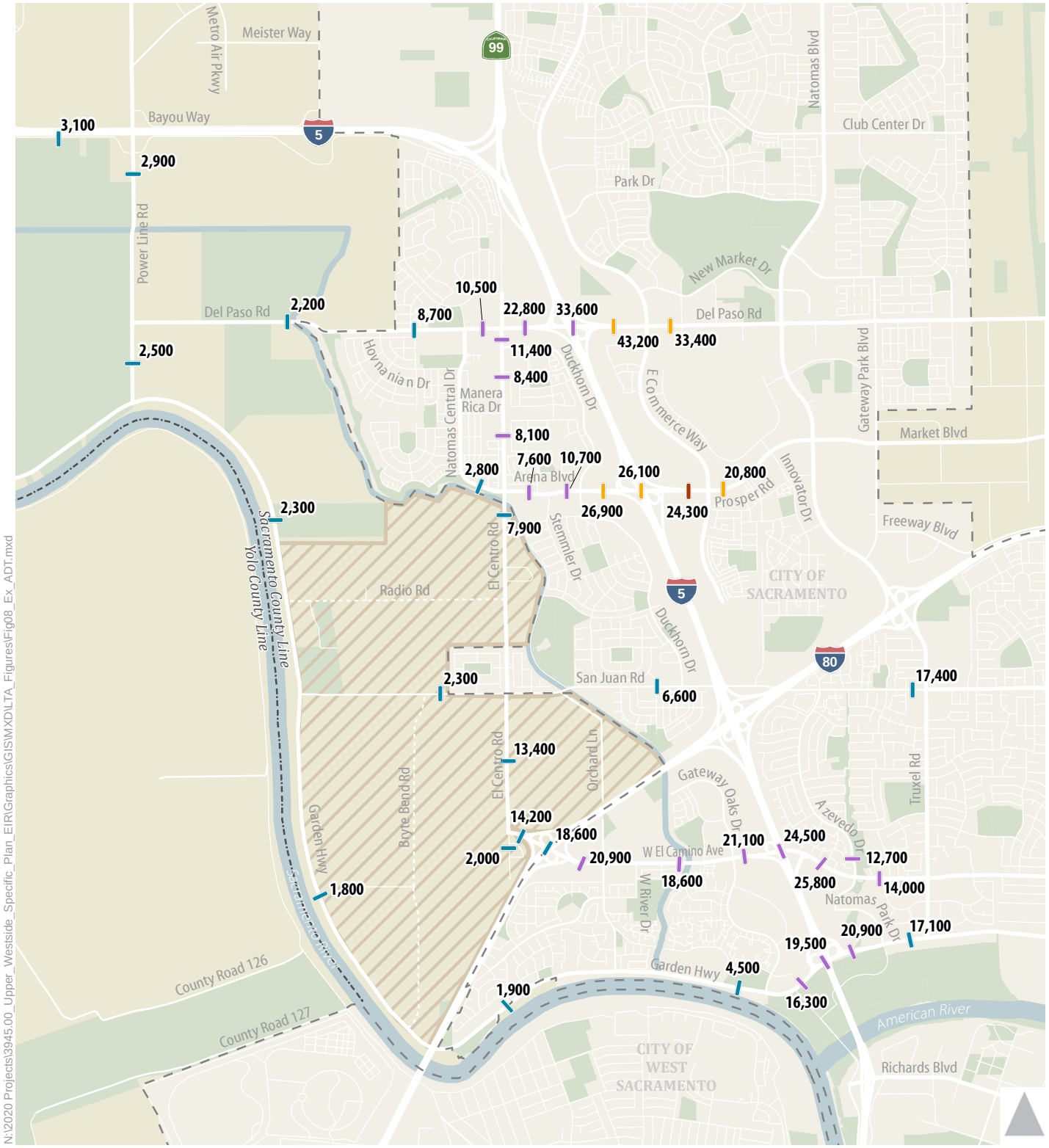
- Existing Conditions – represents conditions in 2018-2019, prior to the beginning of the COVID-19 pandemic in March 2020.
- Existing Plus Proposed Project conditions – presents ADT forecasts for a hypothetical scenario consisting of buildout of the proposed project under existing conditions.
- Cumulative (2040) No Project Conditions – presents ADT forecasts for Year 2040 assuming the project site remains in its current state.
- Cumulative (2040) Plus Proposed Project conditions – presents ADT forecasts assuming buildout of the proposed project under cumulative conditions.

## Existing and Existing Plus Project ADT Forecasts

**Figure 6** displays the existing ADT on roadways in the project vicinity including facilities under the jurisdiction of Sacramento County, City of Sacramento, and Caltrans.

**Figure 7a** shows the ADT on the same roadways under existing plus project conditions. **Figure 7b** shows the ADT on the roadways within the Specific Plan area for this scenario. These forecasts were derived from the same SACSIM travel demand model used in the previous chapter. Consistent with standard industry practice, trip matrix adjustments were made for certain traffic analysis zones (TAZs) to ensure that the external vehicle trips estimated by the model for the proposed project matched the values in Table 5.

The values shown in **Table 11** represent the project's effect on travel at each of the project gateways. It comprises both new trips generated by the project that use a given roadway, but also trips currently being made through the project area that reroute as a result of the project construction. Each rerouted trip subtracts two trip ends (i.e., the trip entering the project site area and the trip exiting the project site area).




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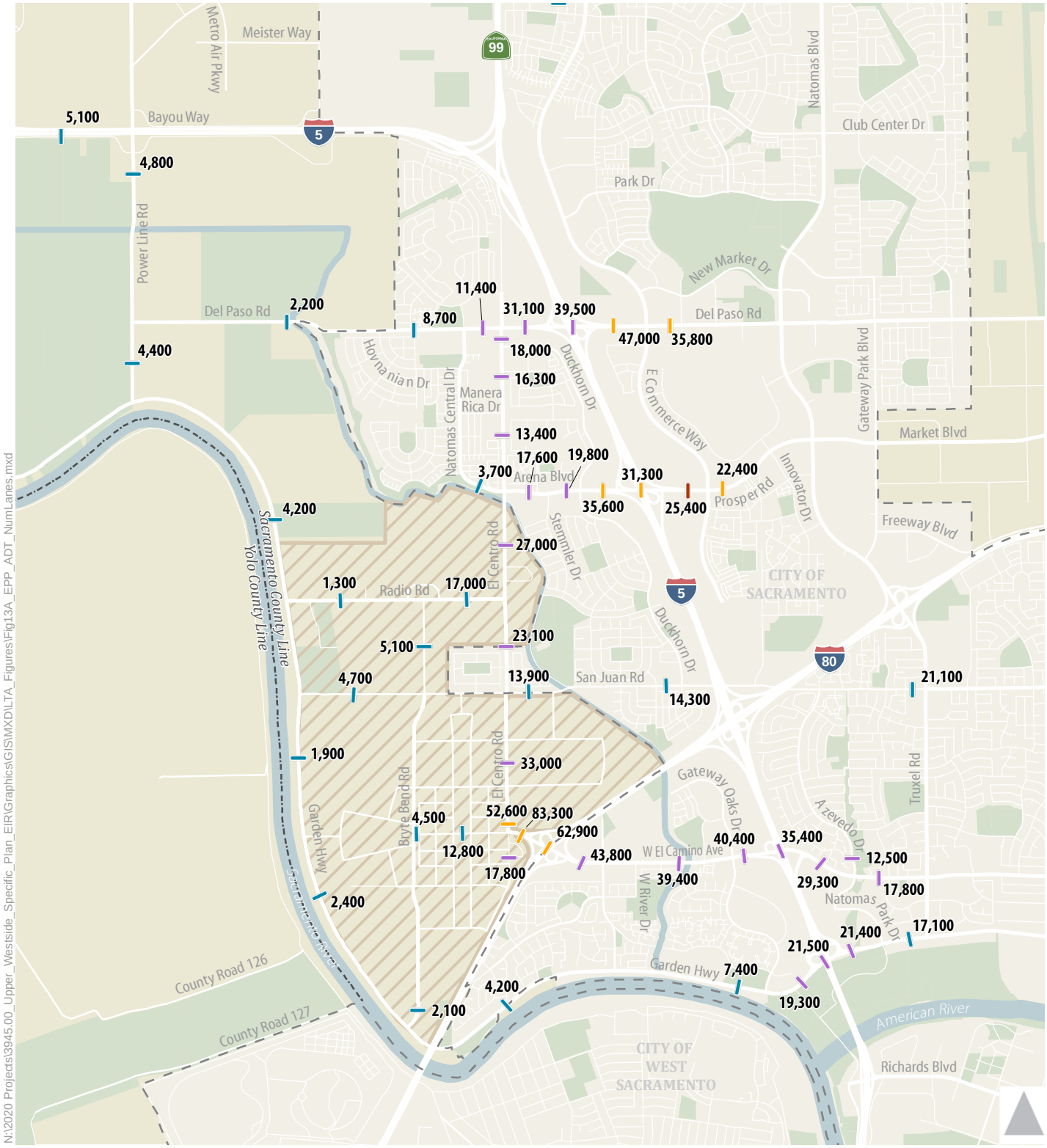
**X,XXX** Average Daily Traffic Volume

Existing Number of Lanes
- 2
- 4
- 6
- 8

- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary
- Private and/or Gated, Partially Paved/ Unpaved Rural Road
- Public Roadway

Figure 6

## Existing Roadway Network




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**X,XXX** Average Daily Traffic Volume (Refer to Figure 1B for complete set of daily traffic volumes on internal roadways)

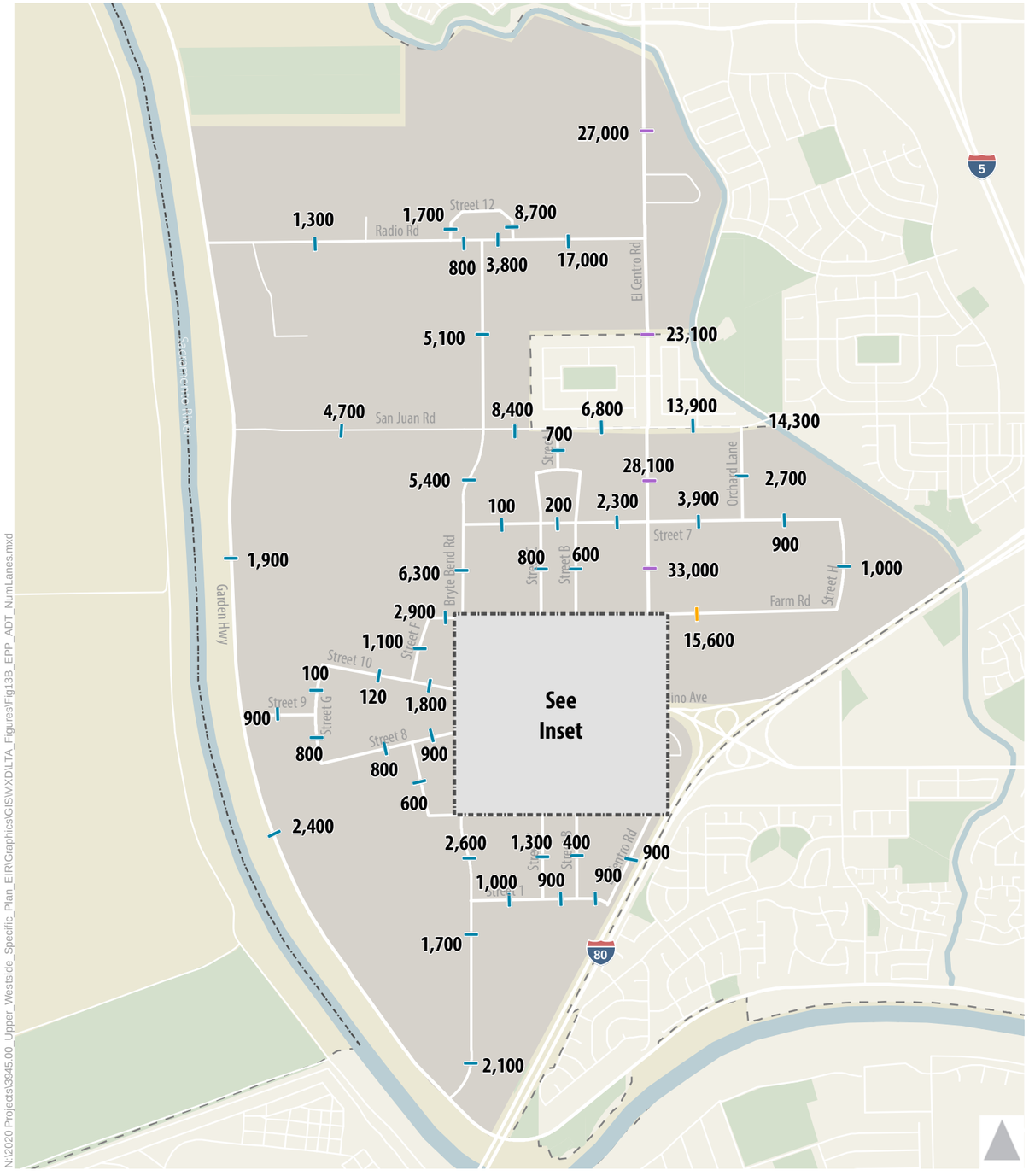
*Existing Plus Project Number of Lanes
- 2
- 4
- 6
- 8

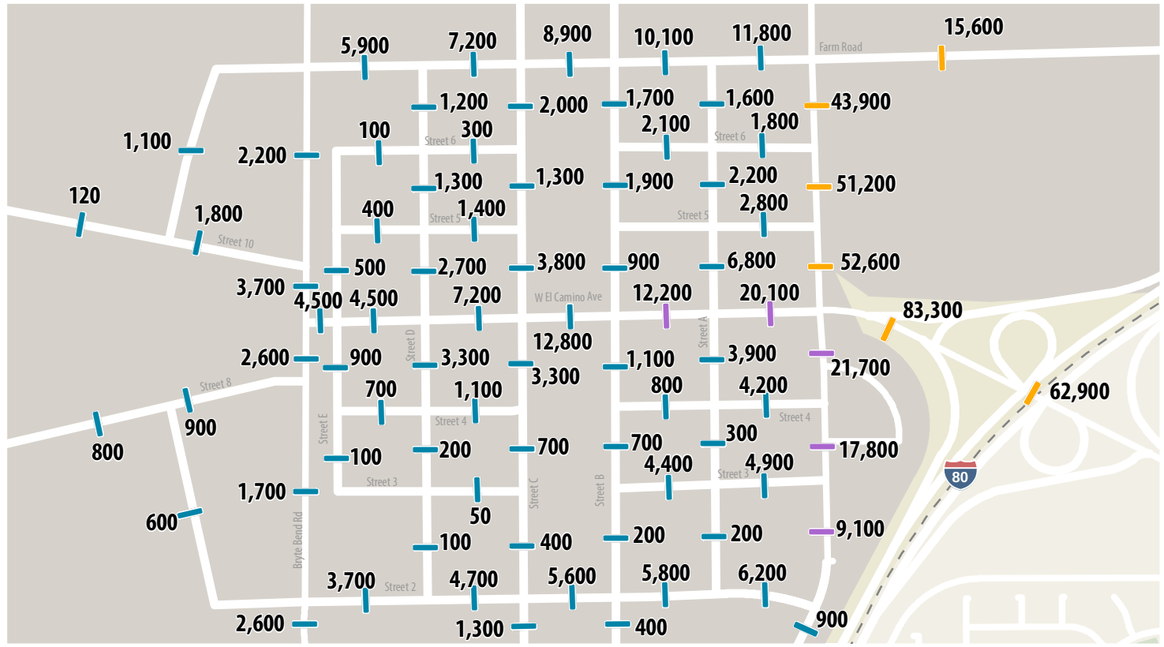
**Includes through lanes only.*

- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary

Figure 7a

# Average Daily Traffic Volumes and Number of Lanes - Existing Plus Project Conditions




*Existing Plus Project Number of Lanes

**x,xxx** Average Daily Traffic Volume

- 2
- 4
- 6
- 8

*Includes through lanes only.*

- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary

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Figure 7b

## Average Daily Traffic Volumes and Number of Lanes - Existing Plus Project Conditions

**Table 11:**
**Change in Daily Traffic at Project Gateways – Existing Plus Project Conditions**

| Segment | Existing ADT [1] | Existing Plus Project ADT [1] | Increase (% of Total) |
|---|---|---|---|
| West El Camino Avenue west of I-80 | 14,200 | 83,300 | 69,100 (69%) |
| San Juan Road west of Duckhorn Drive | 6,600 | 14,300 | 7,700 (8%) |
| El Centro Road south of Arena Boulevard | 7,900 | 27,000 | 19,100 (19%) |
| Garden Highway north of Radio Road | 2,300 | 4,200 | 1,900 (2%) |
| Garden Highway under I-80 | 1,900 | 4,200 | 2,300 (2%) |
| Total | 32,900 | 133,000 | 100,100 (100%) |

Notes:
1. Based on Figures 6 and 7A.
ADT = Average Daily Traffic volume; ADT values are rounded to the nearest 100 vehicles.
Source: Fehr & Peers, 2021

The model's estimate of a net increase in 100,100 daily trips is only slightly lower than the predicted 100,840 net increase in daily trips generated by the project (see Table 11). This implies that the analysis was somewhat conservative because there is likely that more than just 370 daily vehicle trips (i.e., half of 100,840 minus 100,100 daily trips) that rerouted due to increased travel time caused by the project.

# Cumulative and Cumulative Plus Project ADT Forecasts

## Land Use Assumptions

The cumulative version of SACSIM travel demand model already includes partial or full buildout of a number of planned and pending projects within the study area. At the direction of Sacramento County DOT and PER staff, full buildout of each of the projects listed below was assumed:

- Downtown Specific Plan (City of Sacramento)
- Metro Air Park (Sacramento County)
- Grandpark Specific Plan (Sacramento County)
- Northlake (formerly Greenbriar) (City of Sacramento)
- Panhandle (City of Sacramento)
- West Broadway Specific Plan (City of Sacramento)
- Railyards Specific Plan (City of Sacramento)

- River District Specific Plan (City of Sacramento)

In addition to these large projects, buildout of a number of other individual projects located within the City of Sacramento and Sacramento County was assumed. These include currently vacant properties along portions of Arena Boulevard, El Centro Road, Duckhorn Drive, Del Paso Road, and East Commerce Way. Per City of Sacramento staff, no assumptions were made for the reuse of the Sleep Train Arena because at the time the analysis was performed, development plans had not progressed to the point where a reasonable land use assumption could be made.

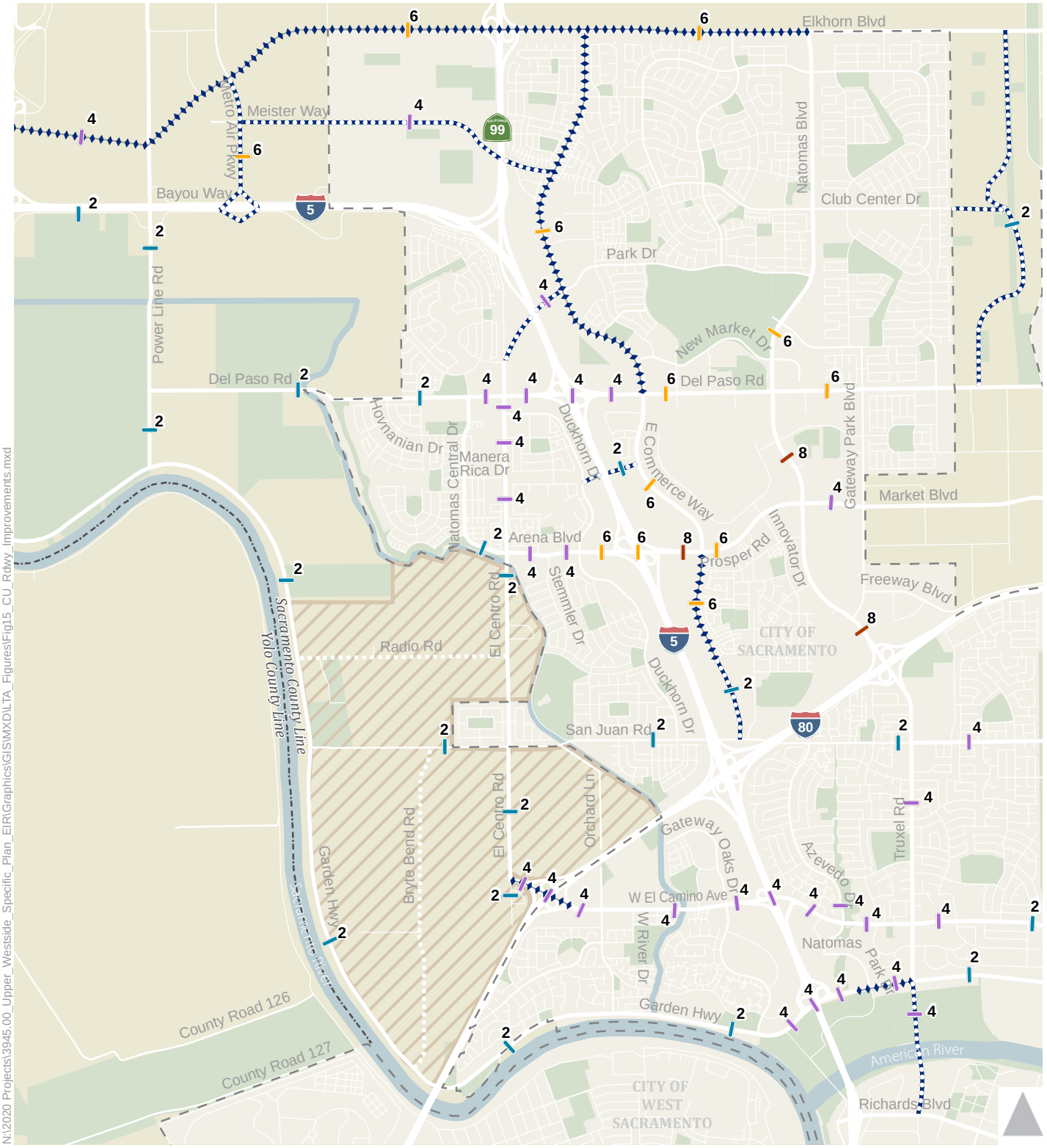
**Figure 8** displays the roadway network assumed in place under cumulative conditions. This list is based primarily on the City of Sacramento General Plan Mobility Element. As shown, several roadways in the study area are assumed to be widened or extended. This includes two new overcrossings of I-5, one new overcrossing of State Route 99, and a new interchange on I-5. Note that the extension of Natomas Crossing Drive was not assumed (either across I-5 or connecting between Duckhorn Drive and El Centro Road, per City of Sacramento direction).

**Figure 9** displays the cumulative no project average daily traffic (ADT) on roadways in the project vicinity. **Figure 10a** shows the ADT on the same roadways under cumulative plus project conditions. **Figure 10b** shows the ADT on the roadways within the Specific Plan area for this scenario.

A comparison of the existing and cumulative no project volumes indicates substantial traffic growth on a number of roadways including the following:

- El Centro Road – volume north of West El Camino Avenue increases from 13,400 ADT under existing conditions to 23,700 ADT under cumulative no project conditions.
- El Centro Road – volume north of Arena Boulevard increases from 8,100 ADT under existing conditions to 20,400 ADT under cumulative no project conditions.
- Arena Boulevard – volume east of I-5 increases from 24,300 ADT under existing conditions to 48,900 ADT under cumulative no project conditions.

This growth is caused by several factors including new land use growth north of I-80 on both sides of I-5 and new roadway connections, particularly the four-lane North Park Drive overcrossing of I-5 between El Centro Road and East Commerce Way, which carries 19,200 ADT. The addition of project trips both adds traffic to numerous roadway segments, but also causes a redistribution of background trips (due to increased congestion along roadways within the project site as well as providing new shopping and employment attractions).



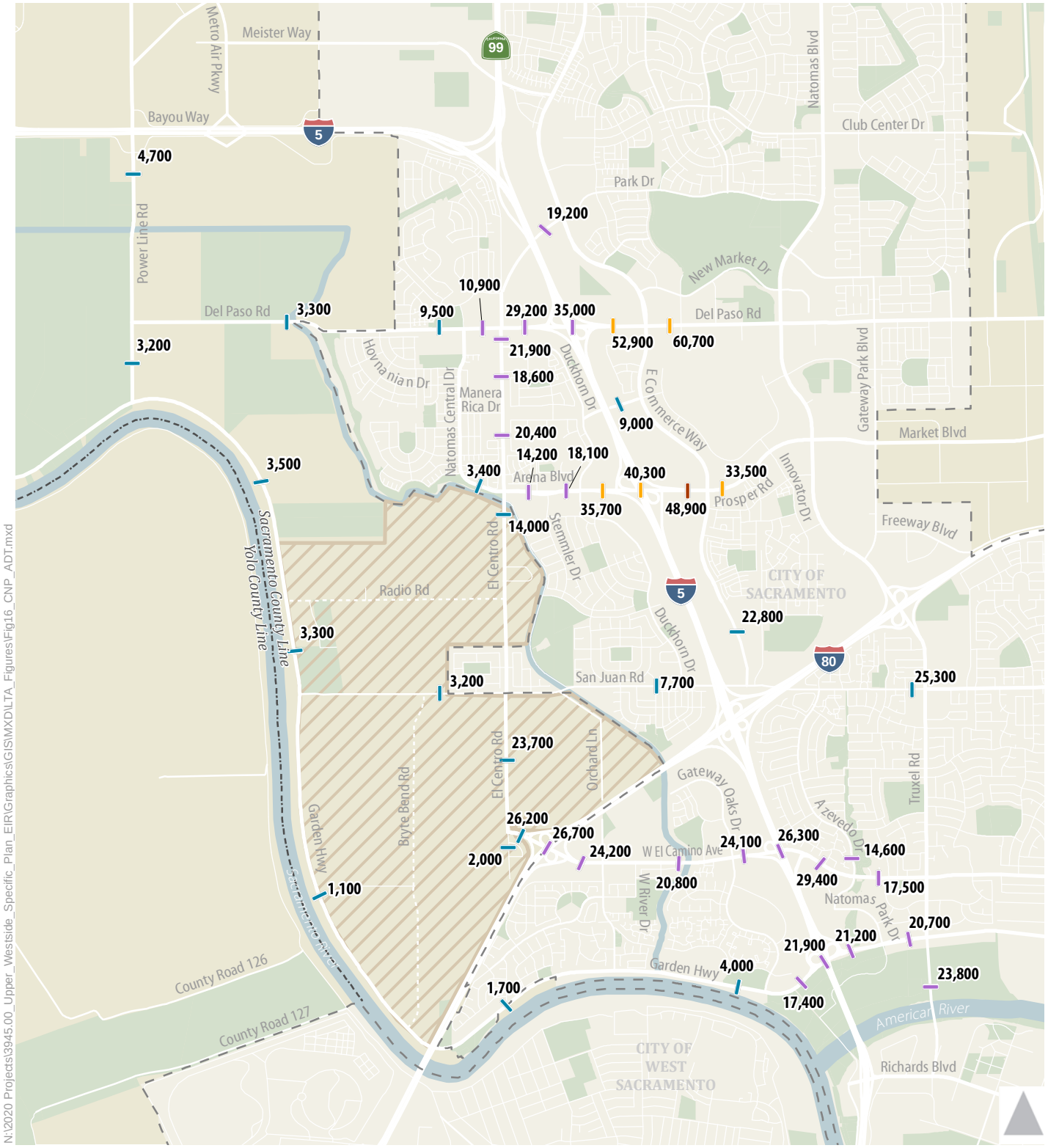

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Number of Lanes
- 2
- 4
- 6
- 8

- Roadway Extension
- Widening to 4 or 6 Lanes
- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary
- Private and/or Gated, Partially Paved/ Unpaved Rural Road
- Public Roadway

Figure 8

## Cumulative Roadway Improvements




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**X,XXX** Average Daily Traffic Volume

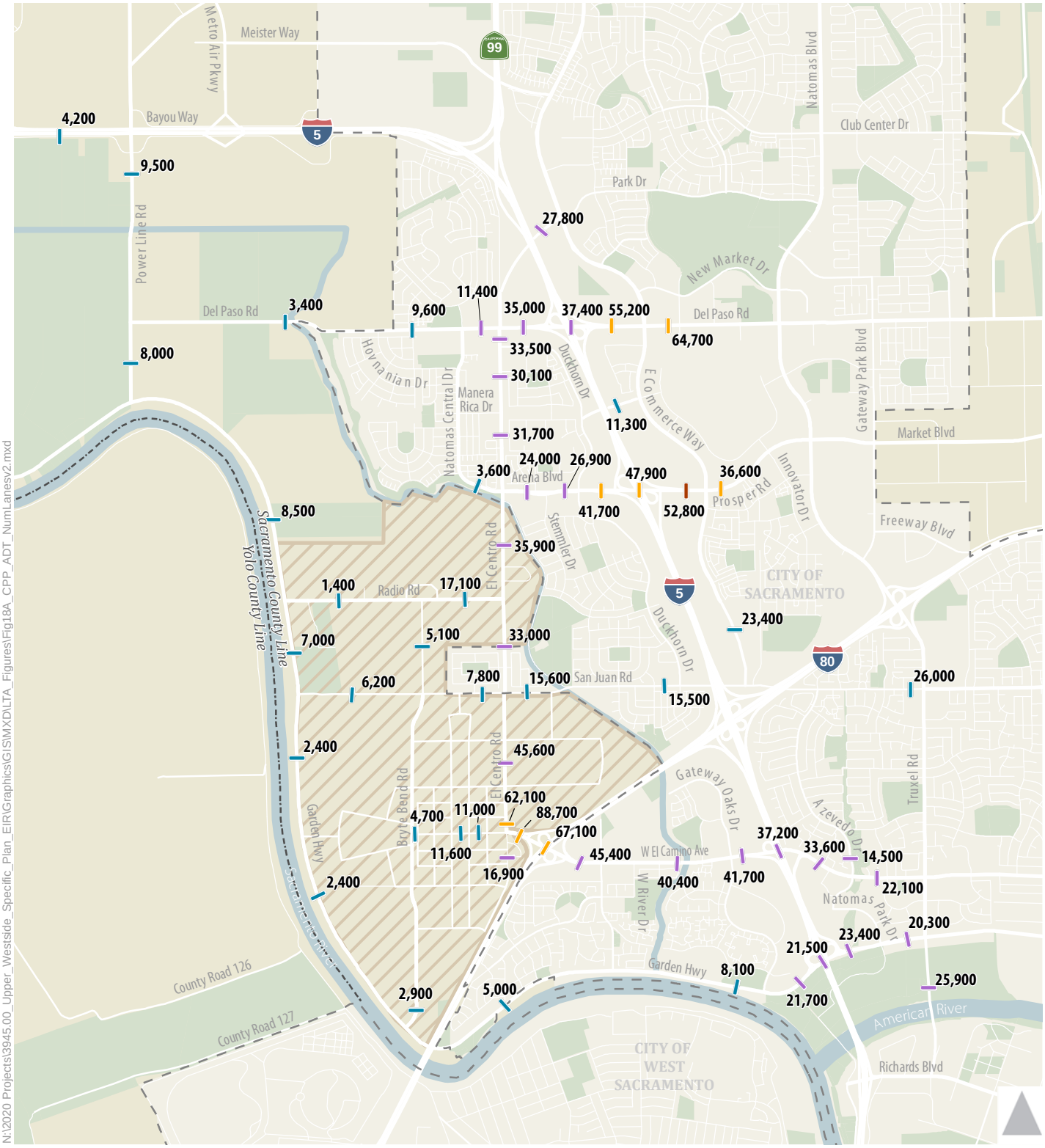
Number of Lanes
- 2
- 4
- 6
- 8

- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary

- Private and/or Gated, Partially Paved/ Unpaved Rural Road
- Public Roadway

Figure 9

## Average Daily Traffic - Cumulative No Project




N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_Figures\Fig18A_CPP_ADT_NumLanesv2.mxd

**X,XXX** Average Daily Traffic Volume (Refer to Figure 18b for complete set of daily traffic volumes on internal roadways)

*Cumulative Plus Project Number of Lanes
- 2
- 4
- 6
- 8

**Includes through lanes only.*

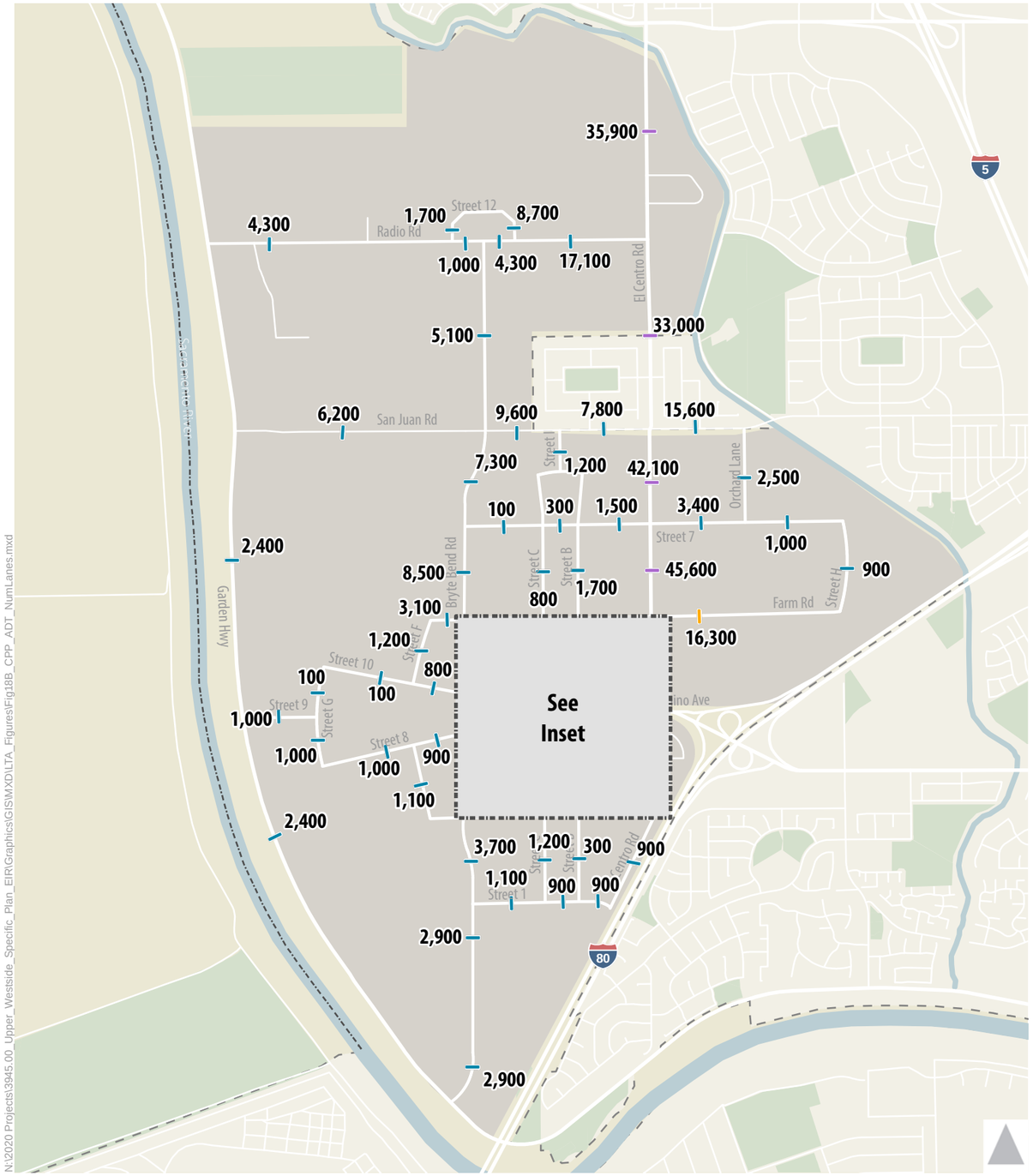
Upper Westside Specific Plan Boundary

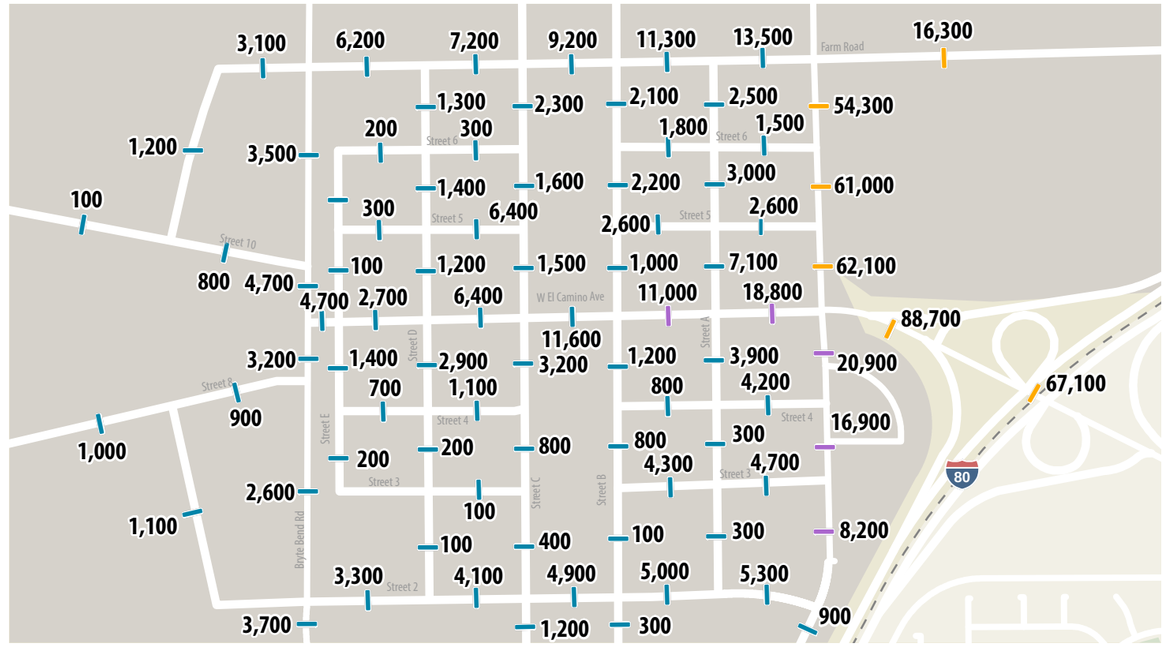
City Boundary

County Boundary

Figure 10a

# Average Daily Traffic Volumes and Number of Lanes - Cumulative Plus Project Conditions




*Cumulative Plus Project Number of Lanes

- 2
- 4
- 6
- 8

*Includes through lanes only.

**x,xxx** Average Daily Traffic Volume

Upper Westside Specific Plan Boundary

City Boundary

County Boundary

Figure 10b

## Average Daily Traffic Volumes and Number of Lanes - Cumulative Plus Project Conditions

# 5. ROADWAY SAFETY ASSESSMENT

This chapter presents an assessment of roadway safety, focusing primarily on freeway interchanges under the jurisdiction of Caltrans.

## Background

Caltrans' October 29, 2020 comment letter on the Notice of Preparation for the Upper Westside Specific Plan EIR did not make any reference to the need for safety analysis. Prior to issuing that letter, Sacramento County had met (virtually) on two separate occasions with Caltrans staff to discuss the scope of work.

In December 2020, Caltrans published the *Interim Local Land Development and Intergovernmental Review (LDIGR) Safety Review Practitioners Guidance*. This document provides guidance for conducting safety reviews of land use projects and plans that may affect the State Highway System. Although it stops short of including specific thresholds of significance or providing specific recommendations for how safety evaluations should be included in CEQA documents, it does clearly indicate the State's expectation that, when appropriate, CEQA studies of land use projects should include safety investigations of the State Highway System. Appendix A of that document provides practitioners with specific guidance on analysis of project effects on freeway off-ramp queuing. That information along with supplemental explanations provided by Caltrans staff in a webinar on January 20, 2021 is used as the basis for the freeway off-ramp queuing analysis presented in this chapter.

Inter-agency coordination continued between Sacramento County and Caltrans in 2021. On August 6, 2021, Caltrans issued a comment letter based on their staff review of an administrative draft of this report and the LTA report. The following key points related to safety were raised or requested in that letter:

1. Potential safety issues related to the I-80 / W. El Camino Avenue interchange from the Sacramento 49er Travel Plaza Truck Stop driveway(s) should be analyzed.
2. Caltrans will provide an analysis of the current collision patterns on the SHS relative to the project for the use in the County's Safety Analysis in the TIA/DEIR. Two to three years prior to the start of construction for Phase 1 of the project, Caltrans will provide an updated collisions patterns analysis to the County to ensure the current operational and safety conditions are represented.
3. Safety analysis should be conducted to demonstrate that safety impacts are being feasibly mitigated by discussing implementation of the "Four Pillars of Traffic Safety".
4. Cumulative safety impacts should be evaluated on the segment of West El Camino Avenue between the I-80 and I-5 interchanges so that the full safety impact can be examined, and improvements can be proposed when local/state projects are proposed in the area.

Each of the above items is addressed directly in this chapter. The August 6, 2021 comment letter also included reference to specific impacts and mitigation measures and responsibilities. Those comments and responses are included in Chapter 6 (Impacts and Mitigation Measures).

Potential Safety Issues at I-80/West El Camino Avenue Interchange Associated with Sacramento 49er Travel Plaza Truck Stop

This truck stop is located in the northeast corner of the West El Camino Avenue/El Centro Road intersection. As shown in Table 4, it was measured to generate about 175 AM peak hour trips and 215 PM peak hour trips, most of which are trucks. The site is accessed by a right-turn only driveway on West El Camino Avenue and three full-service driveways on El Centro Road. At project buildout, this use would be replaced by commercial mixed-use. However, it would likely remain in place for a period of time while the project begins developing.

The short segment of westbound West El Camino Avenue from the I-80 WB Ramps and El Centro Road features a short (about 150-foot) weaving area. The free-flowing off-ramp from westbound I-80 merges into its own lane, which becomes the right-turn lane at El Centro Road. A Class II bike lane and sidewalk are also present on this segment. During the PM peak hour (which is busier than the AM peak hour), 150 vehicles exit this off-ramp, many of which weave with the 910 vehicles (in a single lane) that continue straight from the freeway overcrossing.

The Transportation Injury Mapping System (TIMS) was developed by the University of California Berkeley's Safe Transportation Research & Education Center (SafeTREC) to map and document California crash data from the Statewide Integrated Traffic Records System (SWITRS). TIMS data was pulled for this area for the seven-year period from 2014 through 2020 inclusive. The data revealed only two collisions between the westbound ramps and El Centro Road, both resulting in complaint of pain, but not being severe or fatal. One was a broadside collision and the other involved a collision with a fixed object. Given the volume of traffic on this segment (14,200 daily trips), this is not considered an above average collision rate. There were six reported collisions on El Centro Road along the 49er Travel Plaza frontage. These collisions included broadside, rear-end, and head-on types.

Notwithstanding the above, it is recommended that the following collision monitoring, access management strategies, and phasing of interchange improvements be a project requirement:

1. *Eliminate the 49er Travel Plaza Driveway on West El Camino Avenue*. Removal of this driveway would reduce the number of conflict points involving passenger vehicles, trucks, bicyclists, and pedestrians.
2. *Replace the Free-Flowing Right-Turn Off-Ramp Movement with a Signal-Controlled Movement*. This would eliminate the weaving movement and also slow travel speeds on westbound West El Camino Avenue approaching El Centro Road.

Analysis of Current Collision Patterns on Adjacent Segments of I-80 and I-5

Caltrans provided collision statistics from June 1, 2018 through May 31, 2021 for two segments of I-5 and one segment of I-80 that would be used to the greatest degree by project trips. **Table 12** summarizes the results for the three-year period including the total number of reported collisions, collision rates, primary collision factors, and most common collision type.

Table 12 indicates that collision rates (total, fatal, and fatal/injury) are greater on the two segments of I-5 versus the segment of I-80. This is expected because the segments of I-5 generally feature more recurring congestion, lane changing, and other travel behaviors that may contribute to these collision patterns. On all segments speeding was the most common primary collision factor and rear-end collisions were most commonly reported. The collision rate (0.95 collisions per million vehicle miles of travel) on I-5 is slightly greater than the average rate for similar facilities (0.90 collisions per million vehicle miles of travel).

While the project would add the most trips to the I-80/West El Camino Avenue interchange on-ramps, it would also reconstruct the interchange to include ramp metering. With ramp metering in place, more orderly traffic flow from these on-ramps onto I-80 would be achieved, which may reduce collision rates.

**Table 12: I-5 and I-80 Collision Statistics in Study Area**

| Segment | Postmile Range | Total Number of Reported Collisions | Collision Rates (per MVM) | | | Most Common Primary Collision Factors | Most Common Type of Collision |
|---|---|---|---|---|---|---|---|
| | | | Total | Fatal | Fatal + Injury | | |
| I-80 from 0.85 miles to the west to 0.45 miles to the east of the I-80/West El Camino Avenue Interchange | M0.5 – M1.8 | 80 | 0.73 | 0.006 | 0.27 | Speeding (51%), Improper Turn (20%) | Rear End (51%), Hit Object (20%) |
| I-5 from 0.5 miles to the north of the I-5/Del Paso Road interchange to 0.55 miles to the south of the I-5/Arena Blvd Interchange | 27.5 – 29.5 | 224 | 0.95 | 0.009 | 0.36 | Speeding (51%), Other Violations (32%) | Rear End (50%), Side Swipe (29%) |
| I-5 from 0.15 miles to the north of the I-5/West El Camino Avenue interchange to 0.25 miles to the south of the I-5/Garden Highway Interchange | 25.0 – 26.0 | 204 | 0.95 | 0.009 | 0.36 | Speeding (46%), Other Violations (24%) | Rear End (47%), Side Swipe (26%) |

Notes:

MVM = Million Vehicle Miles
Source: Caltrans TASA Table B Data from June 1, 2018 through May 31, 2021.

Implementation of the Four Pillars of Traffic Safety

Caltrans's *2020-2024 Strategic Plan*[4] lists "Safety First" as its top goal through 2024. The screenshot on the following page summarizes the goals of "Safety First" and lists the actions and strategies to achieve that goal. The *2020 Caltrans Annual Accomplishments Report* describes the Four Pillars of Traffic Safety, which will help guide the department toward the ultimate goal of zero deaths or severe injuries on California roads by 2050. The Four Pillars of Traffic Study are:

1. *Double Down on What Works*
2. *Accelerate Advanced Technology*
3. *Lead Safety Culture Change*
4. *Integrate Equity*

Each of these pillars, including their applicability to the proposed project, are described below.

1. *Double Down on What Works*

This pillar focuses on implementing applicable countermeasures from FHWA's Proven Safety Countermeasures program (https://safety.fhwa.dot.gov/provencountermeasures/). This program contains 20 types of countermeasures including several crosscutting strategies that address multiple safety focus areas. Refer to separately bound appendix for a complete list of these countermeasures and overview of their effectiveness.

The proposed project and Sacramento County design standards already include many of these treatments including: roadway design improvements at horizontal curves, reduced left-turn conflicts at intersections, median barriers, traffic signals with retroreflective backplates, corridor access management, dedicated left/right turn lanes at intersections, roundabouts, medians/pedestrian crossing islands, road diets, and walkways. Other treatments from the FHWA program that could be considered for the proposed project include systemic application of low-cost countermeasures at stop-controlled intersections (e.g., advanced warning signs), leading pedestrian intervals (i.e., pedestrians receive WALK indication before motorists to enhance visibility), USLIMITS2 (a free, web-based tool designed to help practitioners assess and establish safe, reasonable, and consistent speed limits for specific segments of roadway), horizontal curve enhanced delineation and pavement friction, and pedestrian hybrid beacons.

2. *Accelerate Advanced Technology*

This pillar refers to increased and proactive usage of advanced technologies known to improve safety. Examples at traffic signals include vehicle queue spillback detection, coupled with a fixed Changeable Message Sign (CMS) sign upstream to alert drivers of either slowed or stopped traffic ahead. Other examples include extinguishable / blankout signs placed on traffic signal poles to advise travelers of

[4] Caltrans 2020-2024 Strategic Plan

regulatory or advisory conditions (e.g., no right-turn on red, look left for vehicles, etc.). Additionally, adaptive traffic signal systems are now being implemented in a number of corridors in urban areas. These systems can update their traffic signal timings in real-time, in responsive to changes in traffic flows, to better serve travelers (source: Adaptive Traffic Management: SCOOT | Traffic Management | Siemens Mobility USA).

Many of the above technologies are particularly well-suited to the West El Camino Avenue and El Centro Road corridors within and adjacent to the proposed project. Appropriate technologies can be evaluated and deployed at the high-profile West El Camino Avenue/El Centro Road intersection.

3. *Lead Safety Culture Change*

The Safe System approach represents a paradigm shift in roadway safety philosophy. Whereas previously the focus of roadway safety was on preventing collisions, now it is on preventing fatal and severe collisions. Before, the emphasis was on improving human behavior to reduce collision frequency, but now it is recognized that humans make mistakes and are vulnerable, and that roadway design must consider these factors. The Safe System approach refocuses transportation system design and operation on anticipating human mistakes and lessening impact forces to reduce crash severity and save lives. In the Safe System approach, the principles related to prevention of collision-related deaths and serious injuries are:

- Reduce System Kinetic Energy/Control Speeding
- Coordinate and Share Responsibility
- Proactively Address Risks

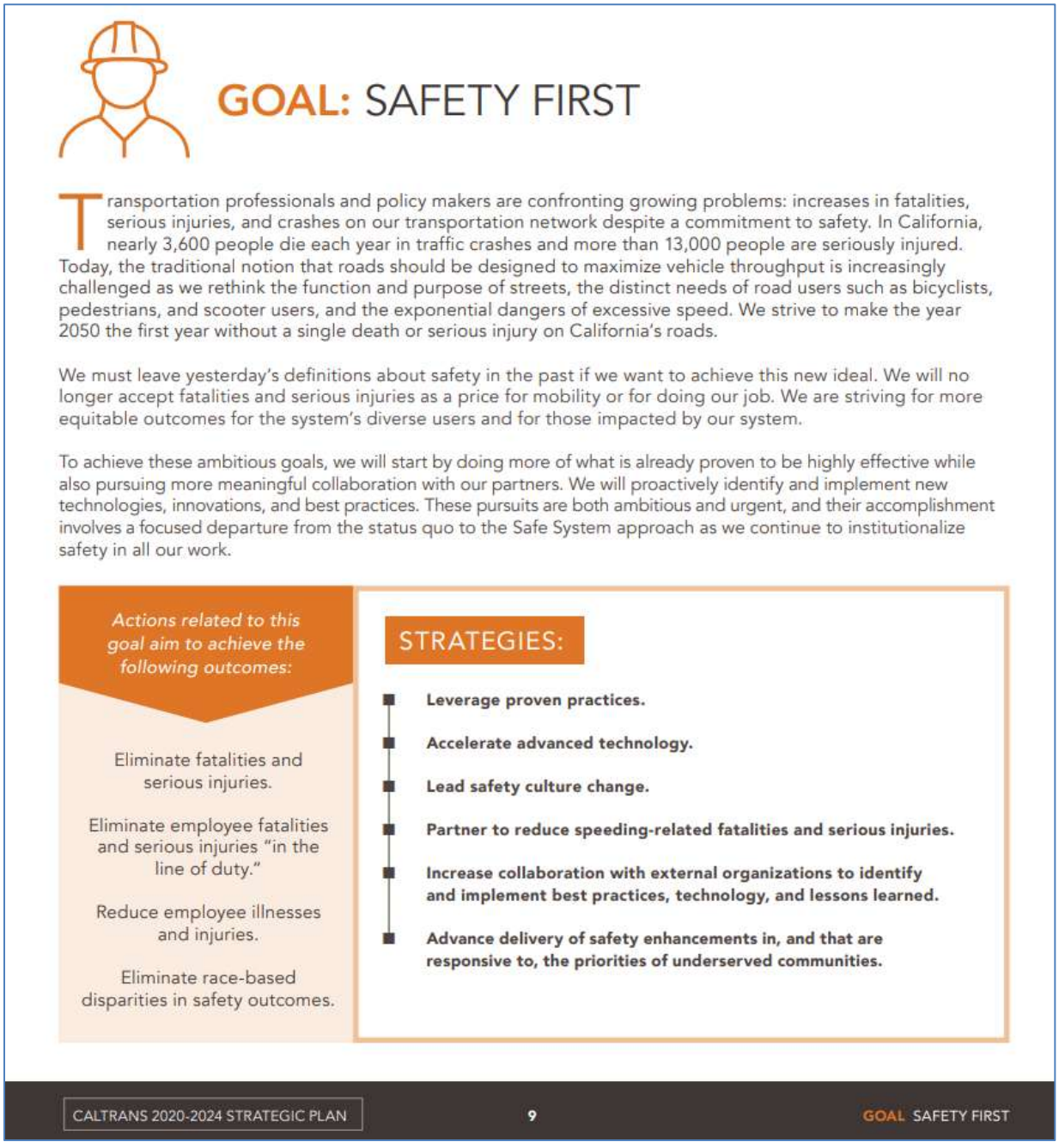
Some of these Safe System principles (e.g., reduce system kinetic energy) can be employed as part of the project design and mitigation. Others are more regional and programmatic in nature, requiring leadership and commitment by regional and state agencies and other stakeholders. Through preparation of a Local Roadway Safety Plan (LRSP), Sacramento County is proactively addressing risks through a systemic approach to safety (versus simply reacting to high collision locations).

4. *Integrate Equity*

The *2020-2024 Strategic Highway Safety Plan* (Caltrans, March 2021) lists "Integrate Equity" as one of its four guiding principles and a way to address institutional and systemic biases. This principle supports a better understanding of the effects of socioeconomic and demographic influences on fatal and serious injury crashes. Understanding these effects includes use of data related to race, income, population density, and other demographic, socioeconomic, and location-based information. Equity in safety may also relate to disparate treatment of different modes of travel.

The proposed project has been designed to accommodate all modes of travel. As described in this report, comprehensive systems are provided for bicyclists and pedestrians. In many cases, facilities supporting

these modes of travel are physically separated from the roadway system to provide greater levels of protection to these vulnerable users.



## GOAL: SAFETY FIRST

Transportation professionals and policy makers are confronting growing problems: increases in fatalities, serious injuries, and crashes on our transportation network despite a commitment to safety. In California, nearly 3,600 people die each year in traffic crashes and more than 13,000 people are seriously injured. Today, the traditional notion that roads should be designed to maximize vehicle throughput is increasingly challenged as we rethink the function and purpose of streets, the distinct needs of road users such as bicyclists, pedestrians, and scooter users, and the exponential dangers of excessive speed. We strive to make the year 2050 the first year without a single death or serious injury on California's roads.

We must leave yesterday's definitions about safety in the past if we want to achieve this new ideal. We will no longer accept fatalities and serious injuries as a price for mobility or for doing our job. We are striving for more equitable outcomes for the system's diverse users and for those impacted by our system.

To achieve these ambitious goals, we will start by doing more of what is already proven to be highly effective while also pursuing more meaningful collaboration with our partners. We will proactively identify and implement new technologies, innovations, and best practices. These pursuits are both ambitious and urgent, and their accomplishment involves a focused departure from the status quo to the Safe System approach as we continue to institutionalize safety in all our work.

*Actions related to this goal aim to achieve the following outcomes:*

Eliminate fatalities and serious injuries.

Eliminate employee fatalities and serious injuries "in the line of duty."

Reduce employee illnesses and injuries.

Eliminate race-based disparities in safety outcomes.

### STRATEGIES:

- **Leverage proven practices.**
- **Accelerate advanced technology.**
- **Lead safety culture change.**
- **Partner to reduce speeding-related fatalities and serious injuries.**
- **Increase collaboration with external organizations to identify and implement best practices, technology, and lessons learned.**
- **Advance delivery of safety enhancements in, and that are responsive to, the priorities of underserved communities.**

CALTRANS 2020-2024 STRATEGIC PLAN 9 GOAL SAFETY FIRST

Cumulative Safety Impacts on West El Camino Avenue between I-5 and I-80

Since this segment is located entirely within the Sacramento City limits, the City would take the lead on approving and implementing any improvements on it. Sacramento is a Vision Zero City, which means they are committed to working together with partners to create safer streets.[5] The City has completed a Top Five Corridors study that identifies collision trends and recommends countermeasures on segments considered part of a high-injury network. The nearest Top Five corridor facility to the project site is El Camino Avenue between Northgate Boulevard and Del Paso Boulevard. Additionally, the City regularly undertakes corridor transportation planning studies such as recent/ongoing efforts along Northgate Boulevard, Stockton Boulevard, Pocket Greenhaven, and Freeport Boulevard.[6] The City also regularly evaluates and prioritizes corridors for study and improvement. Since West El Camino Avenue between I-5 and I-80 has continuous bicycle lanes, sidewalks, and median treatments to manage turning movements, it may not rate as high as other less improved city facilities. However, should collision rates increase, the City would presumably prioritize this corridor for study and potential improvements.

[5] Vision Zero - City of Sacramento

[6] Transportation Planning & Projects - City of Sacramento

# 6. IMPACTS AND MITIGATION MEASURES

This chapter identifies project-specific and cumulative impacts of the proposed project. Impact statements are provided for the topics of VMT and roadway safety, which are the criteria used to evaluate roadway system impacts. Impact statements are also provided for the bicycle, pedestrian, and transit systems. Mitigation measures are recommended for significant impacts.

## Thresholds of Significance

The following thresholds of significance are used to evaluate the significance of project impacts to the roadway, bicycle, pedestrian, and transit systems. This report does not reach any conclusions regarding whether mitigation measures would lessen the significant impact to a less than significant level. Sacramento County staff will make that determination at the time the DEIR is being prepared.

### Roadway Network VMT

The project would cause a significant impact if:

- Project VMT per capita exceeds 85 percent of the regional average VMT per capita.
- Project VMT per employee exceeds 85 percent of the regional average VMT per employee.
- The project's regional retail land uses cause a net increase in regional VMT.
- The project's proposed widening of "regional roadways" is expected to result in an increase in regional VMT.

When reviewing the project's VMT effects for the above thresholds, it is important to consider the project's overall VMT efficiency. In other words, the broader view of VMT properly considers the net effect, for instance, of a slight exceedance of one threshold versus a "substantially below threshold" result for another.

### Roadway Safety / Design Standards

The project would cause a significant impact if it would:

- Cause a substandard rural roadway (i.e., less than 24 feet of pavement width and less than six a foot shoulder) to exceed an average daily traffic volume of 6,000 daily vehicles;

- Add 600 or more new daily vehicle trips to a substandard rural roadway that already carries 6,000 or more daily vehicles;
- Cause the maximum queue length at a freeway off-ramp to extend beyond the gore point onto the mainline (or exacerbate a current or future condition by increasing the maximum queue by one or more vehicles); or
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

## Bicycle and Pedestrian Facilities

The project would cause a significant impact if it would:

- Eliminate or adversely affect an existing bikeway or pedestrian facility in a way that would discourage its use;
- Interfere with the implementation of a planned bikeway as shown in the Bicycle Master Plan, or be in conflict with the Pedestrian Master Plan; or
- Fail to provide adequate access for bicyclists and pedestrians, resulting in unsafe conditions, including unsafe bicycle/pedestrian, bicycle/motor vehicle, or pedestrian/motor vehicle conflicts.

## Transit Services and Facilities

The project would cause a significant impact if it would:

- Eliminate or adversely affect existing transit access, service, or operations;
- Interfere with the implementation of transit service as planned in the Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS); or
- Substantially increase transit demand and fail to provide adequate transit service.

# Project-Specific Impacts

## Roadway Network VMT

The project's effect on VMT was analyzed in a comprehensive manner that considered its relative VMT efficiency per capita and per employee, its VMT effect by adding regional retail, and its VMT effect caused by widening regional roadways. Table 10 showed a reconciliation of the project's VMT budget, noting both savings and exceedances. This table indicated that the project's net increase in VMT due to roadway widenings (1,799 VMT) is more than offset by its beneficial land use efficiency and regional retail VMT saving benefits, which represent a combined savings of 36,158 VMT. The net result is that the project generates 34,359 VMT less than the VMT budgets established by the significance thresholds. Therefore, project impacts to roadway network VMT are considered **less than significant,** and no mitigation is required.

## Roadway Safety / Design Standards:

The project would not cause a substandard rural roadway to exceed an ADT of 6,000 vehicles and would not add 600 or more vehicle trips to a substandard rural roadway that already carries 6,000 or more daily vehicles: Therefore, project impacts to rural roadway compatibility is considered **less than significant,** and no mitigation is required.

Impact TR-1: Freeway Off-Ramp Queues Exceed Available Storage

**Table 13** presents the AM and PM peak hour maximum queues on freeway off-ramps under Existing Plus Project conditions. Refer to separately bound appendix for technical calculations. As shown, all study freeway off-ramps would continue to have sufficient storage to accommodate the maximum queue under existing plus project conditions with the exception of the I-80 eastbound and westbound off-ramps at West El Camino Avenue (during one or both peak hours) despite the interchange's assumed expansion with the project and I-5 southbound off-ramp at J Street (during the AM peak hour).

Appendix A to the *Interim Local Land Development and Intergovernmental Review (LDIGR) Safety Review Practitioners Guidance (Caltrans, December 2020)* specifies that the speed differential between the off-ramp queue and the adjacent travel lane is an important criterion that should be considered when determining significance of freeway off-ramp impacts. The guidance specifically cites 30 miles per hour as a threshold beyond which collision severity increases. Because the I-80 mainline at West El Camino Avenue operates in a free-flow condition during weekday AM and PM peak hours, there would be a greater than a 30 mph speed differential between queued off-ramp traffic and freeway mainline traffic. In contrast, the travel lane on southbound I-5 at the J Street off-ramp is frequently congested during the AM peak hour as a result of

queue spillback from the I-80/US 50/SR 99 interchange. Hence, there would not be a 30 mph speed differential at this off-ramp. Thus, project impacts to off-ramp queuing at the I-80 eastbound and westbound off-ramps at West El Camino Avenue would be considered **significant**.

Mitigation TR-1: *The project applicant shall construct the geometric improvements shown on Figure 11 (or an equivalent or more effective set of alternate improvements subject to the determination of the environmental coordinator) at the I-80/West El Camino Avenue interchange and at the West El Camino Avenue/El Centro Road intersection*.

As noted in the project description, project buildout would be supported by a reconstructed I-80/West El Camino Avenue interchange to accommodate the project's travel needs and provide for a more bicycle/pedestrian friendly design (i.e., by removing the free-flow westbound I-80 off-ramp right-turn movement, for instance). Although the initial proposed project improvements include a traffic signal with additional lanes at the West El Camino Avenue/El Centro Road intersection, the resulting network would not have sufficient capacity to accommodate inbound travel to the project during peak hours. As a result, vehicles queues at each off-ramp would spill onto I-80.

The geometric improvements shown on Figure 11 were analyzed to determine how off-ramp queuing would be affected at the I-80/West El Camino Avenue interchange. The results indicated that the maximum queue with the improvements in place at the eastbound off-ramp would be 1,050 feet during the more critical PM peak hour, which can be accommodated in a standard interchange design. At the westbound off-ramp, the maximum queue would be 475 feet during the AM peak hour and 600 feet during the PM peak hour (see separately bound appendix for technical calculations). Since this is less than the existing storage of 1,500 feet, the improvements on Figure 11 would not cause traffic to spill onto the I-80 mainline under existing plus project conditions.

To implement the improvements shown on Figure 11, a subsequent Intersection Control Evaluation (ICE) process will need to be undertaken in conjunction with Caltrans to identify the proper interchange design to address both operational capacity and safety issues.

**Table 13:**
**Peak Hour Freeway Off-Ramp Queuing – Existing Plus Project Conditions**

| Freeway Off-Ramp | Ramp Length[1] | Peak Hour | Average Maximum Queue (feet)[2] | |
|---|---|---|---|---|
| | | | Existing | Existing Plus Project |
| I-80 EB Off-Ramp at West El Camino Avenue | 1,500 feet [3] | AM | 250 | 700 |
| | | PM | 500 | **>1 mile** |
| I-80 WB Off-Ramp at West El Camino Avenue | 1,500 feet [3] | AM | 700 | **>3,900** |
| | | PM | 250 | **>1 mile** |
| I-5 NB Off-Ramp at Arena Blvd. | 1,475 feet | AM | 100 | 450 |
| | | PM | 200 | 950 |
| I-5 SB Off-Ramp at Arena Blvd. | 1,425 feet | AM | 100 | 125 |
| | | PM | 100 | 300 |
| I-5 NB Off-Ramp at Del Paso Rd. | 1,300 feet | AM | 375 | 425 |
| | | PM | 500 | 525 |
| I-5 SB Off-Ramp at Del Paso Rd. | 1,150 feet | AM | 175 | 1,025 |
| | | PM | 175 | 200 |
| I-5 NB Off-Ramp at West El Camino Ave. | 1,000 feet | AM | 325 | 425 |
| | | PM | 225 | 450 |
| I-5 NB Off-Ramp at Garden Highway | 1,275 feet | AM | 275 | 275 |
| | | PM | 325 | 875 |
| I-5 SB Off-Ramp at Garden Highway | 1,425 feet | AM | 175 | 175 |
| | | PM | 200 | 375 |
| I-5 SB Off-Ramp at Richards Boulevard | 1,050 feet | AM | 625 | 625 |
| | | PM | 400 | 400 |
| I-5 SB Off-Ramp at J Street | 1,525 feet | AM | 1,400 | **1,830** |
| | | PM | 325 | 400 |

Notes:
1. The ramp length is estimated by measuring the distance from the gore point where the off-ramp departs from the mainline to the limit line at the ramp terminal intersection with the local street, as measured from aerial imagery.
2. Maximum queue, as calculated using the average of 10 SimTraffic microsimulation runs. Queue is expressed on a "per lane" basis.
3. Presumed storage to be provided with reconstructed interchange.

Bolded cells indicated that maximum queue exceeds available storage.

Source: Fehr & Peers, 2021.




Source: Wood Rodgers, Feb 2022

Figure 11

## Geometric Improvements at West El Camino Avenue and El Centro Road

CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.

CADD FILE: \\Fpsd03.fpsinc.local\Data\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\CAD\IC Concept.dwg
Feb 23, 2022

Impact TR-2: Freeway On-Ramp Ramp Meter Queues Exceed Available Storage

**Table 14** presents the AM and PM peak hour queues at freeway on-ramp ramp meter locations that would be used by the project. Refer to separately bound appendix for technical calculations. As shown, most freeway ramp meter on-ramp locations would continue to have sufficient storage for queues except for the I-5 southbound diagonal on-ramp at West El Camino Avenue and I-5 southbound loop on-ramp and I-5 northbound diagonal on-ramp at Garden Highway. Project impacts to freeway on-ramp ramp metering queuing would be considered **significant**.

**Table 14:**
**Peak Hour Freeway On-Ramp Ramp Meter Queuing – Existing Plus Project Conditions**

| Freeway Off-Ramp | Ramp Type | Ramp Length[1] | Peak Hour | Average Maximum Queue[2] | |
|---|---|---|---|---|---|
| | | | | Existing | Existing Plus Project |
| I-80 WB Diagonal On-Ramp at West El Camino Avenue | 2 GP Lane + 1 HOV Lane | 1,000 feet | AM | 350 | 200 |
| | | | PM | 250 | 150 |
| I-80 EB Loop On-Ramp at West El Camino Avenue | 1 GP Lane + 1 HOV Lane | 700 feet | AM | 250 | 375 |
| | | | PM | 125 | 375 |
| I-5 NB Loop On-Ramp at Arena Blvd. | 1 GP Lane + 1 HOV Lane | 625 feet | AM | 200 | 200 |
| | | | PM | 100 | 125 |
| I-5 SB Diagonal On-Ramp at Arena Blvd. | 1 GP Lane + 1 HOV Lane | 1,200 feet | AM | 325 | 475 |
| | | | PM | 325 | 575 |
| I-5 SB Diagonal On-Ramp at Del Paso Rd. | 1 GP Lane | 1,100 feet | AM | 375 | 475 |
| | | | PM | 300 | 300 |
| I-5 SB Diagonal On-Ramp at West El Camino Ave. | 1 GP Lane | 750 feet | AM | 325 | 525 |
| | | | PM | 300 | **3,325** |
| I-5 SB Loop On-Ramp at Garden Highway | 1 GP Lane | 625 feet | AM | **775** | **1,075** |
| | | | PM | **1,450** | **1,525** |
| I-5 NB Diagonal On-Ramp at Garden Highway | 1 GP Lane | 725 feet | AM | Not Operational | |
| | | | PM | **900** | **900** |

Notes:
1. The ramp meter storage is measured from the ramp meter stop line to the upstream intersection or roadway ramp departure gore point., as measured from aerial imagery. Storage rounded to the nearest 25 feet.
2. Maximum queue, as calculated using the average of 10 SimTraffic microsimulation runs. Queue is expressed on a "per lane" basis.
3. Presumed storage to be provided with reconstructed interchange.

GP = General Purpose. HOV = High Occupancy Vehicle (Carpool).
Bolded cells indicated that maximum queue exceeds available storage.

Source: Fehr & Peers, 2021.

Mitigation TR-2: *The project applicant shall pay its proportionate fair share percentage toward improvements at the I-5 SB on-ramp at West El Camino Avenue and I-5 SB and NB on-ramps at Garden Highway.*

All three on-ramps feature a single general purpose metered lane with storage (625 to 750 feet) that is less than is typically provided at new interchanges. Queuing could be reduced at each on-ramp by widening it to include a second lane (either general purpose or carpool). Caltrans indicated in their August 6, 2021 comment letter that there is a planned project at the I-5 southbound on-ramp at West El Camino Avenue, but nothing planned at the I-5 on-ramps at Garden Highway. It is further noted that the Garden Highway on-ramp queuing is an existing operational issue, caused in part by Caltrans' decision to apply metering rates of about 800 vehicles per hour (due to congestion along I-5). Since adding increased on-ramp capacity could contribute to increased traffic flows on I-5 during peak hours, one option would be to reduce metering rates in conjunction with the on-ramp capacity increase so as to avoid adding more peak hour traffic onto I-5.

Impact TR-3: Increased Hazards at Project Access Intersections on Garden Highway

The project would construct new or expanded intersections on Garden Highway, which along the project frontage is a two-lane undivided roadway featuring horizontal curvature, a 45-mph posted speed limit, and limited to no shoulders. New/improved intersections would be at Radio Road, San Juan Road, Street 9, and Bryte Bend Road. The addition of project trips to these new/improved intersections could increase design hazards due to their geometric features. This impact would be considered **significant**.

The Bryte Bend Road intersection with Garden Highway would be relocated approximately 600 feet north of its current location to a tangential section of Garden Highway. The appendix contains an exhibit showing that motorists exiting Bryte Bend Road (looking to the left, which is the more critical direction) would have adequate sight distance based on the new location and Sacramento County design standards.

Mitigation TR-3: *The project applicant shall construct the following improvements at project access intersections along Garden Highway:*

- Garden Highway/San Juan Road (#4) – Construct exclusive southbound left-turn lane.
- Garden Highway/Bryte Bend Road (#5) – Construct exclusive northbound right-turn lane.
- Garden Highway/Radio Road (#42) – Construct exclusive southbound left-turn lane.
- Garden Highway/Street 9 (#108) – Side-street stop-control with a single lane on all approaches is recommended based on the projected traffic volumes.

The above recommendations are based on the forecast traffic volume and geometric conditions at each intersection.

## Bicycle and Pedestrian Facilities

Impact TR-4: Inadequate Bicycle/Pedestrian Access on West El Camino Avenue

The project would not eliminate or adversely affect an existing bikeway or pedestrian facility in a way that would discourage its use. It would also not interfere with the implementation of any planned bikeways in the project vicinity. According to the *Sacramento County Bicycle Master Plan* (2011), Class II bike lanes are planned along portions of El Centro Road, San Juan Road, and Radio Road, both within and adjacent to the project site. According to Figure 4, the project would construct bicycle facilities on each of these streets that would match or exceed (in terms of quality or quantity of facilities) what is planned in the Bikeway Master Plan.

As shown on Figure 4, the project would construct a Class II facility southerly along Bryte Bend Road to Garden Highway, where a Class I facility is planned. The project would also construct a Class I facility along existing El Centro Road south of West El Camino Avenue parallel to I-80 to allow for a future connection under I-80 to a planned Class I facility near West River Drive. A bicycle facility connection from the project site to the existing Class II bike lane to the east on Garden Highway (within the City of Sacramento) would be a multi-agency effort because the facility would traverse both Sacramento County, City of Sacramento, and also need to be coordinated with improvements to the levee being made by the Sacramento Area Flood Control Authority (SAFCA). The *Sacramento County Pedestrian Master Plan* (2007) does not show any priority pedestrian projects within the project's immediate vicinity. The proposed project would fail to provide adequate access for bicyclists/pedestrians along West El Camino Avenue and El Centro Road and along West El Camino Avenue easterly to its I-80 interchange. This impact would be considered **significant**.

Mitigation TR-4a: *Implement Mitigation Measure TR-1 (Geometric Modifications at El Centro Road/West El Camino Avenue intersection and I-80/West El Camino Avenue interchange).*

Mitigation TR-4b: *The project applicant shall implement the bicycle/pedestrian improvements shown on Figure 12 at the El Centro Road/West El Camino Avenue intersection and I-80/West El Camino Avenue interchange.*

Specific amenities shown on **Figure 12** to support biking include:

- Class I multi-use path allowing two-way bicycle travel on the north side of West El Camino Avenue that would extend from El Centro Road to the signalized Orchard Lane intersection (within the City of Sacramento) east of I-80. Additional studies during the interchange design phase will be necessary to determine its exact alignment and how/whether it intersects the three on/off ramps at-grade or not.

- Class I multi-use path on the west side of El Centro Road both north and south of West El Camino Avenue.
- Class II bike lanes in both directions of El Centro Road both north and south of West El Camino Avenue.
- Class II bike lanes in both directions of West El Camino Avenue west of El Centro Road (including an eastbound bike lane that would be located between the left and through lanes at the signal). This bike lane would operate with the eastbound left-turn phase, providing bicyclists with the ability to reach the triangular island to access the Class I multi-use path on the north side of West El Camino Avenue.
- A Class II bike lane is currently shown in the eastbound direction of West El Camino Avenue from El Centro Road extending across the interchange. Bicyclists in this lane need to navigate the merging area with vehicles desiring to travel onto the westbound I-80 diagonal on-ramp. Additional discussion with Caltrans will be necessary during the design phase of the interchange to determine whether this bike lane is desirable or not.

Pedestrian amenities include sidewalks along El Centro Road and West El Camino Avenue west of El Centro Road. It is not known whether a sidewalk would also be provided on the south side of West El Camino Avenue east of El Centro Road across the interchange, as pedestrians using it would encounter three on/off ramps carrying considerable levels of traffic. An alternate route for pedestrians would be the Class I path on the north side. Crosswalks would be provided on three of the four legs at the West El Camino Avenue/El Centro Road intersection. The east leg does not have a crosswalk because it would have adversely affected overall traffic operations in the area.

## Transit Services and Facilities

Impact TR-5: Inadequate Transit Service to Meet Demand

Consistent with Sacramento County's General Plan Policy LU-120, the Town Center component of the proposed project would consist of a mix of complementary land uses built at high densities to support transit use. However, existing fixed-route transit service is not provided to the project site. To determine compliance with Policy LU-120, a transit network and frequency analysis needs assessment was performed. This evaluation determined that the area should be served by fixed-route bus service operating on 15-minute headways from approximately 6 AM to 8 PM. Figure 5 displays the recommended route en which buses use portions of Bryte Bend Road and West El Camino Avenue through the Town Center to travel between El Centro Road on the north and I-80 on the east. Since the project would be phased over time, it is anticipated that transit service levels will also increase over time as ridership increases.

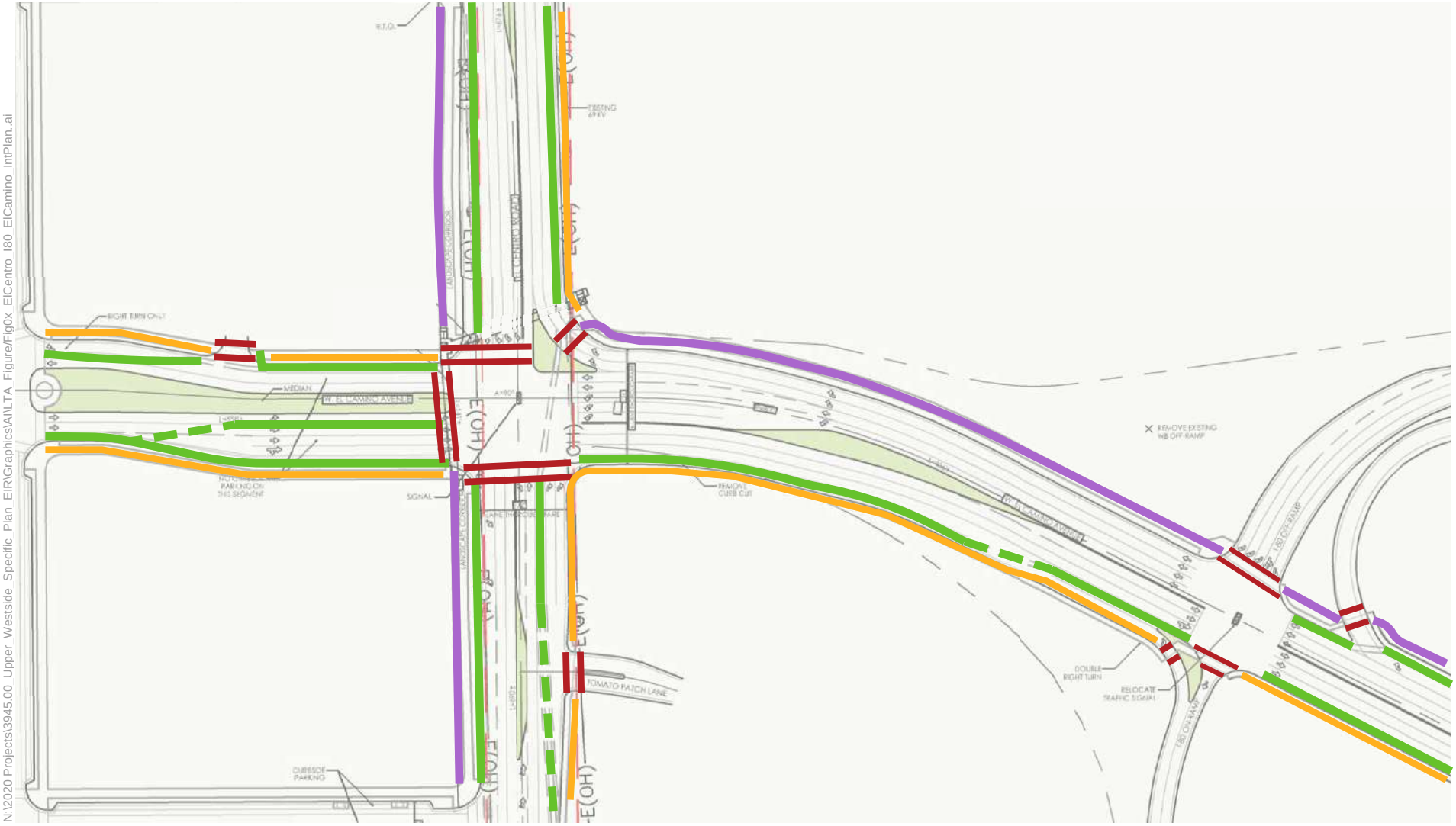



Figure 12

Bicycle and Pedestrian Facilities

El Centro Rd/I-80 WB Ramps/West El Camino Ave Improvements

The project would not eliminate or adversely affect existing transit access, service, or operations, because no service is provided in the immediate project vicinity. The project would not interfere with implementation of transit services as planned in SACOG's MTP/SCS. However, the project would substantially increase transit ridership demand and fail to provide adequate transit service, despite the transit plan that has been prepared for the Specific Plan. Specifically, severe congestion along El Centro Road between West El Camino Avenue and Farm Road would cause substantial delays to planned bus service to operate along this route. Additionally, the lack of planned fixed-route bus service may lead to an unmet demand for transit service. This impact would be considered **significant**.

Mitigation TR-5a: *Implement Mitigation Measure TR-1 (Geometric Modifications at El Centro Road/West El Camino Avenue intersection and I-80/West El Camino Avenue interchange).*

Mitigation TR-5b: *Consistent with General Plan Policy LU-120, the project applicant shall coordinate with Sacramento County and Sacramento Regional Transit District (or other transit operators) to provide the additional transit facilities and services assumed in the transportation analysis, or a cost-effective equivalent level of transit facilities and services. Equivalent transit services may include, but is not limited to buses, vanpools, shuttles, or dial-a-ride service. Ultimate transit service shall include 15-minute headways or equivalent during peak hours (Monday through Friday from 7-9 a.m. and 4-6 p.m.) and 30-minute headways during non-peak hours (Monday through Friday). The implementation of the transit routes and service frequency must be phased with development buildout of the Project. This shall be accomplished through the annexation to County Service Area 10, formation of a transportation services district, or other secured funding mechanism. Such annexation or formation shall occur prior to recordation of any final small lot subdivision map for the project.*

The specified physical improvements would substantially reduce queuing, delays, and congestion on West El Camino Avenue and El Centro Road near the Town Center. They would also decrease average delays at the El Centro Road/West El Camino Avenue, El Centro Road/Farm Road, and two I-80 ramp intersections during peak hours. Operations would generally improve to a level similar to other key corridors in Sacramento County (e.g., Watt Avenue, Arden Way, etc.) that feature high-quality bus service.

# Cumulative Project Impacts

## Roadway Network VMT

According to the TAG, projects that do not demonstrate a significant VMT impact under baseline conditions can be presumed to also be less than significant in the cumulative year. This guidance is aligned with the *Technical Advisory* (at page 6), which states:

> "*A project that falls below an efficiency-based threshold that is aligned with long-term environmental goals and relevant plans would have no cumulative impact distinct from the project impact. Accordingly, a finding of a less-than-significant project impact would imply a less than significant cumulative impact*."

Page 55 of the SACOG MTP/SCS states that average VMT per capita in the region is expected to decrease by 10 percent relative to current conditions by the Year 2040. This result is due to improved multi-modal transportation choices and planned land use growth in "low VMT areas". Thus, the SACOG region planning principles and projections are aligned with the *Technical Advisory* in terms of long-term environmental goals to reduce VMT and greenhouse gas emissions. Therefore, based on the above, cumulative project impacts to roadway network VMT are considered **less than significant,** and no mitigation is required.

## Roadway Safety / Design Standards

Impact TR-6: Degraded Conditions on Substandard Sacramento County Rural Roadways Under Cumulative Conditions

The proposed project would cause the following substandard Sacramento County rural roadways (i.e., less than 24 feet of pavement width and less than a six foot shoulder) to carry over 6,000 daily vehicles:

- Powerline Road: Bayou Way to Del Paso Road
- Powerline Road: Del Paso Road to Garden Highway
- Garden Highway: Powerline Road to Radio Road
- Garden Highway: Radio Road to San Juan Road

Under cumulative no project conditions, they would carry between 3,300 and 4,700 ADT. Under cumulative plus project conditions, they would carry between 7,000 and 9,500 ADT. The project adds considerably more trips to these segments under cumulative conditions versus existing conditions. This is likely due to new employment uses contained within Metro Air Park, which attract home-based work trips from the project.

It is also possible that some of these trips are using the new I-5/Metro Air Park interchange to travel to/from the north on I-5. This impact would be considered **significant** under cumulative conditions.

Mitigation TR-6: The project applicant shall pay their fair share cost of improving the following roadways to conform with current County design standards:

- Powerline Road from Bayou Way to Garden Highway
- Garden Highway from Powerline Road to San Juan Road

The County's TAG indicates that when deficient operations (i.e., volume exceeding 6,000 ADT) are identified on substandard roadways, they should be upgraded to the current rural roadway standard, which consists of two 12-foot travel lanes and 6-foot paved shoulders. The fair share recommendation reflects the fact that the impact is cumulative in nature, and partially driven by other land development and roadway improvements within the County.

Impact TR-7: Freeway Off-Ramp Queues Exceed Available Storage Under Cumulative Conditions

**Table 15** presents the AM and PM peak hour maximum queues on freeway off-ramps under cumulative no project and plus project conditions. Refer to separately bound appendix for technical calculations. Under cumulative no project conditions, both off-ramps at the I-5/Del Paso Road and I-5/Garden Highway interchanges and the northbound off-ramp at the I-5/Arena Boulevard interchange would have maximum queues during one or both peak hours that would exceed available storage. This is most often being caused by downstream surface street congestion (primarily at intersections within the City of Sacramento such as Garden Highway/Truxel Road, Del Paso Road/El Centro Road, and Arena Boulevard/East Commerce Way) that causes traffic to spill back to the interchange, thereby hindering the flow of off-ramp traffic. Under cumulative plus project conditions, all study freeway off-ramps would have maximum queues that exceed the available storage. Improvements at the surface street intersection bottlenecks were aimed at reducing vehicle queues that spill back to each interchange. Improvements such as lane restripings, adding lanes, or modifying signal phasing were either found to not be effective or could also cause the need for additional right-of-way. Further, these improvements are outside the control of Sacramento County or Caltrans since they are located within the City of Sacramento. Project impacts to freeway off-ramp queuing would be considered **significant** under cumulative conditions.

This study did not evaluate freeway operations. Therefore, it was not possible to determine whether freeway mainline conditions would be degraded under cumulative conditions to the point that the speed differential between the off-ramp and mainline would be 30 mph or less.

**Table 15:**
**Peak Hour Freeway Off-Ramp Queuing – Cumulative Plus Project Conditions**

| Freeway Off-Ramp | Ramp Length[1] | Peak Hour | Average Maximum Queue[2] | |
|---|---|---|---|---|
| | | | Cumulative No Project | Cumulative Plus Project |
| I-80 EB Off-Ramp at West El Camino Avenue | 1,500 feet [3] | AM | 375 | **4,850** |
| | | PM | 325 | **> 1 mile** |
| I-80 WB Off-Ramp at West El Camino Avenue | 1,500 feet [3] | AM | 250 | **> 1 mile** |
| | | PM | 175 | **> 1 mile** |
| I-5 NB Off-Ramp at Arena Blvd. | 1,475 feet | AM | 475 | **> 1 mile** |
| | | PM | **2,525** | **> 1 mile** |
| I-5 SB Off-Ramp at Arena Blvd. | 1,425 feet | AM | 200 | **2,525** |
| | | PM | 125 | **1,475** |
| I-5 NB Off-Ramp at Del Paso Rd. | 1,300 feet | AM | 250 | 275 |
| | | PM | **4,200** | **5,025** |
| I-5 SB Off-Ramp at Del Paso Rd. | 1,150 feet | AM | 275 | **1,600** |
| | | PM | **4,500** | **4,525** |
| I-5 NB Off-Ramp at West El Camino Ave. | 1,000 feet | AM | 350 | 525 |
| | | PM | 250 | **1,200** |
| I-5 NB Off-Ramp at Garden Highway | 1,275 feet | AM | **1,775** | **3,950** |
| | | PM | **4,450** | **4,950** |
| I-5 SB Off-Ramp at Garden Highway | 1,425 feet | AM | **3,525** | **1,575 [4]** |
| | | PM | **3,525** | **3,625** |

Notes:
1. The ramp length is estimated by measuring the distance from the gore point where the off-ramp departs from the mainline to the limit line at the ramp terminal intersection with the local street, as measured from aerial imagery.
2. Maximum queue, as calculated using the average of 10 SimTraffic microsimulation runs. Queue is expressed on a "per lane" basis.
3. Presumed storage to be provided with reconstructed interchange.
4. This queue is shorter than cumulative no project conditions because vehicles attempting to access the southbound on-ramp block the northbound off-ramp. This in turn, results in more green time for eastbound through, thereby reducing the southbound off-ramp queue.

Bolded cells indicated that maximum queue exceeds available storage.

Source: Fehr & Peers, 2021.

Mitigation TR-7a: *Implement Mitigation Measure TR-1 (Geometric Modifications at El Centro Road/West El Camino Avenue intersection and I-80/West El Camino Avenue interchange).*

Mitigation TR-7b: *The project applicant shall construct or pay their fair share cost for the following improvements*:

- *At the Arena Boulevard/El Centro Road intersection, construct second westbound left-turn lane, second southbound through lane, restripe eastbound right-turn lane to a shared through/right, and lengthen northbound right-turn lane to 400 feet with right-turn overlap arrow.*
- *Pay fair share cost of installing an eastbound right-turn overlap phase at Arena Boulevard/East Commerce Way intersection.*

**Table 16** illustrates the effectiveness of the above improvements on freeway off-ramp queuing under cumulative plus project conditions. Refer to separately bound appendix for technical calculations as well as an exhibit showing improvements at the Arena Boulevard/El Centro Road intersection. As shown, the recommended mitigation measures would result in maximum queues at freeway off-ramps remaining within the available storage at the I-80/West El Camino Avenue, I-5/West El Camino Avenue, and I-5/Arena Boulevard interchanges. Queues would exceed the available storage at the I-5/Del Paso Road and I-5/Garden Highway interchanges. As noted previously, no known improvements are planned at either interchange. Further, some of the queue spillbacks are due to surface street congestion, which could likely not be fully resolved by interchange reconstruction.

In early 2022, Sacramento County, Fehr & Peers, and Caltrans met to discuss whether the identified geometric improvements at the I-80/West El Camino Avenue interchange would result in vehicle queues on the westbound off-ramp that would spill back onto I-80. As noted previously, the reported maximum queues in this report are the average of the maximum queues from 10 SimTraffic microsimulation runs. To better illustrate the effectiveness of these improvements during the more critical PM peak hour, the separately bound appendix include screen captures of 20 SimTraffic model runs at the end of each run's peak hour. As shown, 18 of the 20 runs had queues that were within the off-ramp storage (only Runs 7 and 18 show queues that slightly exceed the ramp storage). Since the reported maximum queue is the average of the ten SimTraffic runs, it follows that the reported queue would not exceed the available storage. Detailed review of the simulation indicates that the westbound left-turn movement at the West El Camino Avenue/El Centro Road intersection contributes to westbound off-ramp queuing. Additional model runs were conducted to test the effects of increasing this left-turn's maximum green time from 19 to 23 seconds. The separately bound appendix includes screen captures of 20 SimTraffic model runs at the end of each run's peak hour with this timing modification in place. As shown, all 20 runs had queues within the off-ramp storage. In conclusion, this analysis has demonstrated that the identified geometric improvements would not cause vehicle queues to spill back onto I-80 under cumulative plus project conditions.

**Table 16:**
**Peak Hour Freeway Off-Ramp Queuing – Cumulative Plus Project Conditions with Improvements**

| Freeway Off-Ramp | Ramp Length[1] | Peak Hour | Average Maximum Queue (feet)[2] | | |
|---|---|---|---|---|---|
| | | | | Cumulative Plus Project | |
| | | | Cumulative No Project | Without Improvements | With Improvements |
| I-80 EB Off-Ramp at West El Camino Avenue | 1,500 feet [3] | AM | 375 | **4,850** | 950 |
| | | PM | 325 | **> 1 mile** | 975 |
| I-80 WB Off-Ramp at West El Camino Avenue | 1,500 feet [3] | AM | 250 | **> 1 mile** | 525 |
| | | PM | 175 | **> 1 mile** | 1,025 |
| I-5 NB Off-Ramp at Arena Blvd. | 1,475 feet | AM | 475 | **> 1 mile** | 150 |
| | | PM | **2,525** | **> 1 mile** | 275 |
| I-5 SB Off-Ramp at Arena Blvd. [4] | 1,425 feet | AM | 200 | **2,525** | 200 |
| | | PM | 125 | **1,475** | 150 |
| I-5 NB Off-Ramp at Del Paso Rd. [4] | 1,300 feet | AM | 250 | **275** | - |
| | | PM | **4,200** | **5,025** | **-** |
| I-5 SB Off-Ramp at Del Paso Rd. | 1,150 feet | AM | 275 | **1,600** | **-** |
| | | PM | **4,500** | **4,525** | **-** |
| I-5 NB Off-Ramp at West El Camino Ave. | 1,000 feet | AM | 350 | 525 | 775 |
| | | PM | 250 | **1,200** | 425 |
| I-5 NB Off-Ramp at Garden Highway [5] | 1,275 feet | AM | **1,775** | **3,950** | **-** |
| | | PM | **4,450** | **4,950** | **-** |
| I-5 SB Off-Ramp at Garden Highway [5] | 1,425 feet | AM | **3,525** | **1,575** | **-** |
| | | PM | **3,525** | **3,625** | **-** |

Notes:
1. The ramp length is estimated by measuring the distance from the gore point where the off-ramp departs from the mainline to the limit line at the ramp terminal intersection with the local street, as measured from aerial imagery.
2. Maximum queue, as calculated using the average of 10 SimTraffic microsimulation runs. Queue is expressed on a "per lane" basis.
3. Presumed storage to be provided with reconstructed interchange.
4. Bottlenecks exist at both Del Paso Road/El Centro Road and Del Paso Road/East Commerce Way that contribute to lengthy off-ramp queues. Feasibility of improvements at those locations is unknown at this time.
5. Off-ramp queuing caused both by ramp storage limitations and also the Truxel Road/Garden Highway/New American River bridge intersection. Feasibility of improvements at those locations is unknown at this time.

Bolded cells indicated that maximum queue exceeds available storage.

Source: Fehr & Peers, 2021.

Impact TR-8: Freeway On-Ramp Ramp Meter Queues Exceed Available Storage Under Cumulative Conditions

**Table 17** presents the AM and PM peak hour maximum queues under cumulative conditions at freeway on-ramp ramp meter locations that would be used by the project. Refer to separately bound appendix for technical calculations. As shown, most freeway ramp meter on-ramp locations would continue to have sufficient storage for queues. However, the project would cause the maximum queue at the metered on-ramps at the I-5 southbound diagonal on-ramp (PM peak hour) at West El Camino Avenue and I-5 southbound loop on-ramp at Garden Highway (AM peak hour) to exceed their available storage. It should be noted that the "plus project" scenario assumed a second metered lane at the I-5 southbound on-ramp at Del Paso Road in order to avoid severely over-capacity conditions along Del Paso Road and El Centro Road. This, along with worsening bottlenecks elsewhere in the system, explains why maximum queues at this on-ramp are reduced under plus project conditions. Project impacts to freeway on-ramp ramp metering queuing would be considered **significant**.

Mitigation TR-8: *The project applicant shall pay its proportionate fair share percentage toward improvements at the I-5 SB diagonal on-ramp at West El Camino Avenue, I-5 SB loop on-ramp at Garden Highway, and I-5 SB diagonal on-ramp at Del Paso Road.* Queuing could be reduced at each on-ramp by widening it to include a second metered lane (either general purpose or carpool).

A variety of constraints are present at the I-5/Garden Highway interchange, which could preclude any additional improvements. However, improvements to the I-5 southbound on-ramp at West El Camino Avenue would indirectly benefit the Garden Highway southbound loop on-ramp by redirecting some trips away from it.

**Table 17:**
**Peak Hour Freeway On-Ramp Ramp Meter Queuing – Cumulative Plus Project Conditions**

| Freeway Off-Ramp | Ramp Type | Ramp Length[1] | Peak Hour | Average Maximum Queue (feet)[2] | |
|---|---|---|---|---|---|
| | | | | Cumulative No Project | Cumulative Plus Project |
| I-80 WB Diagonal On-Ramp at West El Camino Avenue | 2 GP Lane + 1 HOV Lane | 1,000 feet | AM | 450 | 125 |
| | | | PM | 350 | 125 |
| I-80 EB Loop On-Ramp at West El Camino Avenue | 1 GP Lane + 1 HOV Lane | 700 feet | AM | 325 | 325 |
| | | | PM | 200 | 275 |
| I-5 NB Loop On-Ramp at Arena Blvd. | 1 GP Lane + 1 HOV Lane | 625 feet | AM | 150 | 175 |
| | | | PM | 125 | 125 |
| I-5 SB Diagonal On-Ramp at Arena Blvd. | 1 GP Lane + 1 HOV Lane | 1,200 feet | AM | 950 | 425 |
| | | | PM | 500 | 275 |
| I-5 SB Diagonal On-Ramp at Del Paso Rd. | 1 GP Lane / 2 GP Lanes [4] | 1,100 feet | AM | **1,950** | 200 |
| | | | PM | 475 | 225 |
| I-5 SB Diagonal On-Ramp at West El Camino Ave. | 1 GP Lane | 750 feet | AM | 425 | 450 |
| | | | PM | 675 | **1,350** |
| I-5 SB Loop On-Ramp at Garden Highway | 1 GP Lane | 625 feet | AM | **900** | **1,575** |
| | | | PM | 400 | 450 |
| I-5 NB Diagonal On-Ramp at Garden Highway | 1 GP Lane | 725 feet | AM | 175 | 175 |
| | | | PM | **950** | **950** |

Notes:
1. The ramp meter storage is measured from the ramp meter stop line to the upstream intersection or roadway ramp departure gore point., as measured from aerial imagery. Storage rounded to the nearest 25 feet.
2. Maximum queue, as calculated using the average of 10 SimTraffic microsimulation runs. Queue is expressed on a "per lane" basis.
3. Presumed storage to be provided with reconstructed interchange.
4. Assumed to be widened to two lanes under plus project conditions. See discussion on previous page for rationale.

GP = General Purpose. HOV = High Occupancy Vehicle (Carpool).
Shaded cells represent maximum queues that exceed available storage.

Source: Fehr & Peers, 2021.

Impact TR-10: Increased Hazards at Project Access Intersections on Garden Highway Under Cumulative Conditions

The project would construct new or expanded intersections on Garden Highway, which along the project frontage is a two-lane undivided roadway featuring horizontal curvature, a 45-mph posted speed limit, and limited to no shoulders. New/improved intersections would be at Radio Road, San Juan Road, Street 9, and Bryte Bend Road. The addition of project trips to these new/improved intersections could increase design hazards due to their geometric features. Under cumulative conditions, additional background travel is expected at these intersections, which should be considered in their design. This impact would be considered **significant** under cumulative conditions.

Mitigation TR-10: *Implement Mitigation Measure TR-3 (Physical Improvements at Intersections Along Garden Highway):*

The recommended mitigation measures in Mitigation Measure TR-3 are also suitable for cumulative conditions based on the cumulative traffic forecasts and geometric conditions at each intersection.

## Bicycle and Pedestrian Facilities

Impact TR-11: Inadequate Bicycle/Pedestrian Access on West El Camino Avenue

The project would not eliminate or adversely affect a planned bikeway or pedestrian facility in a way that would discourage its use. According to the *Sacramento County Bicycle Master Plan* (2011), Class II bike lanes are planned along portions of El Centro Road, San Juan Road, and Radio Road. Both within and adjacent to the project site. According to Figure 4, the project would construct bicycle facilities on each of these streets that would match or exceed (in terms of quality or quantity of facilities) what is planned in the Bikeway Master Plan. The *Sacramento County Pedestrian Master Plan* (2007) does not show any priority pedestrian projects within the project's immediate vicinity.

The proposed project would fail to provide adequate access for bicyclists/pedestrians along West El Camino Avenue and El Centro Road and along West El Camino Avenue easterly to its I-80 interchange. This impact would be considered **significant**.

Mitigation TR-11a: *Implement Mitigation Measure TR-1 (Geometric Modifications at El Centro Road/West El Camino Avenue intersection and I-80/West El Camino Avenue interchange).*

Mitigation TR-11b: *Implement Mitigation Measure TR-4b (Bicycle/pedestrian improvements at El Centro Road/West El Camino Avenue intersection and I-80/West El Camino Avenue interchange).*

## Transit Services and Facilities

Impact TR-12: Inadequate Transit Service to Meet Demand

Consistent with Sacramento County's General Plan Policy LU-120, the Town Center component of the proposed project would consist of a mix of complementary land uses built at high densities to support transit use. However, existing fixed-route transit service is not provided to the project site. To determine compliance with Policy LU-120, a transit network and frequency analysis needs assessment was performed. This evaluation determined that the area should be served by fixed-route bus service operating on 15-minute headways from approximately 6 AM to 8 PM. Figure 5 displays the recommended route en which buses use portions of Bryte Bend Road and West El Camino Avenue through the Town Center to travel between El Centro Road on the north and I-80 on the east. Since the project would be phased over time, it is anticipated that transit service levels will also increase over time as ridership increases.

Mitigation TR-12a: *Implement Mitigation Measure TR-1 (Geometric Modifications at El Centro Road/West El Camino Avenue intersection and I-80/West El Camino Avenue interchange).*

Mitigation TR-12b: *Implement Mitigation Measure TR-5B*

The specified physical improvements would substantially reduce cumulative queuing, delays, and congestion on West El Camino Avenue and El Centro Road near the Town Center.



# APPENDIX TR-2

## LOCAL TRANSPORTATION ANALYSIS

# Final

# Local Transportation Analysis for

# Upper Westside Specific Plan

**Prepared for:**
**Sacramento County**

March 2022

RS20-3945

FEHR PEERS

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# EXECUTIVE SUMMARY

## STUDY PURPOSE

This study represents Part II of the Sacramento County *Transportation Analysis Guidelines* (TAG) study requirement for proposed land developments. Part II consists of an analysis of a proposed project's effects on traffic operations at potentially affected roadways and intersections. This document, which is known as a Local Transportation Analysis (LTA), is separate and distinct from Part I of the TAG requirement that focuses on the project's impacts to the transportation system based on its Vehicle Miles Traveled (VMT).

Part I also includes detailed analysis of bicycle/pedestrian facilities, transit facilities and services, freeway off-ramp queuing and on–ramp queuing, and non-standard roadway design, all of which are considered areas of potentially significant impacts under the California Environmental Quality Act (CEQA). The Part I report (*CEQA Transportation Impact Analysis for Upper Westside Specific Plan* Fehr & Peers, March 2022) is available at County offices and online.

## PROJECT DESCRIPTION

The Upper Westside Specific Plan would be situated on approximately 2,066 acres north of Interstate 80 (I-80) and west of Interstate (I-5) in unincorporated Sacramento County. Figure 1 shows the regional setting and the location of the Upper Westside Specific Plan. Figure 2 shows the project site plan. The proposed project includes 9,356 dwelling units, 3.1 million square feet of business professional/commercial, schools, parks, and various open space elements. The project would be accessed via several different existing roadways including:

- West El Camino Avenue at I-80
- San Juan Road west of I-5
- Arena Boulevard west of I-5 via El Centro Road
- Del Paso Road west of I-5 via El Centro Road
- Garden Highway via four connections (existing San Juan Road, improvements to existing Radio Road, and two new connections in the southwest portion of the site)

Figure 3 shows the project's internal roadway network. As shown, West El Camino Avenue would extend westerly from El Centro Road as the Main Street of the Town Center, which would be a dense, mixed-use environment with a grid-street system.

## STUDY OVERVIEW

This study analyzes project effects at 43 existing study roadways and 41 existing study intersections located in Sacramento County, City of Sacramento, and under the jurisdiction of Caltrans. It includes five existing freeway interchanges, though freeway analysis is not performed based on guidance contained in the *Vehicle Miles Traveled-Focused Transportation Impact Study Guide (TISG) (Caltrans, 2020)*.

The following scenarios are analyzed in this report:

- Existing Conditions – represents conditions in 2018-2019, prior to the beginning of the COVID-19 pandemic in March 2020.
- Existing Plus Proposed Project conditions – analyzes the study area assuming buildout of the proposed project under existing conditions.
- Cumulative (2040) No Project Conditions – analyzes the study area in 2040 assuming the project site remains in its current state.
- Cumulative (2040) Plus Proposed Project conditions – analyzes the study area assuming buildout of the proposed project under cumulative conditions.

Roadways in Sacramento County are analyzed for Level of Service (LOS). The City of Sacramento also has applicable LOS policies and goals in its 2035 General Plan, though they are not typically applied on a project-level basis (and therefore not applied here). Caltrans does not have applicable LOS thresholds for roadways. Intersections in all three jurisdictions are analyzed for weekday AM and PM peak hour conditions. Sacramento County has General Plan policies pertaining to LOS goals for locations both within its Urban Service Boundary and beyond it. In contrast, Caltrans and the City of Sacramento are transitioning away from use of LOS thresholds, instead focusing on more holistic transportation reviews that consider all modes of travel, excess queuing, and other transportation policies (e.g., VMT reduction).

As a consequence of Senate Bill 743, which precluded use of LOS as a means of analyzing roadway system impacts under CEQA, "operational deficiencies" are used in this report (versus "significant impacts") to describe substantially degraded conditions caused or exacerbated by the project.

## EXISTING CONDITIONS

Due to the effects of the COVID-19 pandemic on travel behavior, recent counts (2017-February 2020) were used to establish a pre-COVID existing condition. All 11 Sacramento County study roadway segments operate acceptably, with 10 segments operating at LOS C or better. One segment, West El Camino Avenue

between El Centro Road and the I-80 WB Ramps, has an average daily traffic (ADT) of 14,200 and operates at LOS E.

A review of intersection LOS results indicates that all but two of the 41 study intersections currently operate at LOS D or better during the AM peak hour. All study intersections operate at LOS D or better during the PM peak hour.

## PROJECT TRAVEL CHARACTERISTICS

The density and complementary nature of land uses within the project site, combined with the availability of transit and walking/biking to external destinations, would result in an estimated 25 percent reduction in gross daily vehicle trips when compared to a condition with no internal trip-making and all external trips made by vehicle. During the AM and PM peak hours, this reduction would increase to 37 percent and 28 percent, respectively. The proposed project would result in a net increase (over trips generated by existing land uses that would be removed) of approximately 100,800 new daily vehicle trips, with 7,530 occurring during the AM peak hour and 8,200 occurring during the PM peak hour.

Approximately 69 percent of project trips would use the I-80/West El Camino Avenue interchange. This large percentage makes sense given that 73 percent of the project's total vehicle trips are generated by uses located south of Farm Road. The interchange's close proximity to those uses, combined with its assumed capacity increase in conjunction with the project, explains its heavy utilization. Parallel routes such as Garden Highway or San Juan Road are more circuitous and/or do not provide access to the same level of complementary land uses, though the project would still add trips to them.

## EXISTING PLUS PROJECT CONDITIONS

All Sacramento County roadway segments would continue to operate at an acceptable level with the exception of the West El Camino Avenue from El Centro Road to I-80 WB Ramps, which would operate at LOS F despite being widened from two to six lanes.

The project would add considerable volumes of traffic to the following surface streets owned and operated by Caltrans or the City of Sacramento (top six corridors shown in descending order of traffic added):

- West El Camino Avenue directly west of I-80: 14,200 to 83,300 ADT (69,100 ADT increase)
- West El Camino Avenue directly east of I-80: 20,900 to 43,800 (22,900 ADT increase)
- El Centro Road south of Arena Boulevard: 7,900 to 27,000 ADT (19,100 ADT increase)
- Arena Boulevard east of El Centro Road: 7,600 to 17,600 ADT (10,000 ADT increase)
- Del Paso Road east of El Centro Road: 22,800 to 31,100 ADT (8,300 ADT increase)

- San Juan Road east of Orchard Lane: 6,600 to 14,300 ADT (7,700 ADT increase)

During the AM peak hour, the project would cause the number of (existing) study intersections operating at LOS F to increase from two to five. During the PM peak hour, the project would cause the number of (existing) study intersections operating at LOS F to increase from zero to eight. The vast majority of the 65 additional study intersections within the project site would operate acceptably.

## CUMULATIVE CONDITIONS

The cumulative version of SACOG's SACSIM travel demand model was used to develop cumulative (Year 2040) travel demand forecasts in the study area. The model was modified to reflect full buildout of a number of large projects or specific plans such as: Metro Air Park, Grandpark Specific Plan, Downtown Specific Plan (City of Sacramento), Northlake (formerly Greenbriar) (City of Sacramento), Panhandle, and others. The model also includes several important infrastructure improvements, which are shown on Figure 15.

Under cumulative no project conditions, two Sacramento County roadway segments would operate unacceptably. Under cumulative plus project conditions, 12 Sacramento County roadway segments would operate unacceptably including segments along San Juan Road, El Centro Road, Powerline Road, Garden Highway, Radio Road, and West El Camino Avenue.

Among 34 (existing) signalized or all-way stop study intersections, the project would cause the number that would operate at LOS F under cumulative conditions to increase from 8 to 18 during the AM peak hour and to increase from 10 to 22 during the PM peak hour. Conversely, all but two signalized or all-way stop study intersections within the project site would operate at LOS E or better.

## RECOMMENDED IMPROVEMENTS

The initial improvements assumed on El Centro Road and West El Camino Avenue near I-80 and the Town Center resulted in severe congestion. A set of geometric modifications to this area is recommended to accommodate the heavy vehicular travel demand (see Figure 20 for illustration of improvements). Key elements include various added travel lanes and other geometric treatments. Improvements to the bicycle and pedestrian facilities in the area are also required (see Figure 21) and include the following:

- Class I (off-street) multi-use path allowing two-way travel on the north side of West El Camino Avenue that would extend from El Centro Road to the Orchard Lane intersection east of I-80.
- Class I multi-use path on the west side of El Centro Road north and south of West El Camino Avenue. Class II (on-street) bike lanes on various portions of El Centro Road and West El Camino Avenue.
- Crosswalks on the north, south, and west legs of W. El Camino Avenue/El Centro Road intersection.

The proposed geometric modifications were found to substantially benefit traffic operations along the portions of El Centro Road and West El Camino Avenue near the Town Center. While operations would remain at LOS F at the El Centro Road/West El Camino Avenue and El Centro Road/Farm Road intersections, delays are considered more tolerable, and the overall percent demand served is much better with the proposed geometric improvements alone.

**Table ES-1** displays a set of recommended operational enhancements that would address many of the operational deficiencies identified throughout the study area under existing plus project conditions.

**Table ES-1: Recommended Improvements to Address Operational Deficiencies – Existing Plus Project Conditions**

| Facility | Lead Agency | Description of Improvement(s) |
|---|---|---|
| Powerline Road/Bayou Way (#1) | Sacramento County | Install traffic signal |
| El Centro Road and West El Camino Avenue Corridors | Sacramento County | Construct Proposed Geometric Modifications (see Figure 20) |
| I-80/West El Camino Avenue Interchange [1] | Caltrans | Install two metered lanes on the I-80 WB diagonal on-ramp |
| Arena Boulevard/El Centro Road (#15) | City of Sacramento | Construct second WB left-turn lane, second SB through lane, restripe EB right-turn lane to a shared through/right, and lengthen NB right-turn lane to 400 feet with right-turn overlap arrow.<br><br>Pay fair share cost for constructing Natomas Crossing Drive as a two-lane street from Duckhorn Drive to El Centro Road. |
| I-5/West El Camino Avenue Interchange [1] | Caltrans | Widen the I-5 SB diagonal on-ramp to consist of two ramp-metered lanes |
| Radio Road/Street 12 (E) (#45) | Sacramento County | Install traffic signal |
| Farm Road/Street A (#60) | Sacramento County | Install raised median on Farm Road at Street A to restrict turn movements on Street A to right-turn only. |
| Farm Road/MDR Access (#62) | Sacramento County | Install raised median on Farm Road at Medium Density Residential Access to restrict turn movements to right-turn only. |
| Farm Road/Orchard Lane/CMU Driveway (#63) | Sacramento County | Expand northbound approach to consist of two left-turn lanes and a shared left/right lane. |

Notes:
1. Identified improvements derived from the ramp metering analysis whose results are contained in the *CEQA Transportation Impact Analysis for Upper Westside Specific Plan* (Fehr & Peers, March 2022).

Source: Fehr & Peers, 2021.

During the AM peak hour, the project would cause the number of (existing) study intersections operating at LOS F to increase from two to five. With the proposed improvements listed above, all but two intersections (West El Camino Avenue/El Centro Road and Arena Boulevard/Stemmler Drive) would be restored to LOS E or better. During the PM peak hour, the project would cause the number of (existing) study intersections operating at LOS F to increase from zero to eight. With the proposed improvements listed above, five of the eight LOS F intersections would be restored to LOS E or better. The three intersections that would remain at LOS F would be at Gateway Oaks Drive/West El Camino Avenue (City of Sacramento), I-5 SB Ramps/Garden Highway (Caltrans), and West El Camino Avenue/El Centro Road (Sacramento County).

It should be noted that the *CEQA Transportation Impact Analysis for Upper Westside Specific Plan* (Fehr & Peers, March 2022) includes several improvements that are required to address safety and design standards related impacts.

**Table ES-2** displays a set of recommended operational enhancements that would address the operational deficiencies identified within the study area under cumulative plus project conditions. See **Figure ES-1** for illustration of recommended improvements.

**Table ES-2: Recommended Improvements to Address Operational Deficiencies – Cumulative Plus Project Conditions**

| Facility | Lead Agency | Description of Improvement(s) |
|---|---|---|
| Powerline Road/Bayou Way (#1) | Sacramento County | Install traffic signal |
| El Centro Road and West El Camino Avenue Corridors | Sacramento County | Construct Proposed Geometric Modifications (see Figure 20) and reoptimize signal timings |
| I-80/West El Camino Avenue Interchange [1] | Caltrans | Install two metered lanes on the I-80 WB diagonal on-ramp |
| Arena Boulevard/El Centro Road (#15) | City of Sacramento | Construct second WB left-turn lane, second SB through lane, restripe EB right-turn lane to a shared through/right, and lengthen NB right-turn lane to 400 feet with right-turn overlap arrow.<br>Pay fair share cost for constructing Natomas Crossing Drive as a two-lane street from Duckhorn Drive to El Centro Road.<br>Increase the ramp metering rate at the I-5 SB loop on-ramp |
| Arena Boulevard/East Commerce Way (#28) | City of Sacramento | Install an EB right-turn overlap phase. |
| I-5/West El Camino Avenue Interchange [1] | Caltrans | Widen the I-5 SB diagonal on-ramp to consist of two ramp-metered lanes |
| Street 12 (East)/Radio Road (#45) | Sacramento County | Install traffic signal |

**Table ES-2: Recommended Improvements to Address Operational Deficiencies – Cumulative Plus Project Conditions**

| Facility | Lead Agency | Description of Improvement(s) |
|---|---|---|
| San Juan Road/Orchard Lane (#50) | Sacramento County | Install traffic signal |
| Street A/Farm Road (#60) | Sacramento County | Install raised median on Farm Road at Street A to restrict turn movements on Street A to right-turn only. |
| Farm Road/Street A (#62) | Sacramento County | Install raised median on Farm Road at Medium Density Residential Access to restrict turn movements to right-turn only. |
| Farm Road/Orchard Lane/CMU Driveway (#63) | Sacramento County | Expand northbound approach to consist of two left-turn lanes and a shared left/right lane. |

Notes:
1. Identified improvements derived from the ramp metering analysis whose results are contained in the *CEQA Transportation Impact Analysis for Upper Westside Specific Plan* (Fehr & Peers, March 2022).

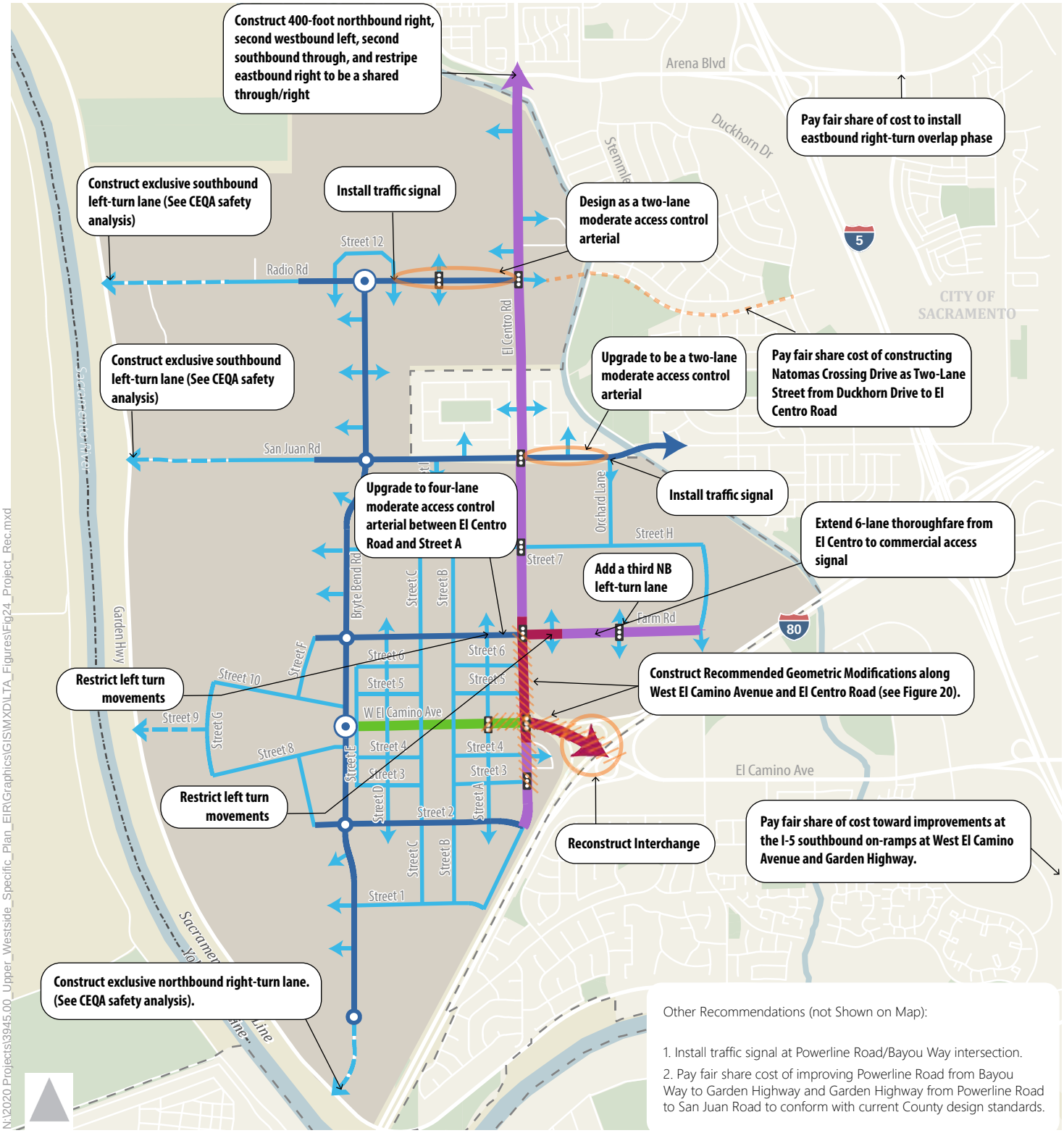
Source: Fehr & Peers, 2021.

During the AM peak hour, the project would cause the number of (existing) study intersections operating at LOS F under cumulative conditions to increase from eight to 18. The number of intersections operating at LOS F would be reduced to 11 with the proposed improvements in place.

During the PM peak hour, the project would cause the number of (existing) study intersections operating at LOS F under cumulative conditions to increase from ten to 22. The number of intersections operating at LOS F would be reduced to 14 with the proposed improvements in place.

The following are recommended to improve cumulative plus project operations on various Sacramento County roadway segments to acceptable levels:

- Design Radio Road between Street 12 (East) and El Centro Road as a two-lane moderate access control arterial. Resulting operations would improve from LOS F to E.
- Upgrade San Juan Road between El Centro Road and Orchard Lane to be a two-lane moderate access control arterial. Resulting operations would improve from LOS F to E.
- Upgrade Farm Road between El Centro Road and the CMU Driveway to a six-lane thoroughfare.
- The project applicant shall pay their fair share cost of improving the following roadways to conform with current County design standards (two 12-foot travel lanes and 6-foot paved shoulders):
    - Powerline Road from Bayou Way to Garden Highway
    - Garden Highway from Powerline Road to San Juan Road




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Note:
The on-site improvements would be constructed by the project as development occurs. The timing of construction (or fair share payments) for off-site improvements will vary depending on the location and type of improvement.

Figure ES-1

# Cumulative Plus Project Recommendations

# 1. INTRODUCTION

This chapter describes the study purpose, provides an overview of the proposed project, presents the study area, analysis scenarios, and methods, and lists applicable transportation-related policies that may pertain to the proposed project.

## Study Purpose

In September 2020, Sacramento County released updated guidance, known as *Transportation Analysis Guidelines* (TAG), for the preparation of transportation analysis studies. The update was necessary to incorporate changes to the way that transportation impacts are measured under the California Environmental Quality Act (CEQA) that resulted from the passage of Senate Bill 743 (SB 743) in 2013. Per SB 743, automobile delay and level of service (LOS) may no longer be used as the performance measure to determine the transportation impacts of land development and transportation projects under CEQA. This requirement did not modify the discretion lead agencies have to develop their own methodologies or guidelines, or to analyze impacts to other components of the transportation system, such as walking, bicycling, transit, and safety. Although SB 743 did not specify the use of a specific metric for transportation analysis, the use of vehicle miles traveled (VMT) has been recommended by the Governor's Office of Planning and Research (OPR).

The County's TAG specifies that the following two distinct types of studies be prepared for proposed land development projects:

- Part I – CEQA Transportation Impact Analysis
- Part II – Local Transportation Analysis (LTA)

This report, which represents Part II of the TAG requirement, analyzes project effects on traffic operations at nearby roadways and intersections. The LTA assists transportation engineers and planners in both the development community and public agencies when making land use, infrastructure planning, and other development decisions. The LTA quantifies the expected changes in transportation conditions and evaluates the efficacy of potential improvements, if warranted. All technical calculations prepared for this report are contained in a separate technical appendix available at County offices and online.

Part I is a separate report, focusing on the project's impacts to the transportation system based on its VMT. It also evaluates impacts to bicycle/pedestrian facilities, transit facilities and services, and roadway safety-related impacts including freeway off-ramp queuing, storage at freeway on-ramp ramp meters, and nonstandard design features, all of which are evaluated for significant impacts under CEQA.

# Project Description

The Upper Westside Specific Plan ("Proposed Project") would be situated on approximately 2,066 acres north of Interstate 80 (I-80) and west of Interstate 5 (I-5) in unincorporated Sacramento County. **Figure 1** shows the regional setting and the location of the Upper Westside Specific Plan.

**Figure 2** shows the project site plan (*Upper Westside*, Wood Rodgers, May 2021). **Table 1** presents the proposed project land uses based on this site plan. As shown, the proposed project would include 9,356 dwelling units, 3.1 million square feet of business professional/commercial, schools, parks, and various open space elements. Chapter 2 provides a more detailed breakdown of land use types.

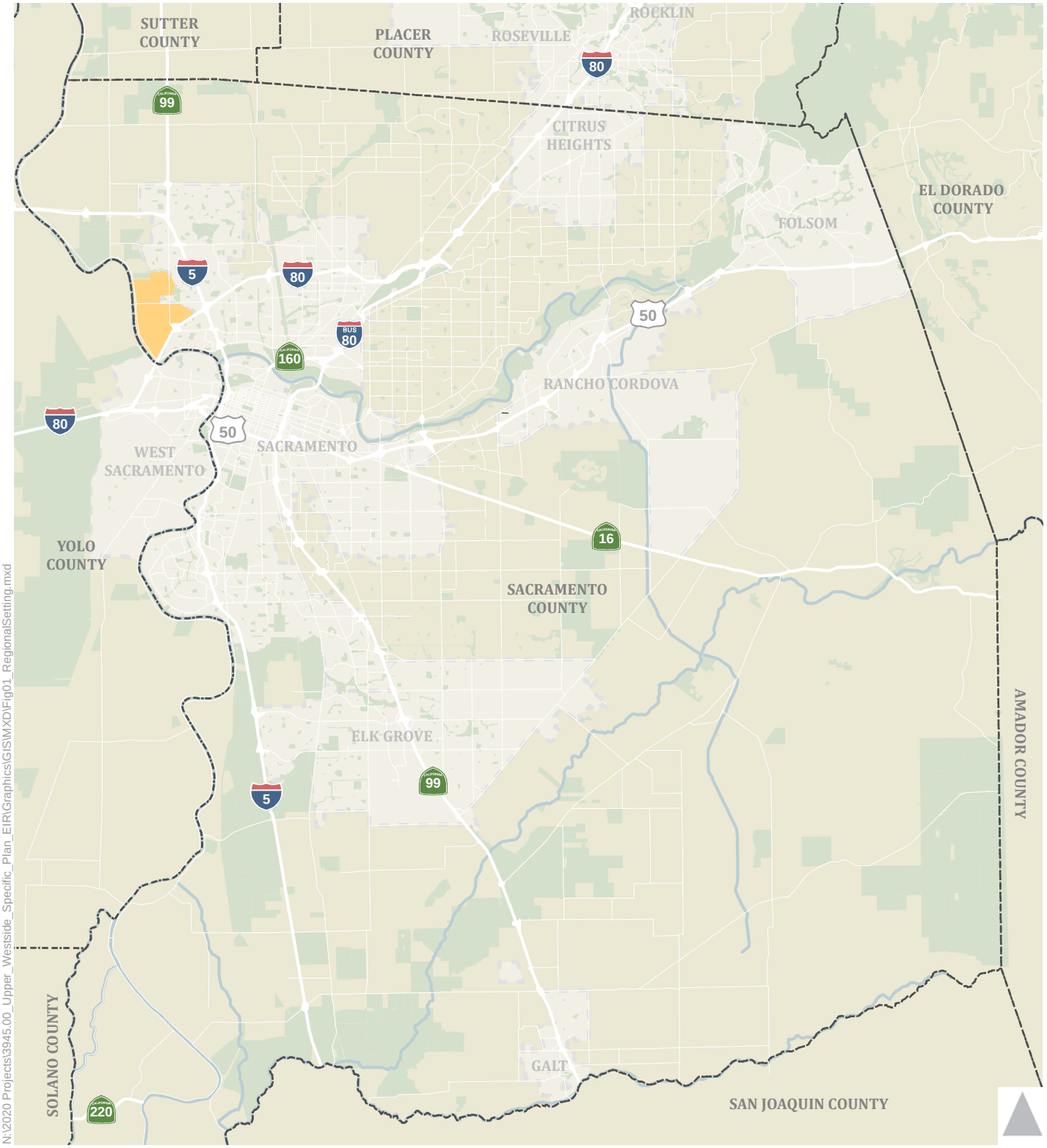
As shown on Figure 2, the project would be accessed via several different existing roadways including:

- West El Camino Avenue at I-80
- San Juan Road west of I-5
- Arena Boulevard west of I-5 via El Centro Road
- Del Paso Road west of I-5 via El Centro Road
- Garden Highway via four connections (existing San Juan Road, improvements to existing Radio Road, and two new connections in the southwest portion of the site)

**Figure 3** shows the project's internal roadway network. As shown, West El Camino Avenue would extend westerly from El Centro Road as the Main Street of the Town Center, which would be a dense, mixed-use environment. Other key project roadways include: El Centro Road, Bryte Bend Road, Farm Road, San Juan Road, and Radio Road.

The Town Center would consist of a grid-based street system. North-south streets are labeled Street A through E (from right to left) from West El Camino Avenue to Bryte Bend Road. East-west streets are labeled Street 1 through 7 (from bottom to top) starting south of West El Camino Avenue to San Juan Road.

The project would widen parts of El Centro Road and West El Camino Avenue from a current two lanes to the number of lanes shown in Figure 3. Additionally, it is assumed that project buildout would be supported by a reconstructed I-80/West El Camino Avenue interchange to provide increased roadway capacity and a more bicycle/pedestrian friendly design. Additional right-of-way would be necessary to support the interchange's reconstruction.



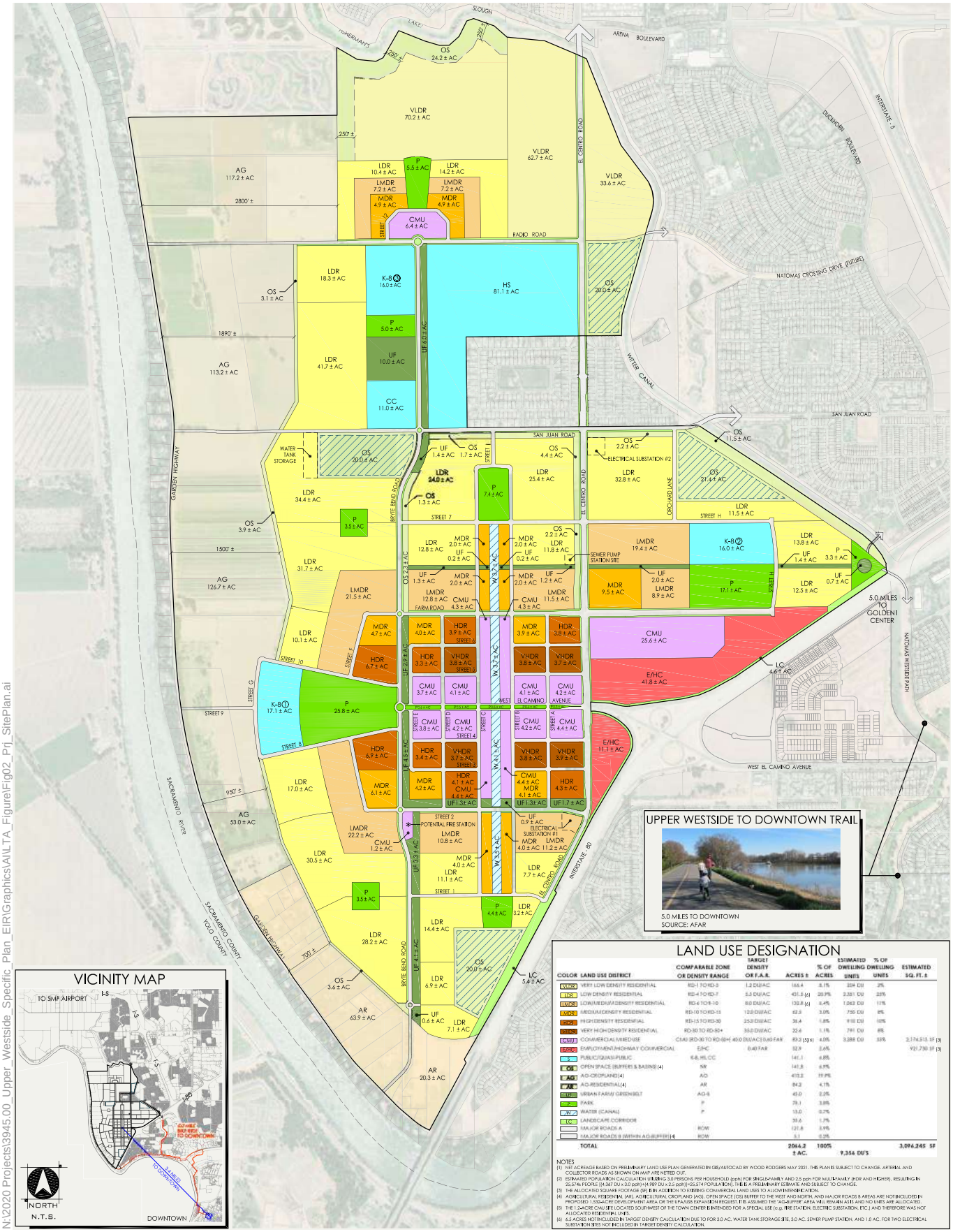

Upper Westside Specific Plan Boundary

City Boundary

County Boundary

Figure 1

# Regional Setting




## LAND USE DESIGNATION

| COLOR | LAND USE DISTRICT | COMPARABLE ZONE OR DENSITY RANGE | TARGET DENSITY OR F.A.R. | ACRES ± | % OF ACRES | ESTIMATED DWELLING UNITS | % OF DWELLING UNITS | ESTIMATED SQ. FT. ± |
|---|---|---|---|---|---|---|---|---|
| VLDR | VERY LOW DENSITY RESIDENTIAL | RD-1 TO RD-3 | 1.2 DU/AC | 166.4 | 8.1% | 204 DU | 2% | |
| LDR | LOW DENSITY RESIDENTIAL | RD-4 TO RD-7 | 5.5 DU/AC | 431.5 (6) | 20.9% | 2,351 DU | 25% | |
| LMDR | LOW/MEDIUM DENSITY RESIDENTIAL | RD-4 TO R-10 | 8.0 DU/AC | 132.8 (6) | 6.4% | 1,063 DU | 11% | |
| MDR | MEDIUM DENSITY RESIDENTIAL | RD-10 TO RD-15 | 12.0 DU/AC | 62.5 | 3.0% | 750 DU | 8% | |
| HDR | HIGH DENSITY RESIDENTIAL | RD-15 TO RD-30 | 25.0 DU/AC | 36.4 | 1.8% | 910 DU | 10% | |
| VHDR | VERY HIGH DENSITY RESIDENTIAL | RD-30 TO RD-50+ | 35.0 DU/AC | 22.6 | 1.1% | 791 DU | 8% | |
| CMU | COMMERCIAL MIXED USE | C-1(A) (RD-30 TO RD-50+) | 40.0 DU/AC \| 0.60 FAR | 93.2 (5)(6) | 4.5% | 3,388 DU | 35% | 2,176,513 SF (3) |
| E/HC | EMPLOYMENT/HIGHWAY COMMERCIAL | E/HC | 0.40 FAR | 52.9 | 2.6% | | | 921,730 SF (3) |
| P | PUBLIC/QUASI-PUBLIC | K-8, HS, CC | | 141.1 | 6.8% | | | |
| OS | OPEN SPACE (BUFFERS & BASINS) (4) | NR | | 141.8 | 6.9% | | | |
| AG | AG-CROPLAND (4) | AG | | 410.2 | 19.9% | | | |
| AR | AG-RESIDENTIAL (4) | AR | | 84.2 | 4.1% | | | |
| UF | URBAN FARM/ GREENBELT | AG-B | | 43.0 | 2.2% | | | |
| PARK | PARK | P | | 78.1 | 3.8% | | | |
| W | WATER (CANAL) | P | | 13.0 | 0.7% | | | |
| LC | LANDSCAPE CORRIDOR | | | 33.6 | 1.7% | | | |
| | MAJOR ROADS A | ROW | | 121.8 | 5.9% | | | |
| | MAJOR ROADS B (WITHIN AG-BUFFER) (4) | ROW | | 5.1 | 0.2% | | | |
| | TOTAL | | | 2064.2 ± AC. | 100% | 9,356 DU'S | | 3,096,245 SF |

NOTES
(1) NET ACREAGE BASED ON PRELIMINARY LAND USE PLAN GENERATED IN GIS/AUTOCAD BY WOOD RODGERS MAY 2021. THE PLAN IS SUBJECT TO CHANGE. ARTERIAL AND COLLECTOR ROADS AS SHOWN ON MAP ARE NETTED OUT.
(2) ESTIMATED POPULATION CALCULATION UTILIZING 3.0 PERSONS PER HOUSEHOLD (pph) FOR SINGLE-FAMILY AND 2.5 pph FOR MULTI-FAMILY (HDR AND HIGHER), RESULTING IN 25,574± PEOPLE ((4,367 DU x 3.0 pph)+(4,989 DU x 2.5 pph))=25,574 POPULATION). THIS IS A PRELIMINARY ESTIMATE AND SUBJECT TO CHANGE.
(3) THE ALLOCATED SQUARE FOOTAGE (SF) IS IN ADDITION TO EXISTING COMMERCIAL LAND USES TO ALLOW INTENSIFICATION.
(4) AGRICULTURAL RESIDENTIAL (AR), AGRICULTURAL CROPLAND (AG), OPEN SPACE (OS) BUFFER TO THE WEST AND NORTH, AND MAJOR ROADS B AREAS ARE NOT INCLUDED IN PROPOSED 1,552-ACRE DEVELOPMENT AREA OR THE UPA/USE EXPANSION REQUEST. IT IS ASSUMED THE "AG-BUFFER" AREA WILL REMAIN AS IS AND NO UNITS ARE ALLOCATED.
(5) THE 1.2-ACRE CMU SITE LOCATED SOUTHWEST OF THE TOWN CENTER IS INTENDED FOR A SPECIAL USE (e.g. FIRE STATION, ELECTRIC SUBSTATION, ETC.) AND THEREFORE WAS NOT ALLOCATED RESIDENTIAL UNITS.
(6) 6.3 ACRES NOT INCLUDED IN TARGET DENSITY CALCULATION DUE TO FOR 3.0 AC. WATER TANK STORAGE SITE, 3.0 AC. SEWER PUMP STATION, AND 1.0 AC. FOR TWO ELECTRICAL SUBSTATION SITES NOT INCLUDED IN TARGET DENSITY CALCULATION.

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Figure 2

# Project Site Plan

*Source: Wood Rodgers*

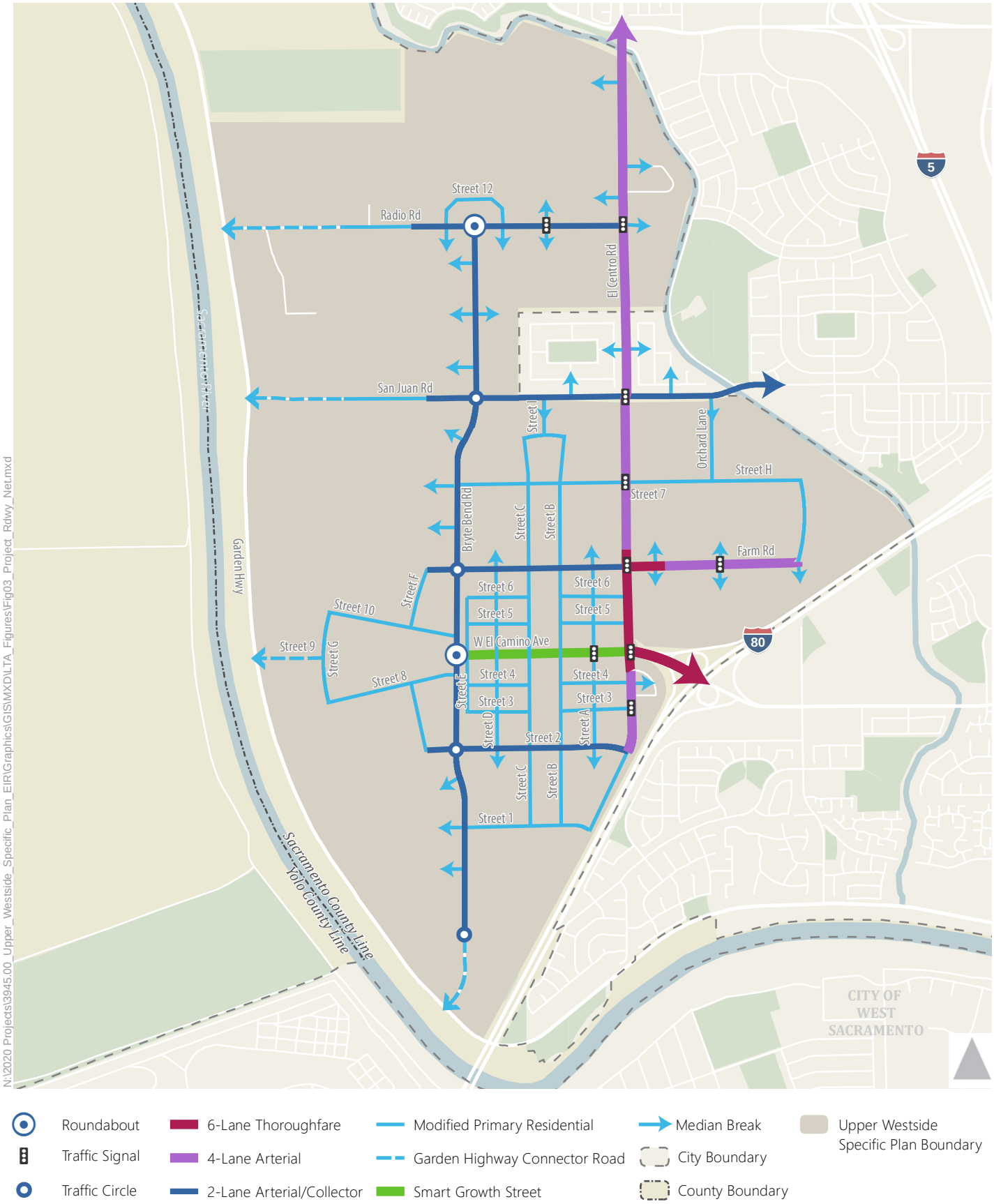



Figure 3

## Project Roadway Network

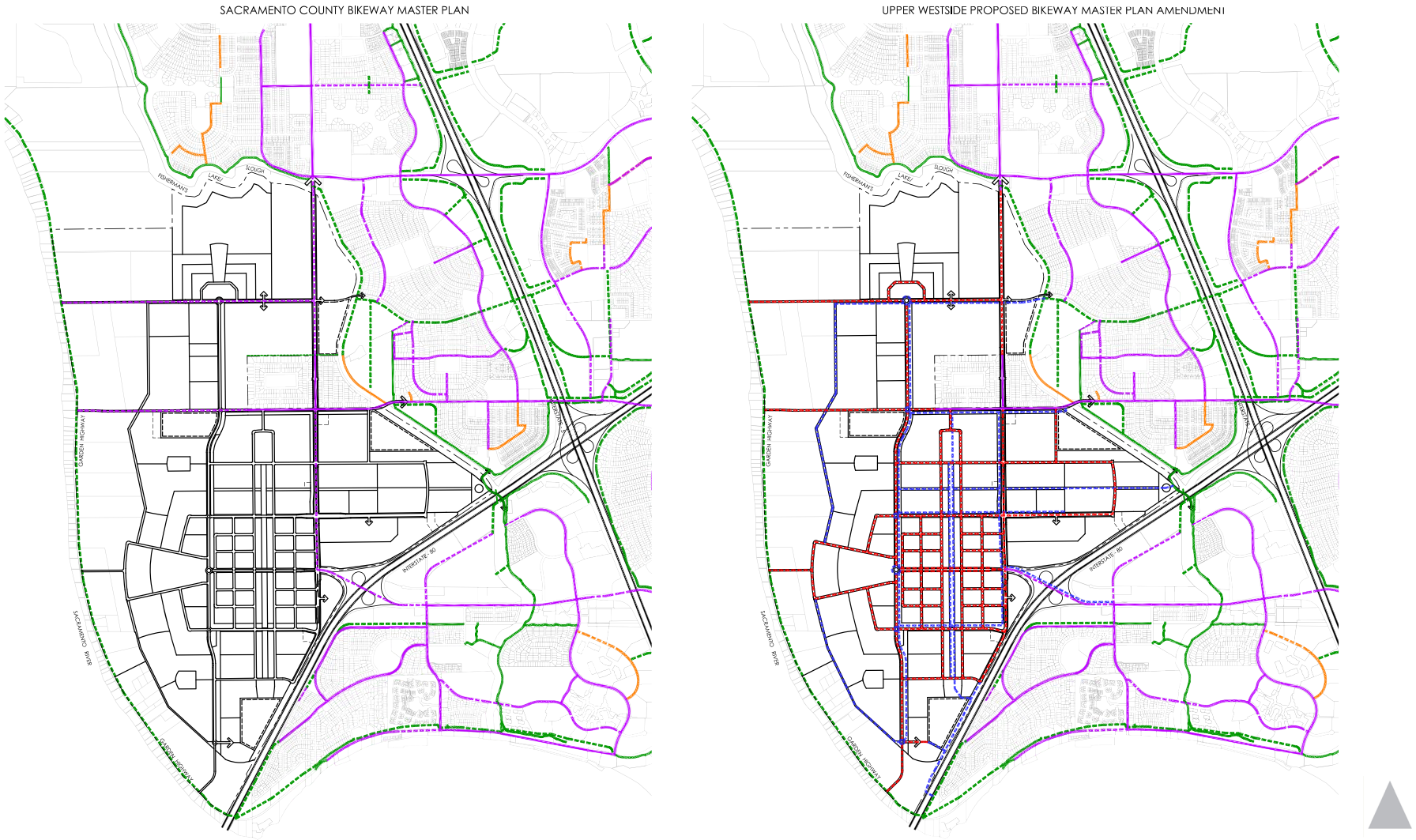
| Table 1: Upper Westside Specific Plan Land Use Summary | | | | |
|---|---|---|---|---|
| **Land Use** | **Acres** | **Percent of Project** | **Dwelling Units** | **Square Feet** |
| Very Low Density Residential | 166.1 | 8.1% | 204 | - |
| Low Density Residential | 431.5 | 20.9% | 2,351 | - |
| Low/Medium Density Residential | 132.8 | 6.4% | 1,062 | - |
| Medium Density Residential | 62.5 | 3.0% | 750 | - |
| High Density Residential | 36.4 | 1.8% | 910 | |
| Very High Density Residential | 22.6 | 1.1% | 791 | - |
| Commercial Mixed Use (CMU) | 83.2 | 4.0% | 3,288 | 2,174,515 |
| Employment / Highway Commercial (E/HC) | 52.9 | 2.6% | - | 921,730 |
| Community College, High School, K-8 School | 141.1 | 6.8% | - | - |
| Parks, Urban Farm/Greenbelt, and Canal | 136.1 | 6.5% | | |
| Open Space / Agriculture, | 674.1 | 32.6% | | |
| Proposed Major Circulation | 126.9 | 6.1% | | |
| **Total Upper Westside Specific Plan** | **2,066.2** | **100%** | **9,356** | **3,096,245** |

Source: *Upper Westside Site Plan*, Wood Rodgers, May 2021.

**Figure 4** shows the project's planned bicycle network. Key components of the bicycle network include:

- A set of north-south and east-west Class I (off-street) bicycle/pedestrian paths would be constructed. The north-south path would extend southerly from San Juan Road through the Town Center to Garden Highway. The east-west path would extend parallel and north of Farm Road from Bryte Bend Road easterly to the Natomas Westside Class I Path, which includes an overcrossing of I-80.
- Class I and/or Class II bike lanes (on-street with appropriate signs and pavement markings) would be provided throughout the plan area.

**Figure 5** shows the project's planned transit system, which includes an on-site shuttle that operates along key roadways during peak periods.

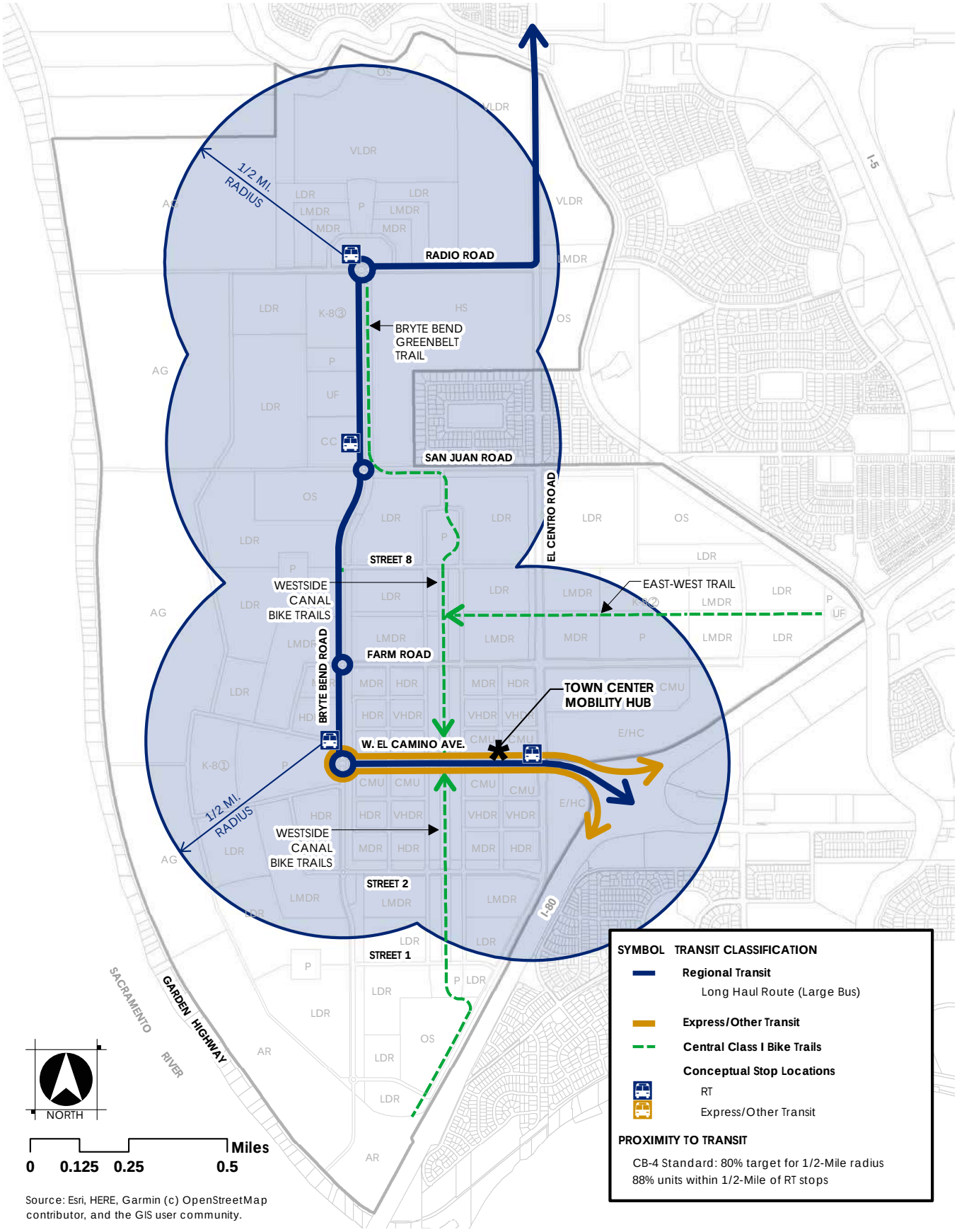



This side-by-side comparison depcits how the Upper Westside Specific Plan would modify the Sacramento County Bikeway Master Plan.

Figure 4

## Project Bicycle Network

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Source: Esri, HERE, Garmin (c) OpenStreetMap contributor, and the GIS user community.

Figure 5

## Project Transit System

## Study Area

This study analyzes various roadway facilities under the jurisdiction of Sacramento County, City of Sacramento, and Caltrans. The study area was chosen based on the project's size, type of land uses, and susceptibility of specific facilities being adversely affected. This study area also includes bicycle, pedestrian, and transit facilities in the project vicinity.

The suitability of the study area was confirmed early in the study process by adding the proposed project to the Sacramento Area Council of Governments (SACOG) travel demand model and tracking project trips through the network. This process led to the identification for several additional study intersections beyond those originally chosen.

**Figure 6** illustrates the 43 study roadways selected for analysis under existing weekday (daily) conditions. **Figure 7** illustrates the 41 study intersections selected for analysis under existing weekday AM and PM peak hour conditions. As shown, most of the study facilities are within the City of Sacramento.

The study area includes five existing freeway interchanges. At each interchange, operations of each ramp terminal intersection are evaluated. Freeway ramp meter queuing is also analyzed with the results included in the Part I report (*CEQA Transportation Impact Analysis for Upper Westside Specific Plan* Fehr & Peers, March 2022). At the City of Sacramento's request, the study area also includes the southbound I-5 off-ramps at Richards Boulevard and J Street.

In May 2020, the California Department of Transportation (Caltrans) published the *Vehicle Miles Traveled-Focused Transportation Impact Study Guide (TISG)*, which replaced its *Guide for the Preparation of Traffic Impact Studies* (2002). The TISG indicates that Caltrans intends to "transition away from requesting LOS or other vehicle operations analyses of land use projects", instead placing the focus on VMT and safety. For this reason, the study area does not include traffic operations analysis of freeway facilities.

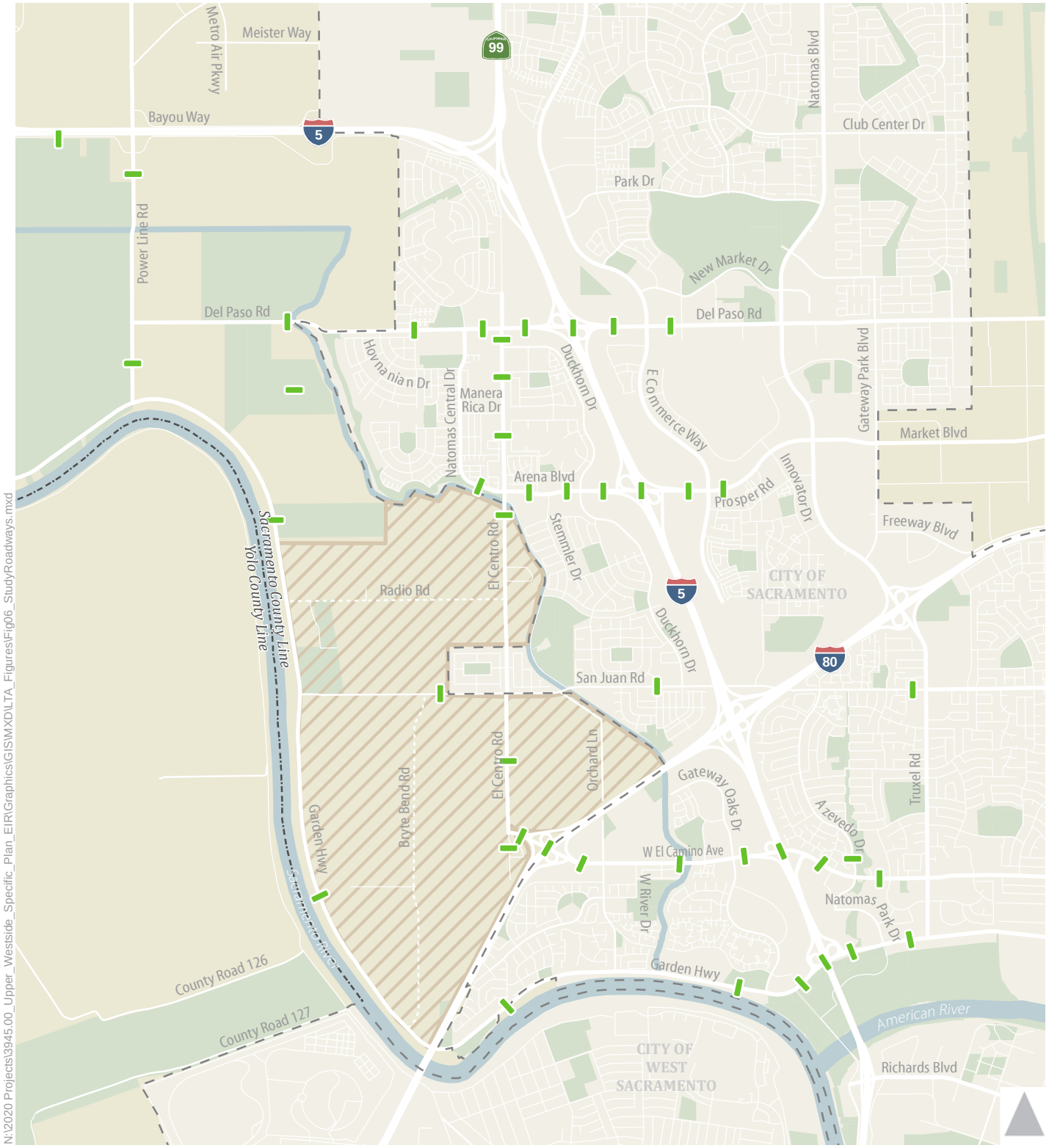



Figure 6

## Existing Study Roadway Segments

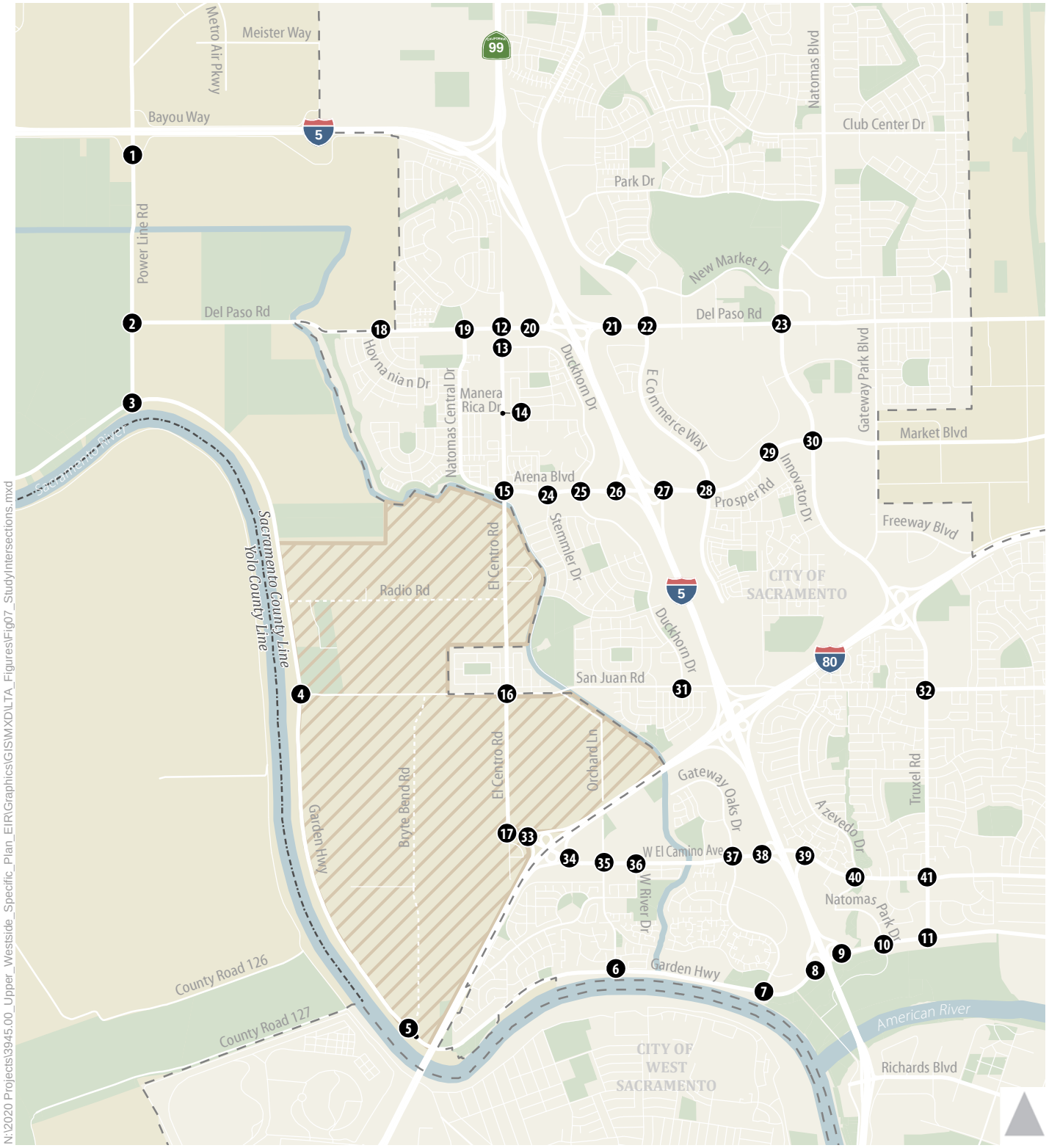



Figure 7

## Existing Study Intersections

# Analysis Scenarios

The LTA consists of the following scenarios:

- Existing Conditions – represents conditions in 2018-2019, prior to the beginning of the COVID-19 pandemic in March 2020.
- Existing Plus Proposed Project conditions – analyzes the study area assuming buildout of the proposed project under existing conditions.
- Cumulative (2040) No Project Conditions – analyzes the study area in 2040 assuming the project site remains in its current state.
- Cumulative (2040) Plus Proposed Project conditions – analyzes the study area assuming buildout of the proposed project under cumulative conditions.

# Analysis Methods

This section presents the various analysis methods used to quantify operations at study intersections and roadways, and to develop traffic forecasts for future year scenarios.

## Intersection Operations Analysis

This study analyzes traffic operations using delay and LOS as the primary measure of performance. Automobile LOS is a qualitative description of traffic flow from the perspective of motorists. The *Highway Capacity Manual (HCM) 6th Edition* (Transportation Research Board, 2016) defines six levels of service from LOS A representing the least congested traffic conditions to LOS F representing the most congested traffic conditions. These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving, as well as speed, travel time, traffic interruptions, and freedom to maneuver.

Intersections are analyzed according to methods described in the HCM. This study uses the Synchro and SimTraffic software programs to conduct the HCM 6th Edition analyses. The Sidra software program is used to analyze roundabouts consistent with the TAG.

Intersection LOS at signalized and all-way stop controlled intersections is based on the weighted average control delay measured in seconds per vehicle for all motorists traveling through the intersection. For side-street stop-controlled intersections, this study reports the average control delay for the lane group or movement with the greatest delay, and for the intersection as a whole.

**Table 2** presents the control delay range for each LOS for signalized and unsignalized intersections. As shown, the delay ranges for signalized intersections are different from unsignalized intersections. The HCM anticipates that motorists expect signalized intersections to carry higher traffic volume that result in greater delay than an unsignalized intersection and roundabout. Unsignalized intersections are associated with more uncertainty as delays are less predictable, which can reduce users' delay tolerance.

**Table 2:**
**Levels of Service Definitions – Intersections**

| Level of Service | Description | Average Control Delay[1] | |
|---|---|---|---|
| | | Signalized Intersections | Unsignalized Intersections and Roundabouts |
| A | Volume-to-capacity ratio is low and either progression is exceptionally favorable, or cycle length is very short. Most vehicles arrive during the green phase and travel through the intersection without stopping. | ≤ 10 | ≤ 10 |
| B | Volume-to-capacity ratio is low and either progression is highly favorable, or the cycle length is short. More vehicles stop than with LOS A. | >10 to 20 | >10 to 15 |
| C | Progression is favorable or the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping. | >20 to 35 | >15 to 25 |
| D | Volume-to-capacity ratio is high and either progression is ineffective, or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable. | >35 to 55 | >25 to 35 |
| E | Volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent. | >55 to 80 | >35 to 50 |
| F | Volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue. | >80 | >50 |

Notes:
1. Average control delay presented in seconds per vehicle. Delay values are rounded to the nearest second and evaluated for LOS based on the above thresholds (i.e., 10 seconds per vehicle = LOS A)

Source: *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

This study analyzes intersections using either the Synchro software program or Synchro's SimTraffic micro-simulation module to apply the methodologies presented in the *HCM*. Synchro considers traffic volumes, lane configurations, signal timings, and other parameters. SimTraffic additionally considers interactions between adjacent intersections, turn lane spillbacks, coordinated signal timing, and upstream/downstream bottlenecks. SimTraffic is preferable to use when operating conditions are near or over capacity, turn lane storage exceedance is common, and/or intersections are spaced closely together. Outside of these conditions, Synchro is generally appropriate for use. In this study, given the above guidance, SimTraffic was used to analyze all freeway interchanges including their adjacent intersections. Additionally, SimTraffic was used to analyze the segments of West El Camino Avenue and El Centro Road near the Town Center (given the level of traffic projected and intersection spacing). Of the 41 study intersections, 26 were analyzed using the SimTraffic microsimulation model, with the remainder analyzed using the Synchro software program. Chapter 2 describes which intersections were analyzed using each program including the rationale for the approach taken.

Field observations and aerial imagery confirm that most study on-ramps are metered. Ramp metering could affect adjacent surface street intersections during peak hours under plus project or cumulative conditions. Therefore, ramp meters were included in the operations analysis to inform the need to potentially widen on-ramps or change ramp meter timings.

This study may recommend the installation of traffic signals at some existing unsignalized study intersections to address deficient traffic operations (i.e., unacceptable LOS conditions). Prior to making any recommendations, this study evaluated the peak hour volume warrant, as described in the *California Manual on Uniform Traffic Control Devices* (*MUTCD*, Caltrans, 2014). In instances where this study recommends a traffic signal, this warrant is satisfied. It should be noted that while the peak hour signal warrant indicates when traffic conditions *may* warrant a signal, the MUTCD states that the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal. The MUTCD recommends an engineering study of traffic conditions, pedestrian characteristics, and physical characteristics of a specific intersection to determine if a traffic signal is justified.

## Roadway Segment Operations

Roadway segments in Sacramento County were analyzed by comparing the average daily traffic volume to daily volume thresholds to determine the LOS. **Table 3** displays the Sacramento County daily volume thresholds for various roadway facility types (obtained from Table F-2 of the TAG). The City of Sacramento has applicable LOS policies and goals in its 2035 General Plan, though they are not typically applied on a project-level basis (and therefore not applied here). Caltrans does not have daily volume LOS thresholds.

Roadway segment volumes are reported at City of Sacramento roadways and at Caltrans interchange overcrossings for informational purposes.

**Table 3:**
**Sacramento County Daily LOS Roadway Segment Thresholds**

| Roadway Type | | Daily Two-Way Volume Thresholds | | | | |
|---|---|---|---|---|---|---|
| | | LOS A | LOS B | LOS C | LOS D | LOS E |
| Rural, 2 lane road, <24' of pavement, <6' shoulders | | 1,000 | 2,100 | 3,400 | 6,000 | 12,800 |
| Rural, 2 lane road, 24' of pavement, 6' shoulders | | 2,200 | 4,300 | 7,100 | 12,200 | 20,000 |
| Arterial – Low Access Control [1] | 2 lanes | 9,000 | 10,500 | 12,000 | 13,500 | 15,000 |
| | 4 lanes | 18,000 | 21,000 | 24,000 | 27,000 | 30,000 |
| | 6 lanes | 27,000 | 31,500 | 36,000 | 40,500 | 45,000 |
| Arterial – Moderate Access Control [2] | 2 lanes | 10,800 | 12,600 | 14,400 | 16,200 | 18,000 |
| | 4 lanes | 21,600 | 25,200 | 28,800 | 32,400 | 36,000 |
| | 6 lanes | 32,400 | 37,800 | 43,200 | 48,600 | 54,000 |
| Arterial – High Access Control [3] | 2 lanes | 12,000 | 14,000 | 16,000 | 18,000 | 20,000 |
| | 4 lanes | 24,000 | 28,000 | 32,000 | 36,000 | 40,000 |
| | 6 lanes | 36,000 | 42,000 | 48,000 | 54,000 | 60,000 |
| Residential | | 600 | 1,200 | 2,000 | 3,000 | 4,500 |
| Residential Collector with frontage | | 1,600 | 3,200 | 4,800 | 6,400 | 8,000 |
| Residential Collector without frontage | | 6,000 | 7,000 | 8,000 | 9,000 | 10,000 |

Notes:
1. Road generally has frequent driveways and speeds of 25 to 35 mph.
2. Road generally has limited driveways and speeds of 35 to 45 mph.
3. Road generally has no driveways and speeds of 45 to 55 mph.

Source: Table F-2 of *Transportation Analysis Guidelines* (County of Sacramento, 2020)

## Ramp Meter Analysis

Many of the study interchange on-ramps consist of ramp meters that are operational during peak periods. The ramp meters operate with real-time signal timings that vary depending on conditions on the adjacent freeway facility they feed. This study was initiated after the COVID-19 pandemic had begun. It was therefore not possible to measure existing metering rates or vehicle queues. Historic observations from Fehr & Peers staff were necessarily used instead. Additionally, it is noted that SimTraffic is not able to model traffic responsive ramp meters. Therefore, for metered on-ramps that are known not to have queuing issues, a 900 vehicle per hour flow rate was assumed. Through conversations with Caltrans, it was determined that

an 800 vehicle per hour metering rate should be assumed for the southbound I-5 loop on-ramp and northbound diagonal on-ramp at Garden Highway. Where ramp meters are operational, they are coded into SimTraffic so that their effects on interchange and adjacent street operations is modeled.

### LOS Standards

The County of Sacramento defines the minimum acceptable operating level for its roadways and intersections to be LOS D for rural areas and LOS E for urban areas. The rural areas are those areas that are either outside the Urban Service Boundary or are dominated with rural type land uses and transportation infrastructure. All Sacramento County study facilities are currently classified as being in rural areas. However, many of them would be reclassified as urban if the project were constructed and are evaluated accordingly.

Although the City of Sacramento does have a set of LOS policies, those policies are typically not applied in impact analysis reviews. Instead, the City examines expected conditions in a holistic manner, considering whether capacity constraints or excess vehicle queuing could cause bottlenecks that would interfere with a number of different transportation-related policies.[1]

Per the Caltrans' *TISG*, which emphasizes use of VMT over LOS, a specific LOS threshold is not used to evaluate adequacy of operations at state highway intersections.

## Thresholds of Significance

The following thresholds of significance have been used to determine whether implementing the proposed project would result in an operational deficiency at a study roadway segment or intersection. These thresholds of significance are derived from the TAG. As a consequence of SB 743, the thresholds below utilize the term "operational deficiencies" versus significant impacts to describe substantially degraded conditions.

### Roadway Segments

The project would cause deficient operations or contribute to already deficient operations if it would:

- Result in a roadway segment in Sacramento County operating at an acceptable LOS to deteriorate to an unacceptable LOS; or

[1] Source: email from Pelle Clarke, City of Sacramento, December 10, 2020.

- Increase the volume-to-capacity (v/c) ratio by more than 0.05 at a roadway segment in Sacramento County that is currently operating (or projected to operate) at an unacceptable LOS without the project.

## Signalized Intersections

The project would cause deficient operations or contribute to already deficient operations if it would:

- Result in a signalized intersection in Sacramento County operating at an acceptable LOS to deteriorate to an unacceptable LOS; or
- Increase the average delay by more than 5 seconds at a signalized intersection in Sacramento County that is currently operating (or projected to operate) at an unacceptable LOS without the project.

## Unsignalized Intersections

The project would cause deficient operations or contribute to already deficient operations if it would:

- Result in an unsignalized intersection movement/approach in Sacramento County operating at an acceptable LOS to deteriorate to an unacceptable LOS, and also cause the intersection to meet a traffic signal warrant; or
- Meet a traffic signal warrant and increase the delay by more than 5 seconds at the highest delay movement/approach at an unsignalized intersection in Sacramento County that is operating at an unacceptable LOS without the project.

Refer to the TAG Part I report (*CEQA Transportation Impact Analysis for Upper Westside Specific Plan* Fehr & Peers, March 2022) for significance thresholds and conclusions related to the following transportation topics:

- Bicycle/pedestrian facilities
- Transit facilities and services
- Freeway off-ramp queuing
- Freeway on-ramp ramp meter queuing
- Non-standard roadway design

## Sacramento County General Plan Policies

The following summarizes various policies from the Sacramento County General Plan (Amended 2020) that relate to the transportation analysis of the proposed project:[2]

- CI-7: Plan and construct transportation facilities as delineated on the Transportation Plan of the Sacramento County General Plan.
- CI-8: Maintain and rehabilitate the roadway system to maximize safety, mobility, and cost efficiency.
- CI-9: Plan and design the roadway system in a manner that meets Level of Service (LOS) D on rural roadways and LOS E on urban roadways.
- CI-10: Land development projects shall be responsible to mitigate the project's adverse impacts to local and regional roadways.
- CI-11: To preserve public mobility, freeways and thoroughfares should have limited access and maintain functional characteristics that predominantly accommodate through traffic.
- CI-12: To preserve public safety and local quality of life on collector and local roadways, land development projects shall incorporate appropriate treatments of the Neighborhood Traffic Management Program.
- CI-13: Collaborate with regional transportation planning agencies and neighboring jurisdictions to provide cross jurisdictional mobility.
- CI-19: Collaborate with transit service providers to provide transit services within the County that are responsive to existing and future transit demand.
- CI-32: Develop a comprehensive, safe, convenient and accessible bicycle and pedestrian system that serves and connects the County's employment, commercial, recreational, educational, social services, housing and other transportation modes.
- CI-35: The applicant/developer of land development projects shall be responsible to install bicycle and pedestrian facilities in accordance with Sacramento County Improvement Standards and may be responsible to participate in the fair share funding of regional multi-use trails identified in the Sacramento County Bicycle Master Plan.

[2] General Plan (saccounty.net). Accessed on June 11, 2021.

- CI-39: Plan and implement intelligent transportation system (ITS) strategies within the County's high-demand travel corridors and support efforts to deploy ITS strategies on a regional level.
- CI-40: Whenever possible, the applicant/developer of new and infill development projects shall be conditioned to fund, implement, operate and/or participate in TSM programs to manage travel demand associated with the project.
- CI-43: The County shall promote transit-supportive programs in new development, including employer-based trip-reduction programs (employer incentives to use transit or nonmotorized modes), "guaranteed ride home" for commute trips, and car-share or bikeshare programs.
- LU-120: The County shall only consider approval of a proposed UPA expansion and/or Master Plan outside of the existing UPA if the Board finds that the proposed project is planned and will be built in a manner that:
    - meets all of the requirements per PC-1 through PC-10, and;
    - meets ONE of two alternative performance metrics:
        - Alternative #1- Criteria-Based
        - Alternative #2 - VMT/ Greenhouse Gas Emissions Reduction Metric

*Only those Performance Criteria (PC) directly addressed in this report are described below (as the list is extensive and primarily relates to land use).*

- PC-1: Vision for connection to other adjacent existing and potential future development areas.
  Required: Include a vision of how the development will connect to other adjacent existing and potential future development areas.

- PC-5: Pedestrian- and transit-oriented design.
  Required: Pedestrian- and transit-oriented design, including:
    - Sidewalks and bike routes along interconnected streets with short block lengths and a high intersection density,
    - Prominent pedestrian and bicycle network,
    - Few if any cul-de-sacs, and
    - Pedestrian and bike connections at the ends of all cul-de-sacs unless infeasible due to topography or similar impediments inherent in the project site.

*Alternative #1 – Criteria-Based*

To satisfy this alternative, the Board must find that the proposed project is planned and will be built in a manner that:

- meets all of the requirements per the criteria below, and;
- qualifies for a minimum of 18 points (out of a possible 24) per the criteria below

*Most criteria-based policies are land use related and thus not listed here. However, the one criterion related to transportation is CB-4, which is described below:*

*CB-4* Requires at least 65 percent of all residential units to be located within ½ mile of existing or planned transit service, which consists of light rail, streetcars, buses, vanpools and/or shuttles that connects with regional public transit service.

As indicated on page 146 of the Land Use Element, points are assigned for the proportion of the dwelling units situated within ½ mile of existing or planned transit service. Points are also assigned depending on whether transit service headways are 60, 30, or 15 minutes during weekday peak periods.

*Alternative #2 – Vehicle Miles Travelled (VMT)/Greenhouse Gas (GHG) Emission Metrics*

To satisfy this alternative, the Board must find that the proposed project is planned and will be built in a manner that results in:

- ≤14 vehicle miles travelled (VMT) per resident per day (or the equivalent VMT per household per day); OR
- ≤Equivalent GHG per capita per day from cars, light trucks, and medium trucks (less than 8,500 Gross Vehicle Weight)

Discussion: While consistency with the criteria in Alternative #1 provides a level of certainty that a proposed project will achieve particular outcomes, measuring the County of Sacramento General Plan actual projected outcome(s) of the project is a viable alternative. These projected outcomes can be compared against pre-defined metrics to determine the project's "performance". VMT and greenhouse gas (GHG) emissions are logical metrics because a project's performance in these areas is directly correlated to the project's ability to achieve the same goals and mandates (relative to air quality, transportation, land use, infrastructure, and GHG emissions) as the criteria in Alternative #1. Additionally, VMT and GHG are very closely related; the mix of vehicles that residents use for their daily travel has a relatively narrow range of GHG emissions per mile traveled. Given the direct correlation between improved VMT and associated reductions in GHG emissions, this alternative directly addresses

goals and mandates relative to recent state laws aimed at reducing GHG emissions, including AB 32, SB 375 and SB 97.

VMT is easily measured using standard travel demand analysis methods. Multiple traffic models exist for conducting such analysis. Given the long-range nature of the General Plan and the ever-evolving nature of traffic models, it does not make sense to require use of a specific model to determine compliance with this alternative. However, to ensure that a credible model is employed, the project proponent and County staff (including SACDOT, Planning and Environmental Review, etc.) will discuss the merits of available models and determine which will be used to determine compliance with this alternative prior to starting the analysis.

The 14 VMT per capita can be translated into a 13 pounds of GHG per capita by using the same assumptions that SACOG is required to use for calculating SB 375 GHG targets. These assumptions are that this travel will use cars, light trucks, and medium trucks (less than 8,500 Gross Vehicle Weight), and that vehicle and fuel improvements are not included. If the technology improvements are included (fuel economy increases and a 10 percent reduction in the carbon content of gasoline), then the GHG metric would be 8 pounds of GHG per capita.

At the time this report was being prepared, there were no known plans to annex this project into the City of Sacramento. Therefore, design standards and level of service requirements of the City were not applied to new project roadways. Instead, those roadways are being designed to and reviewed against applicable Sacramento County standards.

## Project Consistency Review

The following presents an assessment of the project's consistency with many of the policies described above.

Consistent with Policy CI-9, the project's roadway system has been designed in a manner that meets LOS D on rural roadways and LOS E on urban roadways with just a few exceptions. In those instances, further widening (e.g., eight lanes on El Centro Road) is deemed undesirable or infeasible, particularly since intersection operations will govern overall system performance.

Consistent with Policy CI-10, the project's adverse effects to local and regional roadways were studied, and improvement options were recommended at a number of different locations.

Consistent with Policy CI-13, the project team has collaborated frequently with neighboring jurisdictions and affected agencies including the City of Sacramento, SacRT, and Caltrans.

Consistent with Policy CI-32, the project includes a comprehensive set of on-street and off-street bicycle facilities that accommodates riders of all ages and abilities. This includes special treatments within and along the eastern edge of the Town Center and at the I-80/West El Camino Avenue interchange.

The project design appears generally consistent with Performance Criteria 1 and 2, which relate to connectivity to any existing and potential future development areas and pedestrian/transit-oriented design. However, deciding overall consistency with Policy LU-120 is beyond the scope of this particular study. However, the project does appear substantially consistent with the circulation policies described above.

# 2. EXISTING CONDITIONS

This chapter describes the existing transportation system and traffic conditions within the study area, including the roadway, bicycle, pedestrian, and transit networks, and traffic operations at study intersections and roadway segments. Refer to separately bound **Appendix A** for technical calculations.

## Roadway Network

The following roadways provide access to the project site.

- **Interstate 80 (I-80)** – is a major east-west freeway that connects Sacramento westerly to the Bay Area and easterly to Nevada and beyond. It is a six-lane freeway at the Yolo/Sacramento County Line, widening to add a carpool lane in each direction approaching the West El Camino Avenue interchange. Between this interchange and I-5 (one mile further east), it consists of three general purpose lanes, one carpool lane, and one auxiliary/weaving lane in each direction. The posted speed limit is 65 miles per hour (mph).
- **Interstate 5 (I-5)** – is California's major north-south freeway that connects California to the Pacific Northwest. It also serves interstate and interregional travel for commerce, commute, and recreational purposes. Between Del Paso Road and Arena Boulevard, it consists of three general purpose lanes and one auxiliary/weaving lane in each direction. Between Arena Boulevard and I-5, it consists of four general purpose lanes and one auxiliary/weaving lane in each direction. The posted speed limit is 65 mph.
- **West El Camino Avenue** – is a four-lane east-west, median-divided arterial for its 1.25-mile distance between I-80 and I-5. This segment, which is within the City of Sacramento limits, has a posted speed limit of 40 mph. West of I-80, West El Camino Avenue is within unincorporated Sacramento County and extends for a short distance, terminating at El Centro Road and serving various retail, hotel and industrial uses (including the Sacramento 49er Travel Plaza Truck Stop).
- **El Centro Road** – is a north-south arterial that begins a short distance south of West El Camino Avenue, extending about 3.5 miles to where it connects with Bayou Way near the I-5/SR 99 interchange. Between West El Camino Avenue and Arena Boulevard, it is situated primarily within unincorporated Sacramento County and is a two-lane moderate access arterial with a 50 mph posted speed limit. North of Arena Boulevard, it widens to a four-lane arterial within the City of Sacramento limits.

- **Arena Boulevard** – is an east-west four to eight lane arterial within the City of Sacramento limits. It begins at El Centro Road, and extends easterly to its interchange with I-5 and along the southern boundary of the SleepTrain Arena property. West of I-5, it has four lanes and a posted speed limit of 40 mph.
- **Del Paso Road** – is an east-west street that parallels Arena Boulevard approximately one mile to the north. Between El Centro Road and its interchange with I-5, it is a four-lane arterial within the City of Sacramento limits. It continues east of I-5 as a four to six lane arterial. About 0.85 miles west of El Centro Road, it becomes a rural road within unincorporated Sacramento County, terminating one mile to the west at Powerline Road.
- **San Juan Road** – begins at Garden Highway in unincorporated Sacramento County as a two-lane rural road with a posted speed limit of 55 mph. East of El Centro Road, it becomes a two-lane arterial within the City of Sacramento. Continuing easterly, it features an undercrossing of I-5, followed by an overcrossing of I-80.
- **Garden Highway** – is a two-lane rural road that parallels the Sacramento River within unincorporated Sacramento County west and south of the project site. This segment has a posted speed limit of 45 mph. East of its undercrossing of I-80, the speed limit is reduced to 40 mph west of Orchard Lane where the roadway is within the City of Sacramento limits. It continues easterly with an interchange at I-5.

There are currently no designated Surface Transportation Assistance Act (STAA) truck routes west of I-5 or north of I-80 within the study area. Such routes allow for operation of large trucks, which are longer than California legal trucks. However, there is an STAA Service Access route on West El Camino Avenue at I-80 and on El Centro Road a short distance north of West El Camino Avenue. This route designation is provided where food, fuel, lodging, and/or truck repair is provided (i.e., from the Sacramento 49er Travel Plaza).

## Existing Traffic Volumes

Due to the effects of the COVID-19 pandemic on travel behavior, recent counts (2017-February 2020) were used to establish a pre-COVID existing condition. The following sources of data were used to compile the existing counts:

- Historical counts from count vendors such as National Data Services and Quality Counts.
- Counts conducted for other ongoing studies (e.g., Grandpark, I-80 and I-5 Managed Lanes Studies, City of Sacramento General Plan Update, etc.).
- Counts provided by City of Sacramento from their traffic count database.

- Purchase of StreetLight Data volume estimates for conditions at intersections and roadways in Fall 2019.

Through this data collection process, traffic counts were assembled for all 41 study intersections and 41 study roadways for a pre-COVID existing condition.

**Figure 8** displays the existing average daily traffic (ADT) at all 41 study roadways along with the number of through lanes at each location. **Figures 9A and 9B** display the existing AM and PM peak hour intersection traffic volumes, traffic controls, and lane configurations at the 41 study intersections. As shown, 31 of the 41 study intersections are controlled by traffic signals.

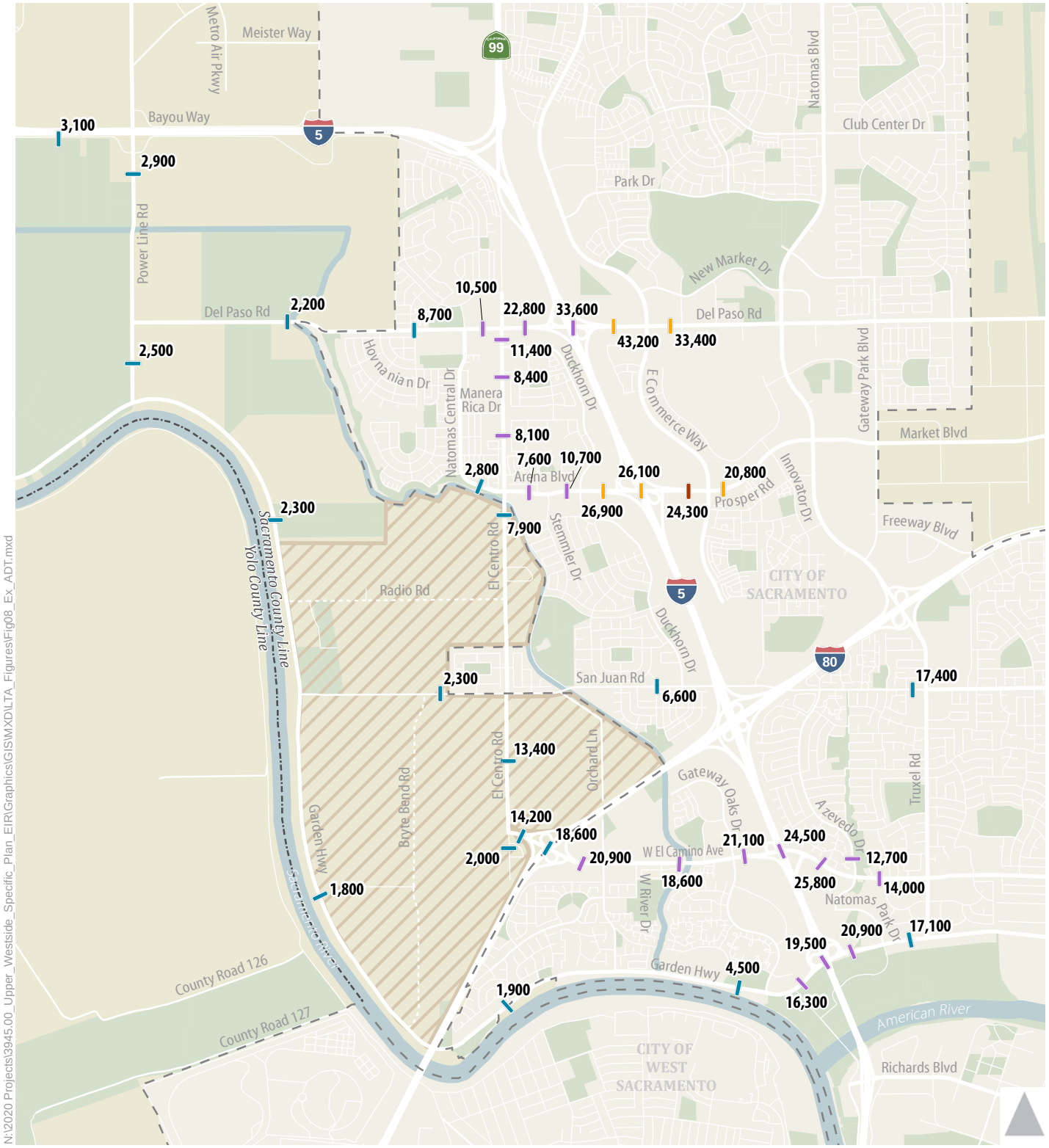
In December 2021, Caltrans provided a set of 2018 on-ramp and off-ramp AM and PM peak hour volumes at the study interchanges. **Appendix A** of this report contains a Technical Memorandum that compares those traffic volumes against volumes used in this study. This comparison identified four specific ramps in which existing volumes in this study were considerably lower than the Caltrans' 2018 volumes. The Technical Memorandum evaluated each of these four ramps. At three locations, logical reasons for differences in volumes were identified, or it was concluded that the volume change would not alter any study findings. But one ramp (I-5/West El Camino NB Slip Off-ramp) did warrant a sensitivity test as described in the memo. That sensitivity test determined if the off-ramp volume were changed, it would not affect study results.

## Roadway Segment Operations

**Table 4** displays the v/c ratio and LOS for the eleven (11) Sacramento County study roadway segments. This table indicates that 10 of the 11 segments currently operate at LOS C or better, which is considered acceptable. One segment, West El Camino Avenue between El Centro Road and the I-80 WB Ramps, has an average daily traffic (ADT) of 14,200 and operates at LOS E, which is also considered acceptable.

## Intersection Operations

**Table 5** shows the average delay and LOS at all existing study intersections for AM and PM peak hour conditions. This table also shows the agency to which each intersection belongs. In the few instances in which the facility overlaps with both the City and County, the County was shown as the lead agency given that the proposed project is being processed by the County.




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**X,XXX** Average Daily Traffic Volume

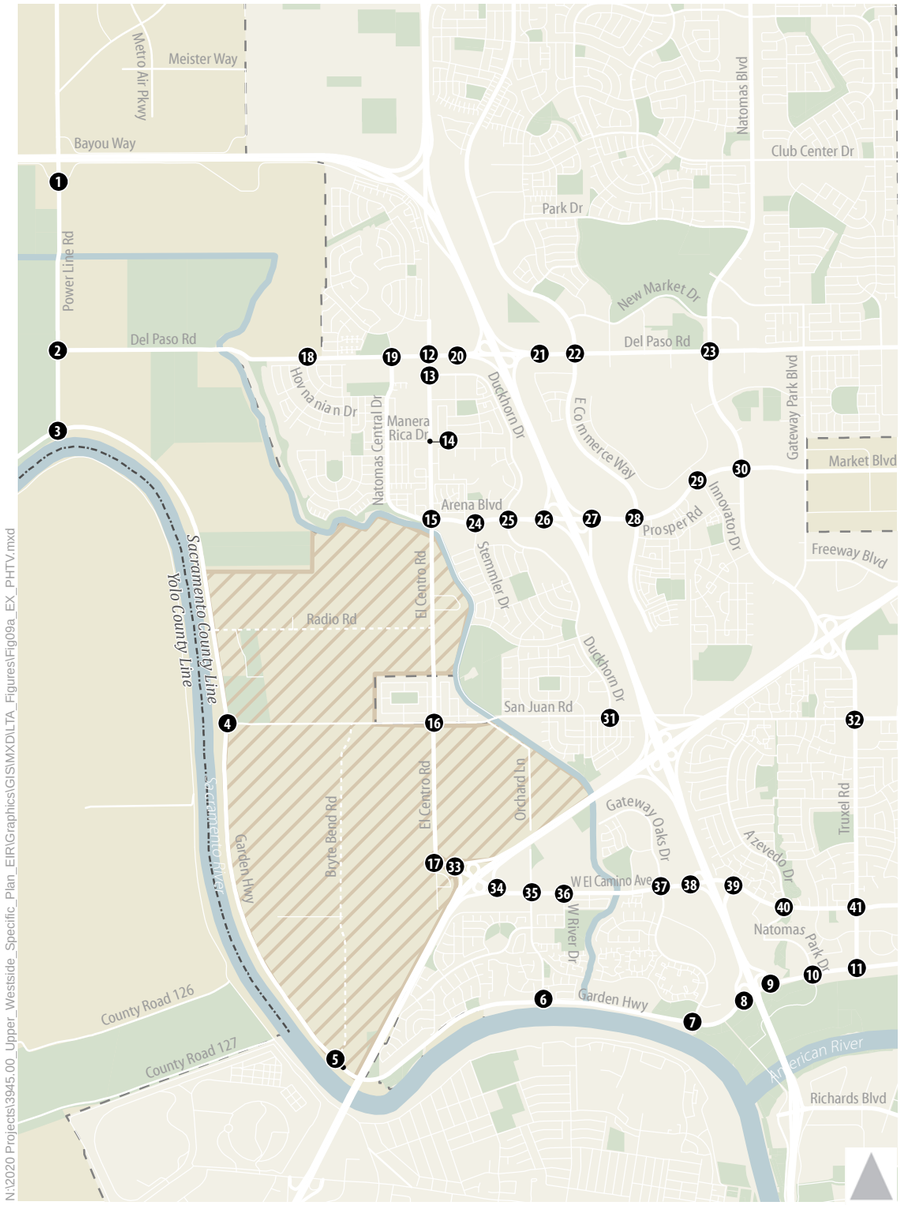
Existing Number of Lanes
- 2
- 4
- 6
- 8

- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary

- Private and/or Gated, Partially Paved/ Unpaved Rural Road
- Public Roadway

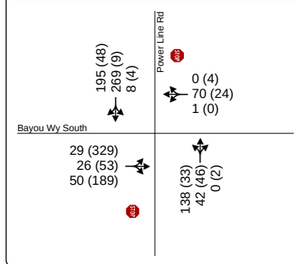
Figure 8

# Existing Roadway Network

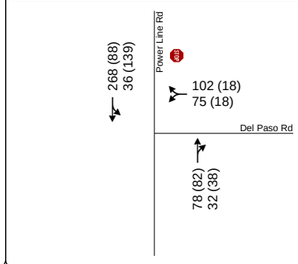



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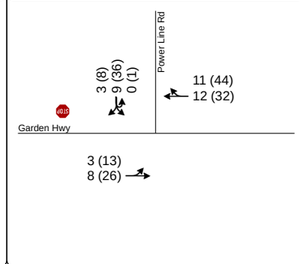
## 1. Power Line Rd/Bayou Wy



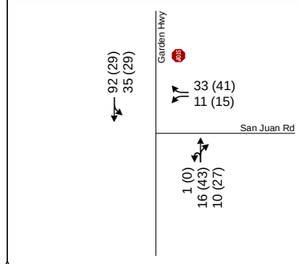

## 2. Power Line Rd/Del Paso Rd



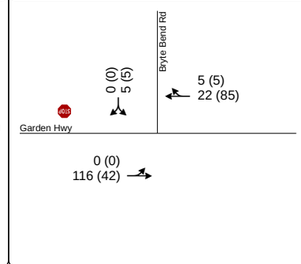

## 3. Power Line Rd/Garden Hwy



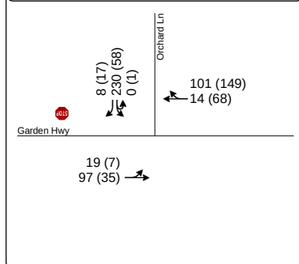

## 4. Garden Hwy/San Juan Rd



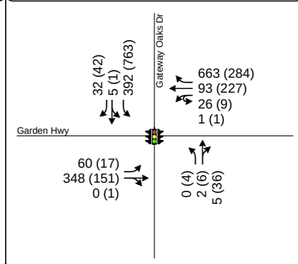

## 5. Bryte Bend Rd/Garden Hwy



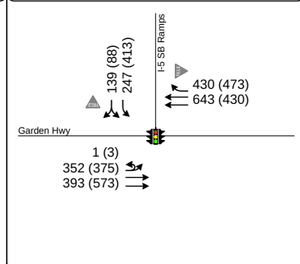

## 6. Orchard Ln/Garden Hwy



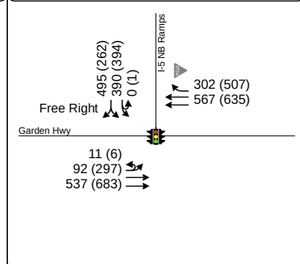

## 7. Gateway Oaks Dr/Garden Hwy



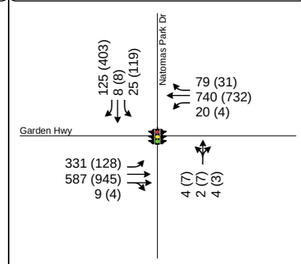

## 8. I-5 SB Ramps/Garden Hwy




## 9. I-5 NB Ramps/Garden Hwy




## 10. Natomas Park Dr/Garden Hwy




## 11. Truxel Rd/Garden Hwy




## 12. El Centro Rd/Del Paso Rd




## 13. El Centro Rd/Duckhorn Dr




## 14. El Centro Rd/Manera Rica Dr




## 15. El Centro Rd/Natomas Central Dr/Arena Blvd




## 16. El Centro Rd/San Juan Rd




## 17. El Centro Rd/W El Camino Ave




## 18. Hovnanian Dr/Del Paso Rd




## 19. Natomas Central Dr/Broadgate Dr/Del Paso Rd



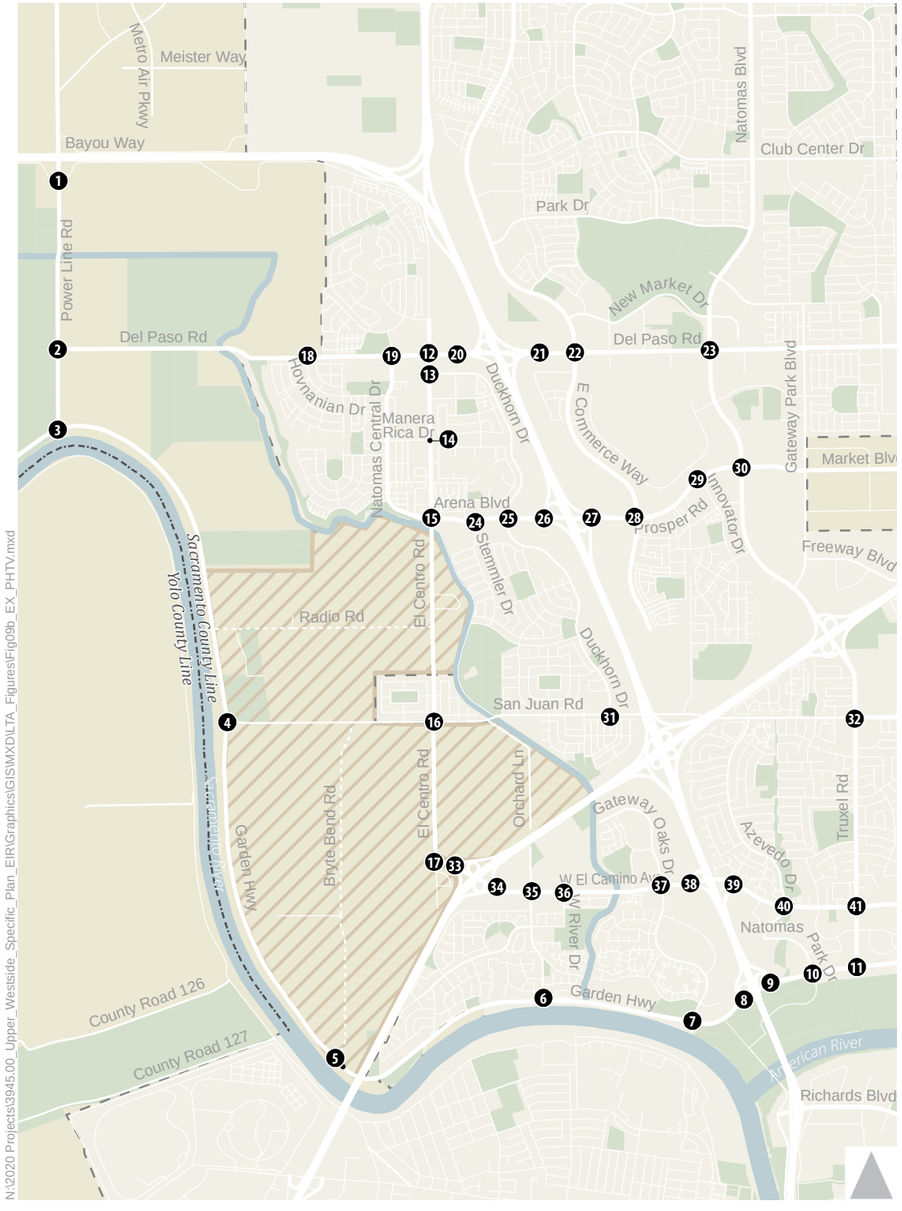

## 20. I-5 SB Ramps/Del Paso Rd




- Study Intersection
- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary
- Private and/or Gated, Partially Paved/Unpaved Rural Road
- Public Roadway
- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- Traffic Signal
- Stop Sign
- Free Right Free Right-Turn
- OL Turning Overlap
- Yield Sign

Figure 9a

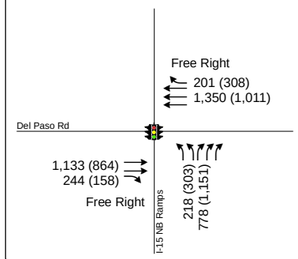
# Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions



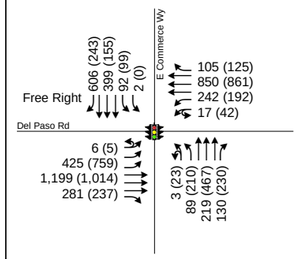

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- Study Intersection
- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary
- Private and/or Gated, Partially Paved/Unpaved Rural Road
- Public Roadway

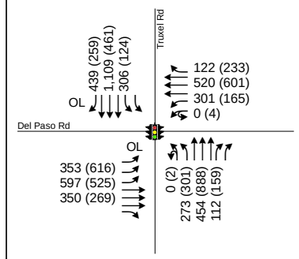
### 21. I-5 NB Ramps/Del Paso Rd



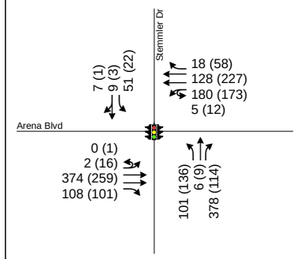

### 22. E Commerce Wy/Del Paso Rd



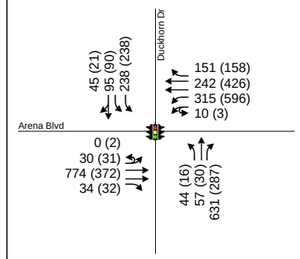

### 23. Truxel Rd/Del Paso Rd



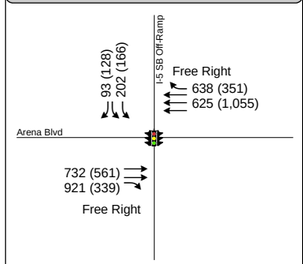

### 24. Stemmler Dr/Arena Blvd



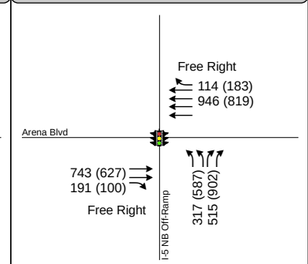

### 25. Duckhorn Dr/Arena Blvd



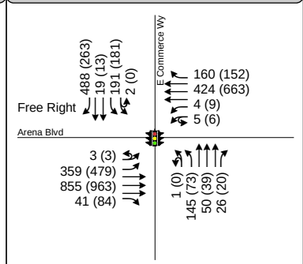

### 26. I-5 SB Ramps/Arena Blvd



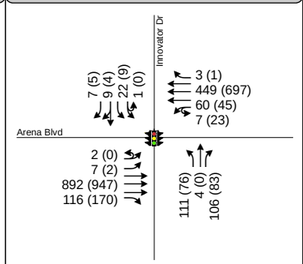

### 27. I-5 NB Ramps/Arena Blvd



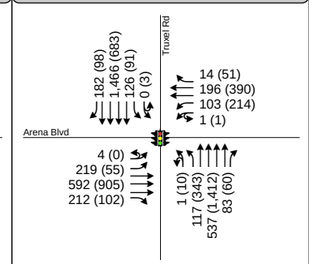

### 28. E Commerce Wy/Arena Blvd




### 29. Innovator Dr/Arena Blvd




### 30. Truxel Rd/Arena Blvd




### 31. Tolliver St/Duckhorn Dr/San Juan Rd




### 32. Truxel Rd/San Juan Rd




### 33. I-80 WB Ramps/W El Camino Ave




### 34. I-80 EB Ramps/W El Camino Ave




### 35. Orchard Ln/W El Camino Ave




### 36. W River Dr/W El Camino Ave




### 37. Gateway Oaks Dr/W El Camino Ave




### 38. I-5 SB Ramps/W El Camino Ave




### 39. I-5 NB Off-Ramp/W El Camino Ave




### 40. Natomas Park Dr/Azevedo Dr/W El Camino Ave




### 41. Truxel Rd/W El Camino Ave




- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- Traffic Signal
- Stop Sign
- Free Right Free Right-Turn
- OL Turning Overlap

Figure 9b

# Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions

**Table 4:**
**Sacramento County Study Roadway Segment Operations – Existing Conditions**

| Segment [1] | Classification/Configuration | LOS Standard | Existing Conditions | | |
|---|---|---|---|---|---|
| | | | ADT[2] | V/C[3] | LOS |
| Del Paso Road: Powerline Road to Hovnanian Drive | Rural, 2 lane road, <24' of pavement, <6' shoulders | D | 2,200 | 0.17 | C |
| San Juan Road: Garden Highway to El Centro Road | Rural, 2 lane road, <24' of pavement, <6' shoulders | D | 2,300 | 0.18 | C |
| San Juan Road: El Centro Road to Orchard Lane | Arterial, low access control (2 lanes) | E | 6,600 | 0.47 | A |
| Powerline Road: Bayou Way to Del Paso Road | Rural, 2 lane road, <24' of pavement, <6' shoulders | D | 2,900 | 0.23 | C |
| Powerline Road: Del Paso Road to Garden Highway | Rural, 2 lane road, <24' of pavement, <6' shoulders | D | 2,500 | 0.20 | C |
| Garden Highway: Powerline Road to San Juan Road | Rural, 2 lane road, <24' of pavement, <6' shoulders | D | 2,300 | 0.18 | C |
| Garden Highway: San Juan Road to Bryte Bend Road | Rural, 2 lane road, <24' of pavement, <6' shoulders | D | 1,800 | 0.14 | B |
| El Centro Road: Arena Boulevard/ Natomas Central Drive to San Juan Road | Arterial, moderate access control (2 lanes) | D | 7,900 | 0.44 | A |
| El Centro Road: San Juan Road to W El Camino Avenue | Arterial, moderate access control (2 lanes) | D | 13,400 | 0.74 | C |
| El Centro Road: W El Camino Avenue to Southerly Terminus | Arterial, low access control (2 lanes) | D | 2,000 | 0.13 | A |
| Bayou Way: Airport Boulevard to Powerline Road | Rural, 2 lane road, <24' of pavement, <6' shoulders | D | 3,200 | 0.25 | C |
| W El Camino Avenue: El Centro Road to I-80 WB Ramps | Arterial, low access control (2 lanes) | E | 14,200 | 0.95 | E |

Notes:
1. Volumes not shown for existing segments of Farm Road, Radio Road, or Bryte Bend Road because they are currently one-lane gravel or dirt roads with nominal traffic.
2. ADT = average daily traffic volume; ADT values are rounded to the nearest 100 vehicles.
3. V/C = volume-to-capacity ratio

Source: Fehr & Peers, 2021.

| Table 5: Intersection Level of Service – Existing Conditions | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Intersection** | **Traffic Control**[1] | **Agency** | **Analyzed in Micro-Simulation?** | **AM Peak Hour** | | **PM Peak Hour** | |
| | | | | **Delay**[2] | **LOS** | **Delay**[2] | **LOS** |
| 1. Powerline Road/Bayou Way | SSSC | Sac Co | - | 6 (23) | A (C) | 15 (18) | B (C) |
| 2. Powerline Road/Del Paso Road | SSSC | Sac Co | - | 4 (11) | A (B) | 4 (11) | A (B) |
| 3. Powerline Road/Garden Highway | SSSC | Sac Co | - | 3 (9) | A (A) | 3 (9) | A (A) |
| 4. Garden Highway/San Juan Road | SSSC | Sac Co | - | 3 (10) | A (A) | 4 (9) | A (A) |
| 5. Garden Highway/Bryte Bend Road | SSSC | Sac Co | - | 0 (9) | A (A) | 0 (9) | A (A) |
| 6. Orchard Lane/Garden Highway | SSSC | City of Sac | - | 6 (12) | A (B) | 2 (10) | A (A) |
| 7. Gateway Oaks Drive/Garden Highway | Signal | City of Sac | Yes | 19 | B | 15 | B |
| 8. I-5 SB Ramps/Garden Highway | Signal | Caltrans | Yes | 17 | B | 30 | C |
| 9. I-5 NB Ramps/Garden Highway | Signal | Caltrans | Yes | 12 | B | 31 | C |
| 10. Natomas Park Drive/Garden Highway | Signal | City of Sac | Yes | 22 | C | 24 | C |
| 11. Truxel Road/Garden Highway | Signal | City of Sac | Yes | 20 | C | 26 | C |
| 12. El Centro Road/Del Paso Road | Signal | City of Sac | Yes | 26 | C | 18 | B |
| 13. El Centro Road/Duckhorn Drive | SSSC | City of Sac | Yes | 3 (7) | A (A) | 3 (6) | A (A) |
| 14. El Centro Road/Manera Rica Drive | Signal | City of Sac | - | 7 | A | 7 | A |
| 15. El Centro Road/Arena Boulevard/Natomas Central Drive | Signal | City of Sac | Yes | 22 | C | 17 | B |
| 16. El Centro Road/San Juan Road | AWSC | City of Sac / Sac Co | Yes | 84 | F | 11 | B |
| 17. El Centro Road/El Camino Avenue | SSSC | Sac Co | Yes | 23 (238) | C (F) | 13 (21) | B (C) |
| 18. Hovnanian Drive/Del Paso Road | Signal | City of Sac | - | 6 | A | 7 | A |
| 19. Natomas Central Drive/Del Paso Road | Signal | City of Sac | Yes | 23 | C | 14 | B |
| 20. I-5 SB Ramps/Del Paso Road | Signal | Caltrans | Yes | 8 | A | 7 | A |
| 21. I-5 NB Ramps/Del Paso Road | Signal | Caltrans | Yes | 16 | B | 16 | B |
| 22. East Commerce Way/Del Paso Road | Signal | City of Sac | Yes | 31 | C | 49 | D |
| 23. Truxel Road/Del Paso Road | Signal | City of Sac | - | 42 | D | 44 | D |
| 24. Stemmler Drive/Arena Boulevard | Signal | City of Sac | Yes | 15 | B | 12 | B |
| 25. Duckhorn Drive/Arena Boulevard | Signal | City of Sac | Yes | 46 | D | 24 | C |
| 26. I-5 SB Ramps/Arena Boulevard | Signal | Caltrans | Yes | 6 | A | 6 | A |
| 27. I-5 NB Ramps/Arena Boulevard | Signal | Caltrans | Yes | 11 | B | 17 | B |
| 28. East Commerce Way/Arena Boulevard | Signal | City of Sac | Yes | 19 | B | 23 | C |
| 29. South Entrance Rd/Innovator Dr/Arena Blvd | Signal | City of Sac | - | 19 | B | 16 | B |

| Table 5: Intersection Level of Service – Existing Conditions | | | | | | | |
|---|---|---|---|---|---|---|---|
| Intersection | Traffic Control[1] | Agency | Analyzed in Micro-Simulation? | AM Peak Hour | | PM Peak Hour | |
| | | | | Delay[2] | LOS | Delay[2] | LOS |
| 30. Truxel Road/Arena Boulevard | Signal | City of Sac | - | 37 | D | 43 | D |
| 31. Duckhorn Drive/San Juan Road | Signal | City of Sac | - | 15 | B | 15 | B |
| 32. Truxel Road/San Juan Road | Signal | City of Sac | - | 42 | D | 45 | D |
| 33. I-80 WB Ramps/W. El Camino Avenue | Signal | Caltrans | Yes | 21 | C | 13 | B |
| 34. I-80 EB Ramps/W. El Camino Avenue | Signal | Caltrans | Yes | 13 | B | 16 | B |
| 35. Orchard Lane/W. El Camino Avenue | Signal | City of Sac | Yes | 15 | B | 18 | B |
| 36. West River Drive/W. El Camino Avenue | Signal | City of Sac | Yes | 15 | B | 7 | A |
| 37. Gateway Oaks Drive/W. El Camino Avenue | Signal | City of Sac | Yes | 28 | C | 44 | D |
| 38. I-5 SB Ramps/W. El Camino Avenue | Free | Caltrans | Yes | 7 | A | 2 | A |
| 39. I-5 NB Ramps/W. El Camino Avenue | Signal | Caltrans | Yes | 29 | C | 6 | A |
| 40. Natomas Park Drive/W. El Camino Avenue | Signal | City of Sac | - | 22 | C | 25 | C |
| 41. Truxel Road/W. El Camino Avenue | Signal | City of Sac | - | 41 | D | 44 | D |

Notes:
1. AWSC = all-way stop controlled intersection; SSSC = side-street stop controlled intersection
2. The overall average intersection control delay is reported in seconds per vehicle for signalized and all-way stop controlled intersections. For side-street stop controlled intersections, the average control delay/LOS for the movement with the greatest delay is shown in parentheses, while the average delay/LOS for the entire intersection is shown not in parentheses.

Source: Fehr & Peers, 2021.

The SimTraffic model requires a single peak hour to be chosen for the network to ensure proper balancing of traffic volumes between intersections. Four separate SimTraffic networks were developed, which allowed for separate peak hours to be used for each. The AM and PM peak hours for each network, which are shown below, are based on the overall busiest 60 minutes in each corridor:

- I-5/Del Paso Road Corridor: 7:15 – 8:15 AM and 4:45 – 5:45 PM
- I-5/Arena Boulevard Corridor: 7:15 – 8:15 AM and 4:45 – 5:45 PM
- I-5/Garden Highway Corridor: 7:30 – 8:30 AM and 4:30 – 5:30 PM
- I-80/West El Camino Avenue and I-5/West El Camino Avenue Corridor: 7:15 – 8:15 AM and 4:30 – 5:30 PM

At Synchro intersections, the peak hour of that individual intersection was chosen for analysis. For all intersections, current signal timings were used as were any ramp metering plans. Consistent with both Sacramento County and City of Sacramento practices, a peak hour factor (PHF) of 1.0 was applied at all study intersections. Because the SimTraffic networks include both ramp terminal and surface street intersections, a systemwide PHF of 1.0 was applied. It should be noted that due to the random entry of vehicles in SimTraffic, volumes vary over the hour. The effective PHF in SimTraffic is about 0.98.

Heavy truck classification counts and pedestrian and bike volumes were obtained from the data sources described above. For intersections where the existing data was absent, a 2 percent heavy truck was assumed along with an estimation of pedestrian and bike volumes. Higher pedestrian and bike volumes were assumed where justified by an existing or future developments, such as intersections that are adjacent to a school or the proposed town center of the project. The SimTraffic models were validated against known operating conditions in the area. Results were reported based on the average of ten model runs.

A review of the LOS results from this table reveals that all study intersections currently operate at LOS D or better during the AM peak hour with the following two exceptions:

- **El Centro Road/San Juan Road (#16).** This all-way stop controlled intersection operates at LOS F with an average delay of 84 seconds per vehicle. Heavier delays are experienced by motorists traveling southbound or westbound. A portion of this directional AM peak hour demand are trips using El Centro Road to bypass congestion on the parallel segment of southbound I-5.
- **El Centro Road/West El Camino Avenue (#17).** The worst-case LOS F condition is experienced by 85 vehicles turning left from the stop-controlled westbound West El Camino Avenue approach. These vehicles experience considerable delays due to the lack of adequate gaps caused by the more than 1,000 vehicles (who have priority right-of-way) on southbound El Centro Road that either turn left or continue straight.

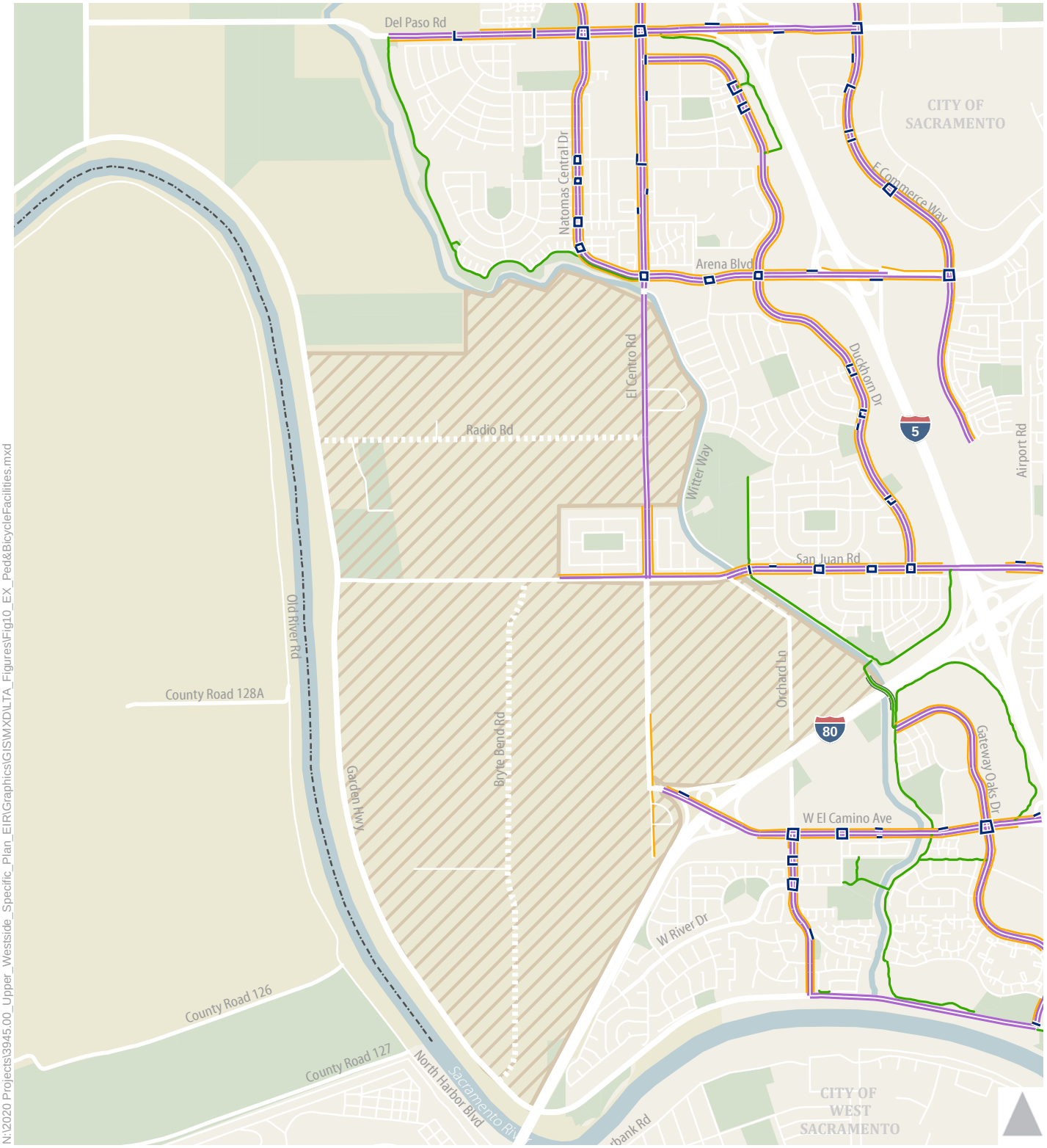
All intersections operate at LOS D or better during the PM peak hour.

## Bicycle/Pedestrian Facilities

**Figure 10** displays the existing bicycle and pedestrian facilities in the project vicinity. As shown, various facility types such as Class I multi-use bike/pedestrian paths, Class II on-street bicycle lanes, sidewalks, and crosswalks exist. Bicycle and pedestrian facilities are present at all three of primary freeway interchanges that would serve the project (i.e., I-80/West El Camino Avenue, I-5/Del Paso Road, and I-5/Arena Boulevard).

## Transit Facilities and Routes

**Figure 11** displays the existing transit facilities and routes in the project vicinity. Fixed-route bus service is provided within the study area by Sacramento Regional Transit (SacRT) as well as the Natomas Jibe Express As shown, no routes currently operate within the specific plan area. However, bus routes do operate on a number of study roadways including portions of El Centro Road, Del Paso Road, Arena Boulevard, San Juan Road, West El Camino Avenue, and Garden Highway.



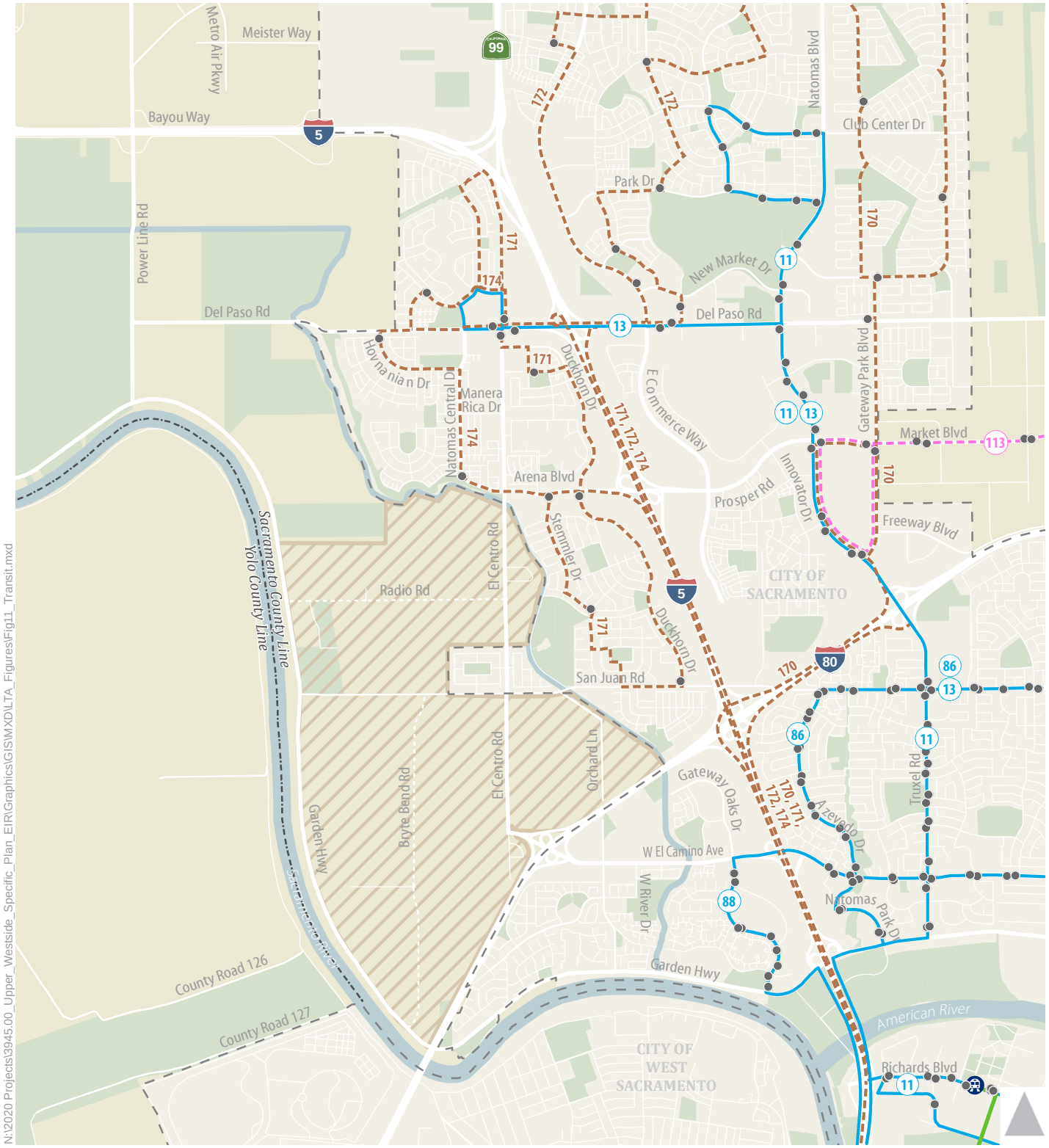

Existing Bicycle and Pedestrian Facilities

- Class I Shared-Use Path
- Pedestrian Bridge
- Class II Bike Lane
- Crosswalk
- Sidewalk
- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary
- Private and/or Gated, Partially Paved/ Unpaved Rural Road
- Public Roadway

*Note: Bicycle and pedestrian facilities only shown on arterial and collector streets near project vicinity.*

Figure 10

## Existing Bicycle & Pedestrian Facilities




*Note: Regional transit routes are not shown on I-80, I-5, and highway 99.*
*Natomas Jibe routes reflect operating conditions as of Fall 2019.*

Figure 11

## Existing Transit Facilities

# 3. EXISTING PLUS PROJECT CONDITIONS

This chapter presents the proposed project's anticipated travel characteristics. It then analyzes the effects of the addition of these trips on the surrounding transportation system.

## Detailed Project Land Use Assumptions

Table 1 displayed the general amount of proposed non-residential development, expressed in terms of total square feet of office or commercial, and school acreage. This chapter refines those land use totals (based on information provided by the project applicant) to reflect the expected mix and quantity of specific non-residential uses.

The Commercial Mixed-Use (CMU) parcels would be developed with 50 percent business professional (i.e., office) and 50 percent consisting of general retail, entertainment, grocery stores, restaurants, institutional/religious, and specialized uses (e.g., vocational schools, medical-office, etc.). These parcels would be integrated mixed-use properties developed at high densities (i.e., 60 percent floor-to-area ratio and 40 dwelling units per acre).

The two E/HC parcels would be developed with 60 percent business professional (i.e., office) and 40 percent consisting of general retail, entertainment, grocery stores, restaurants, institutional/religious, and specialized uses (e.g., vocational schools, medical-office, etc.). These two parcels would develop at a 40 percent floor-to-area ratio.

The project applicant has indicated that the CMU and E/HC parcels would generally provide sufficient on-site parking to meet projected demands. This implies, given the proposed densities, that structured parking will be required, though surface parking may also be provided in some areas.

Approximately 53 percent of residential uses would be multi-family attached, with the remainder being single-family detached. Specific types and quantities of non-residential land use are described later in this chapter.

## Project Trip Generation

The proposed project's trip generation was estimated using the Mixed-Use Trip Generation Model (MXD+), which was originally developed for the US Environmental Protection Agency (EPA) to estimate internal trip-making and external trips made by non-auto travel modes. This model, which was originally developed by consultants and academic researchers based on empirical evidence at 240 mixed-use projects located across

the U.S, has been used in numerous EIRs throughout California. The model considers various built environment variables such as land use density, regional location, proximity to transit, and various design variables when calculating the project's internal trips and external trips made by non-auto modes. In Fall 2019, the model underwent a revalidation that confirmed it is still applicable to current (non-COVID) conditions. Moreover, the model was found to validate well against large mixed-use projects such as the proposed project. Refer to separately bound **Appendix B** for that revalidation report.

## Trip Generation Rates

MXD+ begins by estimating gross trips generated by project land uses based on data included in *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers, 2017). It then estimates internal trips and external trips made by non-auto modes of travel. **Table 6** presents the unadjusted vehicular trip generation rates for each project land use category. In most instances, the weighted average trip rates were applied due to the lack of fitted curve equations that estimate trips based on land use quantity. At the time the analysis was performed, the 11th Edition of the Trip Generation Manual (September 2021) had not yet been released.

Rates chosen for several specific land uses in **Table 6** warrant further explanation as described below:

- Trip generation for single-family and multi-family residential units was estimated based on weighted average trip rates. Use of fitted curve equation rates would have led to differing (and unreasonable) trip rates for adjacent residential areas based solely on their differing unit counts.
- Trip generation for professional office and shopping center land use categories[3] was estimated based on fitted curve equations based on guidance from the *Trip Generation Handbook* (Institute of Transportation Engineers, 2017). Retail and office land use quantities within the Town Center and Employment/Highway Commercial (E/HC) zone located east of El Centro Road were estimated separately based on the square footages proposed in each parcel.

[3] A variety of retail-type uses were assumed on retail parcels including supermarkets, sit-down restaurants, fast-food restaurants, and health/fitness clubs, in addition to general shopping center uses. This approach, which represents a realistic mix of likely retail uses, results in greater total trips, but also more internalization of traffic and an overall more accurate trip estimate (versus using exclusively the shopping center category).

**Table 6:**
**Unadjusted Trip Generation Rates by Land Use Type**

| Land Use | ITE Code | Unit Type | Daily Trip Rate [1] | AM Peak Hour [1] | | PM Peak Hour [1] | |
|---|---|---|---|---|---|---|---|
| | | | | Trip Rate | %in/ %out | Trip Rate | %in/ %out |
| Single-Family Detached Housing [2] | 210 | du's | 9.44 | 0.74 | 25%/75% | 0.99 | 63%/37% |
| Multi-Family Housing Mid-Rise [3,4] | 221 | du's | 5.44 | 0.36 | 26%/74% | 0.99 | 61%/39% |
| Professional Office [3,5] | 710 | ksf | 9.74 – 10.25 | 0.99 – 1.16 | 86%/14% | 1.05 – 1.15 | 16%/84% |
| Medical Office [2] | 720 | ksf | 36.32 | 2.45 | 78%/22% | 3.44 | 28%/72% |
| Hotel [2] | 310 | rooms | 8.36 | 0.47 | 59%/41% | 0.60 | 51%/49% |
| Business Hotel [2] | 312 | rooms | 4.02 | 0.39 | 42%/58% | 0.32 | 55%/45% |
| Government Office [2] | 730 | ksf | 22.59 | 3.33 | 75%/25% | 1.72 | 26%/74% |
| Shopping Center [3] | 820 | ksf | 50.64 – 66.26 | 1.39 – 2.56 | 62%/38% | 4.73 – 5.88 | 48%/52% |
| Health/Fitness Club [2] | 492 | ksf | 26.67 | 1.33 | 50%/50% | 3.47 | 58%/42% |
| Supermarket [3] | 850 | ksf | 95.14 – 106.8 | 3.80 – 3.82 | 60%/40% | 9.27 – 9.32 | 51%/49% |
| High-Turnover (Sit-Down) Restaurant [2] | 932 | ksf | 112.18 | 9.94 | 55%/45% | 9.77 | 62%/38% |
| Fast-Food Restaurant with Drive-Through Window [2] | 934 | ksf | 471.00 | 40.22 | 51%/49% | 32.67 | 52%/48% |
| Recreational Community Center [2,3] | 495 | ksf | 28.80 – 28.83 | 1.77 – 3.85 | 66%/34% | 2.31 – 3.60 | 47%/53% |
| Middle School/Junior High School [2] | 522 | students | 2.13 | 0.58 | 54%/46% | 0.17 | 49%/51% |
| High School [2] | 530 | students | 2.03 | 0.52 | 67%/33% | 0.14 | 48%/52% |
| Vocational School | 540 | ksf | 20.25 | 2.07 | 77%/23% | 1.86 | 50%/50% |
| Junior/Community College | 540 | students | 1.15 | 0.11 | 81%/19% | 0.11 | 56%/44% |

Note:
1. All rates derived from the *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers, 2017).
2. Weighted average trip rate applied.
3. Fitted curve equation applied.
4. Multi-Family Mid-Rise category chosen given densities proposed (i.e., buildings will range between 3 and 10 floors, which meets the definition of this use type).
5. Range of trip rates shown because varying sized facilities are proposed in different areas of the plan and fitted curve equations yield different trip rates by size.

ksf = thousand square feet. du's = dwelling units.

Source: Fehr & Peers, 2021.

## Project Trip Generation

**Table 7** presents the project's expected trip generation (prior to any consideration of existing land uses whose trips would be eliminated with the project). As shown, the proportion of project trips that would remain internal to the site would vary between 23 and 35 percent depending on the time period. Internalization is greatest during the AM peak hour due to the effect of matched trips between residences and schools. Refer to separately bound **Appendix B** for detailed calculations.

**Table 7:**
**Proposed Project Trip Generation**

| Land Use | Quantity [1] | Trips | | |
|---|---|---|---|---|
| | | Daily | AM Peak Hour | PM Peak Hour |
| Single-Family Detached Housing | 4,367 du's | 41,224 | 3,232 | 4,323 |
| Multi-Family Housing Mid-Rise | 4,989 du's | 27,140 | 1,796 | 2,195 |
| Professional Office | 1,573 ksf | 15,669 | 1,689 | 1,730 |
| Medical Office | 41.6 ksf | 1,511 | 102 | 143 |
| Hotel | 410 rooms | 3,428 | 193 | 246 |
| Business Hotel | 410 rooms | 1,648 | 160 | 131 |
| Government Office | 74 ksf | 1,681 | 248 | 128 |
| Shopping Center | 245 ksf | 13,549 | 426 | 1,242 |
| Health/Fitness Club | 65 ksf | 1,730 | 86 | 225 |
| Supermarket | 65 ksf | 6,359 | 248 | 605 |
| High-Turnover (Sit-Down) Restaurant | 104 ksf | 11,644 | 1,032 | 1,014 |
| Fast-Food Restaurant with Drive-Through | 24 ksf | 11,303 | 965 | 784 |
| Recreational Community Center | 72 ksf | 2,075 | 169 | 192 |
| Middle School/Junior High School | 3,000 students | 6,390 | 1,740 | 510 |
| High School | 1,500 students | 3,045 | 780 | 210 |
| Vocational School & Junior College | 208 ksf & 2,500 students | 7,087 | 706 | 662 |
| | **Gross Project Trips** | **155,483** | **13,572** | **14,340** |
| | *Trip Adjustments* | | | |
| | Internal Trips [2] | -34,890 | -4,724 | -3,664 |
| | External Transit Trips [3] | -3,576 | -271 | -315 |
| | Walk/Bike Trips [4] | -622 | -81 | -72 |

**Table 7:**
**Proposed Project Trip Generation**

| Land Use | Quantity [1] | Trips | | |
|---|---|---|---|---|
| | | Daily | AM Peak Hour | PM Peak Hour |
| **Net External Vehicular Project Trips** | | **116,395** | **8,495** | **10,289** |
| Pass-by Trips [5] | | -6,614 | -366 | -1,048 |
| Diverted Link Trips [6] | | -4,372 | -221 | -726 |
| **Net New External Vehicular Trips** | | **105,409** | **7,908** | **8,515** |
| **Net New External and Diverted Link Vehicular Trips** | | **109,781** | **8,129** | **9,241** |

Note:
1. Does not account for eliminated trips due to removal of existing uses. See following tables.
2. Internal trips estimated to be 22.5 percent on a daily basis, 34.9 percent during the AM peak hour, and 25.6 percent during the PM peak hour.
3. Estimated proportion of total external trips made by transit ranges from 2.0 to 2.3 percent depending on time period.
4. Estimated proportion of total external trips made by walking or biking ranges from 0.4 to 0.6 percent depending on time period.
5. Pass-by trips are made to retail uses from the adjacent street. Pass-by percentages are based on the *Trip Generation Handbook* (Institute of Transportation Engineers, 2017).
6. Diverted link trips come from I-80 or I-5. Percentages are from the *Trip Generation Handbook* (Institute of Transportation Engineers, 2017).

ksf = thousand square feet. du's = dwelling units.
Source: Fehr & Peers, 2021.

The analysis presumes that at project buildout, the site would be served with fixed-route transit (with overall service levels complying with County Policy LU-120). Based on this level of transit service, **Table 7** shows the use of transit for travel to external destinations at two percent. It should be noted that a modest amount of transit use is already built into the default ITE trip generation rates that form the starting point for the project trip generation estimate. Thus, this transit estimate represents an increased level of transit use beyond the "base" level which is typically associated with suburban settings, free parking, and modest levels of bus service.

A more geographically focused evaluation determined that the Town Center, Employment/Highway Commercial Zone, and adjacent high-density residential would have a combined four percent transit mode split. This is reasonable given that transit use is typically greater for employees versus residents, and in mixed-use urban areas versus suburban settings.

According to this table, use of walking or biking for travel to external destinations is estimated at 0.5 percent for the proposed project. Again, this represents a modest increase above the default ITE estimates. The

project would provide a direct linkage to the multi-use path east of the project site (near Witter Canal) that connects to the bike/pedestrian bridge over I-80. From that bridge, several destinations in South Natomas can be reached within a 10 to 15 minute bike ride. Downtown Sacramento can be reached by bike in about 20 to 30 minutes depending on travel speed. However, walk/bike destinations within a one-mile radius from the edge of the project site are generally limited, which helps explain the low walk/bike mode split.

Overall, the complementary nature of land uses within the project site, combined with the availability of transit and walking/biking to external destinations, would result in a combined 25 percent reduction in gross daily vehicle trips. During the AM and PM peak hours, this reduction would increase to 37 percent and 28 percent, respectively.

When retail trips that are pass-by or diverted-link are also considered, the overall reduction percentages climb to 32 percent on a daily basis, 42 percent during the AM peak hour, and 41 percent during the PM peak hour. After these adjustments are made, the project would generate approximately 105,400 new daily vehicle trips, 7,900 new AM peak hour vehicle trips, and 8,500 new PM peak hour vehicle trips.

The above trip totals do not consider potential changes in travel associated with the current COVID-19 pandemic or the next phase "COVID Endemic" condition. In all likelihood, reductions in travel will occur for certain land uses, such as offices, though specific details and estimates of those changes are not known at this time. This analysis is therefore reasonably conservative because it did not consider those changes.

## Trip Generation of Existing Land Uses to be Removed

The trip generation estimates in Table 7 do not consider the removal of existing trip generating land uses on the project site. Those trips are shown in **Table 8.** As shown, elimination of these existing land uses would remove approximately 4,550 new daily vehicle trips, 375 new AM peak hour vehicle trips, and 315 new PM peak hour vehicle trips (after considering reductions for pass-by and diverted-link trips to the retail uses).

**Table 8: Existing Trip Generating Land Uses to be Removed**

| Land Use | Quantity [1] | Trips | | |
|---|---|---|---|---|
| | | Daily | AM Peak Hour | PM Peak Hour |
| Single-Family Detached Housing | 20 du's | 189 | 15 | 20 |
| Professional Office | 40 ksf | 390 | 46 | 46 |
| Self-Storage Facility | 70 ksf | 98 | 6 | 7 |
| Business Hotel (2) | 145 rooms | 583 | 57 | 46 |
| High-Turnover (Sit-Down) Restaurant | 9 ksf | 965 | 85 | 84 |
| Fast-Food Restaurant with Drive-Through | 3 ksf | 1,507 | 129 | 105 |
| Gas station with Convenience Market | 12 fueling positions | 2,464 | 150 | 168 |
| Light Industrial | 45 ksf | 223 | 31 | 29 |
| Golf Driving Range | 12 tee positions | 164 | 5 | 15 |
| Truck Stop [1] | Fueling area, conv. market | 3,373 | 172 | 213 |
| **Net External Vehicular Project Trips** | | **9,956** | **696** | **733** |
| Pass-by Trips [2] | | 1,773 | 118 | 156 |
| Diverted Link Trips [3] | | 3,615 | 203 | 261 |
| **Net New External Vehicular Trips** | | **4,568** | **375** | **316** |
| **Net New External and Diverted Link Vehicular Trips** | | **8,183** | **578** | **577** |

Note:

1. Trip rates estimated based on data from *Trip Generation Manual* (Institute of Transportation Engineers, 2017), with exception of 49er Truck Stop located at corner of West El Camino Avenue/El Centro Road whose AM and PM peak hour vehicle trips were measured in early December 2020. Daily trips for that use was estimated by factoring up peak hour trip rates for the Gas Station with Convenience Market land use category from Trip Generation Manual.
2. Pass-by trip percentages are based on the *Trip Generation Handbook* (Institute of Transportation Engineers, 2017).
3. Diverted link trips come from I-80 or I-5. Percentages are from the *Trip Generation Handbook* (Institute of Transportation Engineers, 2017).

ksf = thousand square feet. du's = dwelling units.

Source: Fehr & Peers, 2021.

## Net Increase in Vehicle Trips Generated by the Proposed Project

**Table 9** shows the net increase in vehicle trips generated by the proposed project (over the existing uses to be removed) during all three study time periods. The bottom of the table includes several summary trip statistics that warrant further explanation as provided below:

1. Net External Vehicular Project Trips – accounts for internal trips between complementary on-site land uses (e.g., residential and retail), and external trips made by walking, biking and transit to estimate external vehicle trips.

2. Net New External Vehicular Trips – further refines external vehicle trip estimate by removing vehicle trips that are "pass-by"[4] from the adjacent street and "diverted-link"[5] from I-80 or I-5. **This is the number of new project vehicle trips that would be assigned to study intersections/roadways throughout the study area.**

3. Net New External and Diverted Link Vehicular Trips – adds diverted link trips to the above estimate. **This is the number of vehicle trips the project would add to its gateway streets.**

This table indicates that the proposed project would result in a net increase in approximately 100,800 new daily vehicle trips, with 7,530 occurring during the AM peak hour and 8,200 occurring during the PM peak hour. During both peak hours, a fairly equal distribution of inbound versus outbound traffic is expected (i.e., 50 percent inbound/50 percent outbound during the AM peak hour, and 52 percent inbound/48 percent outbound during the PM peak hour).

[4] A "pass-by" trip to a retail use is made by a motorist already on the adjacent street while en route to a different primary destination. Pass-by trips do not add traffic to the adjacent street, but contribute trips to the driveway(s) serving the retail center. Checks were performed to ensure that primary adjacent roadways (i.e., El Centro Road and West El Camino Avenue) would have sufficient volumes of traffic under "plus project" conditions, from which pass-by trips could be taken.

[5] A "diverted-link" trip (in this context) is made by a motorist traveling on a nearby freeway who chooses to exit the freeway to access a retail use. Diverted-link trips are added both to the freeway on/off ramps, surface streets, and driveway(s) serving the retail center.

**Table 9:**
**Net Increase in Vehicle Trips Generated by Proposed Project**

| Scenario | Vehicle Trips | | | | | | |
|---|---|---|---|---|---|---|---|
| | Daily | AM Peak Hour | | | PM Peak Hour | | |
| | | Inbound | Outbound | Total | Inbound | Outbound | Total |
| *Net New External Vehicular Trips* | | | | | | | |
| Proposed Project | 105,409 | 3,953 | 3,955 | 7,908 | 4,410 | 4,107 | 8,515 |
| Existing Uses To be Removed | 4,568 | -214 | -161 | -375 | -137 | -179 | -316 |
| **Difference** | **100,841** | **3,740** | **3,794** | **7,534** | **4,273** | **3,929** | **8,199** |
| *Net New External and Diverted Link Vehicular Trips* | | | | | | | |
| Proposed Project | 109,781 | 4,076 | 4,053 | 8,129 | 4,796 | 4,448 | 9,241 |
| Existing Uses To be Removed | -8,183 | -318 | -260 | -578 | -272 | -305 | -577 |
| **Difference** | **101,598** | **3,758** | **3,793** | **7,551** | **4,524** | **4,143** | **8,664** |

Note:
1. Refer to Table 7 for proposed project trips and Table 8 for existing uses trips.
2. Some volumes may not sum perfectly due to rounding.

Source: Fehr & Peers, 2021.

# Travel Demand Forecasts

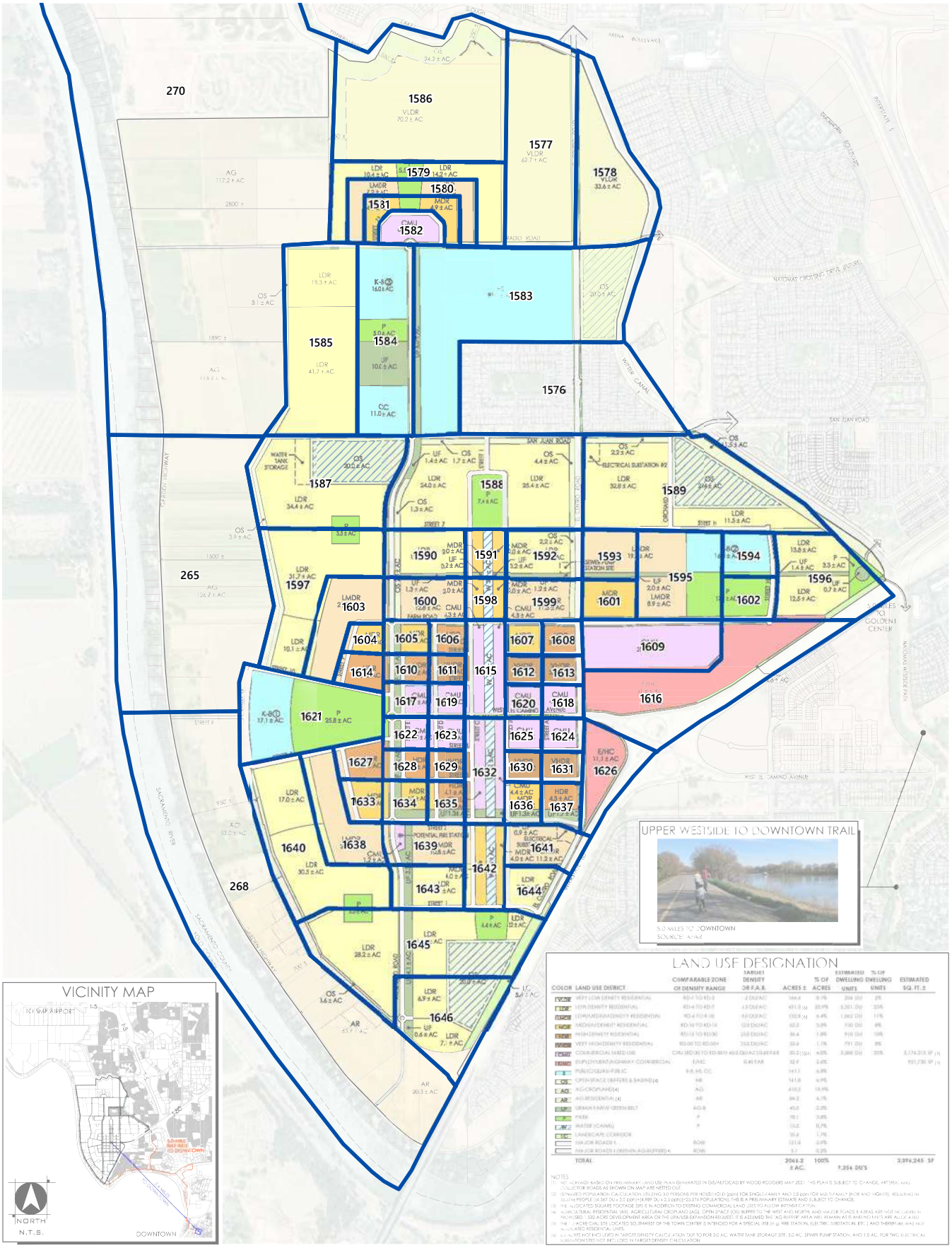
The four steps below were followed to develop traffic forecasts for the four scenarios analyzed in this study.

*Step 1 – Development of Traffic Analysis Zone (TAZ) Structure for Proposed Project*

The project was disaggregated into 70 distinct TAZs within the base year version of the SACSIM19 activity-based travel demand model. Each TAZ included the number of persons and employees within that particular zone based on the project's site plan. **Figure 12** shows the project's TAZ map.

*Step 2 – Addition of Project Roadways*

The project's roadway network (including planned street widenings) was added to the model. This included TAZ centroid connectors that load trips onto public streets from TAZs. The TAZ centroid connectors also included turning penalties where certain movements would be prohibited. Notably, through interim analyses, it was determined that the CMU and E/HC parcels located north of West El Camino Avenue and east of El Centro Road would be limited to one or two driveways on El Centro Road that are restricted to right-turns only.




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Figure 12

# TAZ Map

*Step 3 – Review of Trip Table Outputs*

The trip table outputs from the model for the project's TAZs were reviewed to determine if any adjustments were necessary to better match the expected number of external project vehicle trips shown in Table 9.

*Step 4 – Traffic Forecasting*

A traffic forecasting adjustment procedure known as the "difference method" was utilized to develop existing plus project traffic forecasts. This method corrects any potential anomalies within the model and assures a more accurate forecast. This forecasting procedure is calculated as follows:

*Existing Plus Project Forecast = Existing Traffic Count +*
*(Base Year Plus Project Model Forecast – Base Year No Project Model Forecast)*

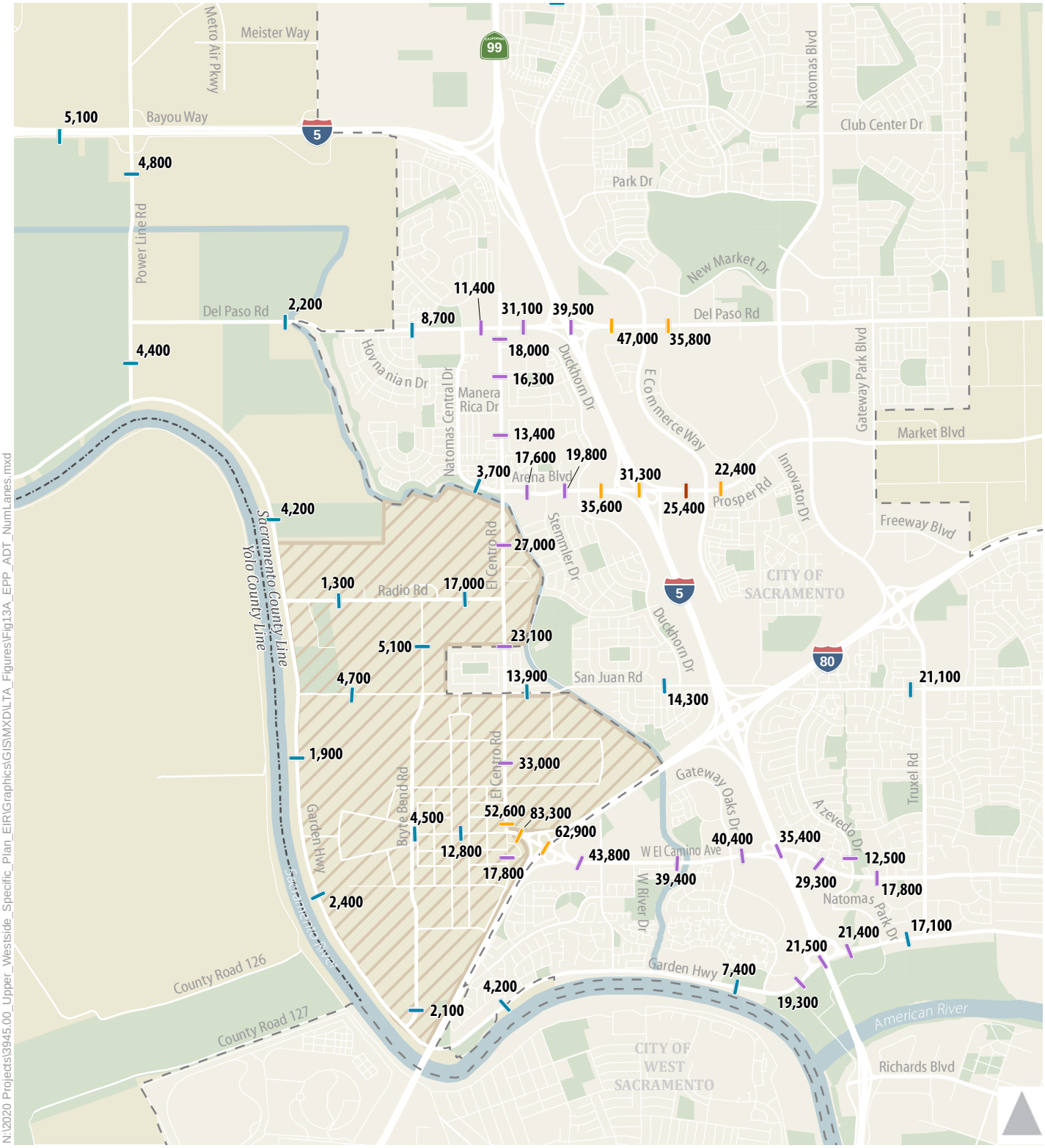
In instances where the roadway currently does not exist, like on-site roadway facilities, the direct model forecast is used.

It should be noted that the project not only includes new trip generating land uses, but also introduces new street connections that would cause a redistribution of background traffic. Additionally, the project would alter trip-making behaviors of existing land uses by virtue of introducing new regional retail, employment, etc. Therefore, when comparing existing and existing plus project forecasts, it is expected that certain turning movements, for instance those not in the direction of the project, could either increase or decrease as a result of changes in background travel behavior (i.e., a non-project resident changing a commute pattern or preference for shopping).

**Figure 13A** shows the ADT on existing study roadways under existing plus project conditions. **Figure 13B** shows the ADT on the roadways within the Specific Plan area.

**Figures 14A – 14F** show the existing plus project weekday AM and PM peak hour forecasts at the existing and new project study intersections. These figures indicate that the project would create 65 new internal study intersections[6]. Lane configurations and traffic controls at each of those locations were developed based on proposed typical street-sections, peak hour traffic volumes, professional engineering judgment (including coordination with Sacramento County DOT), and preliminary traffic operations analysis results.

[6] Project roadway modification removed extension of El Centro Road southwesterly from Street 1 to Bryte Bend Road. Hence, two project intersections were removed from the analysis, leaving 65 new project study intersections.




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**X,XXX** Average Daily Traffic Volume (Refer to Figure 1B for complete set of daily traffic volumes on internal roadways)

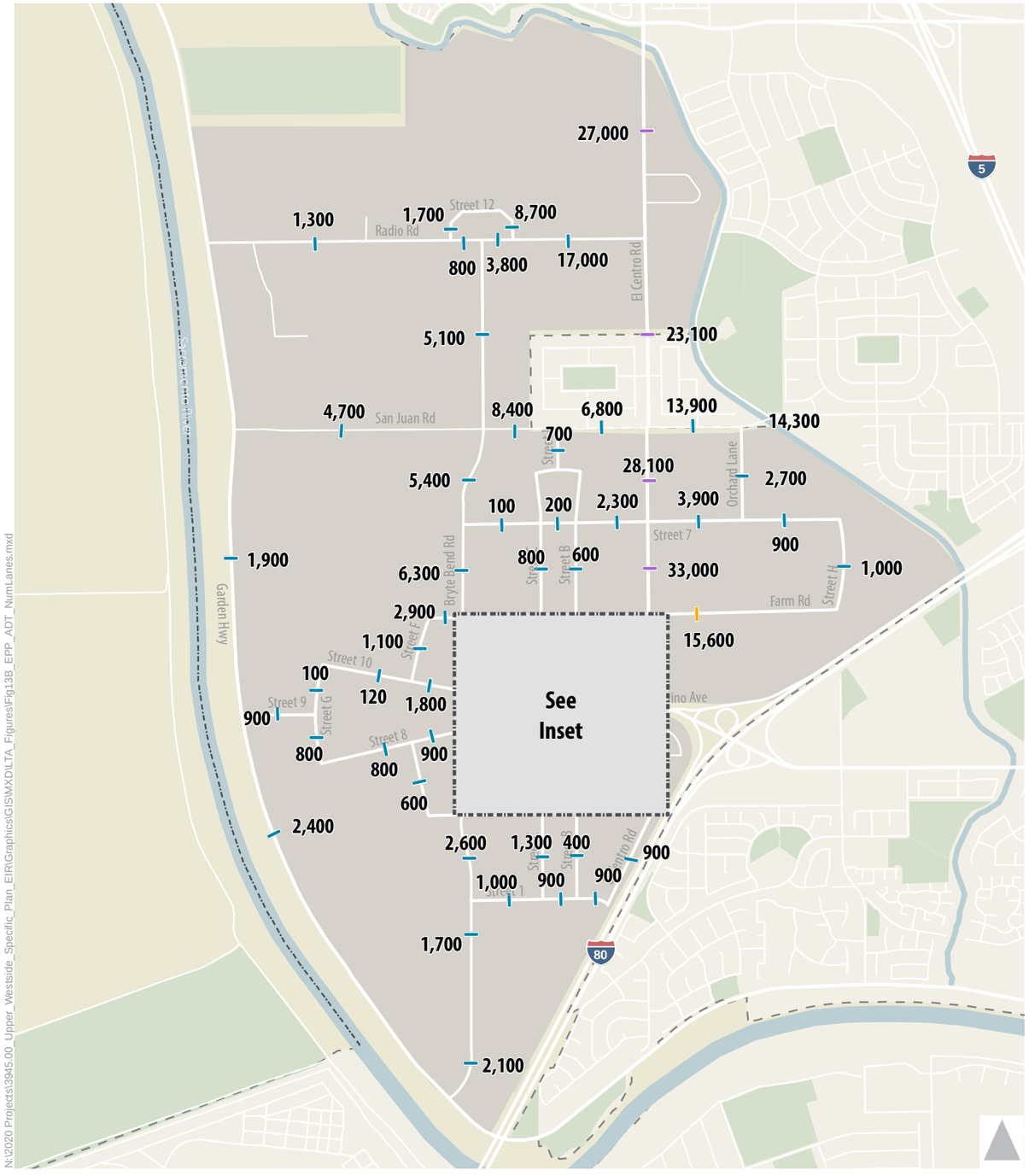
*Existing Plus Project Number of Lanes
- 2
- 4
- 6
- 8

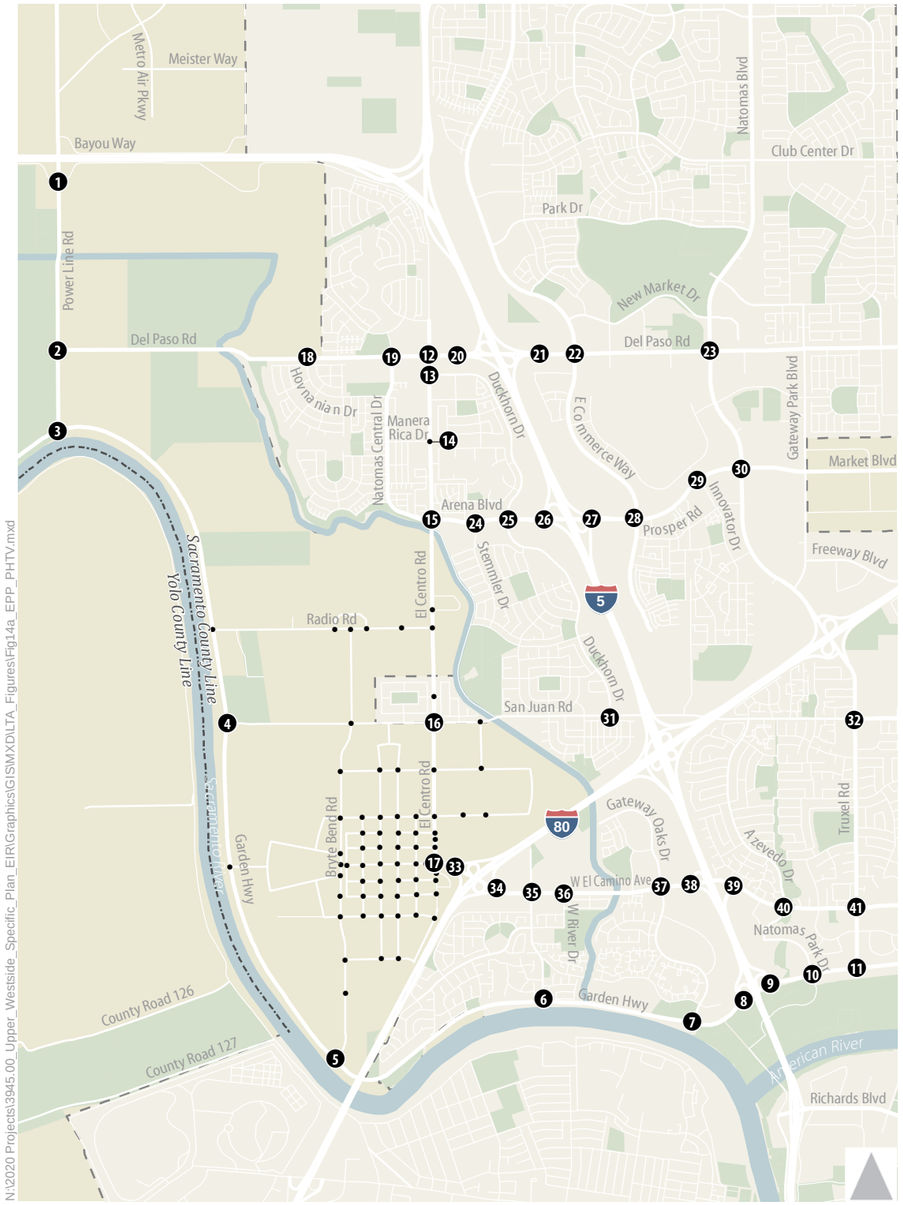
**Includes through lanes only.*

- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary

Figure 13a

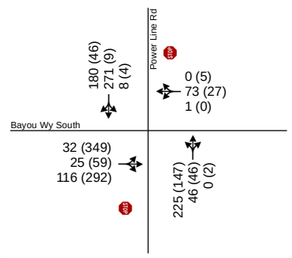
# Average Daily Traffic Volumes and Number of Lanes - Existing Plus Project Conditions


27,000
1,300
1,700
Street 12
8,700
Radio Rd
800
3,800
17,000
El Centro Rd
5,100
23,100
4,700
San Juan Rd
8,400
6,800
13,900
14,300
700
Street A
28,100
5,400
Orchard Lane
2,700
100
200
2,300
3,900
Street 7
900
1,900
Garden Hwy
6,300
Bryte Bend Rd
800
Street B
600
33,000
Street H
1,000
Farm Rd
2,900
Street F
15,600
1,100
Street 10
100
Street 9
120
1,800
900
Street G
800
Street 8
800
900
600
2,400
See
Inset
2,600
1,300
400
Street C
Street D
Pyramid Hwy
900
1,000
900
900
1,700
80
2,100
5
Sacramento River Bypass
Feather River
Yuba River
Sutter Bypass
Sutter Slough
Steamboat Slough
Miner Slough
Cache Slough
Lindsey Slough
Lindsey Slough
Ulatis Creek
Ulatis Creek
Alamo Creek
Alamo Creek
Alamo

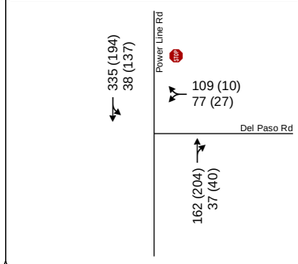



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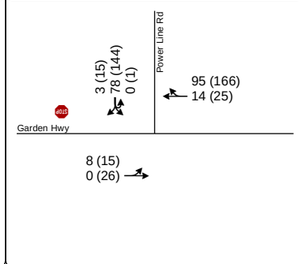
### 1. Power Line Rd/Bayou Wy South



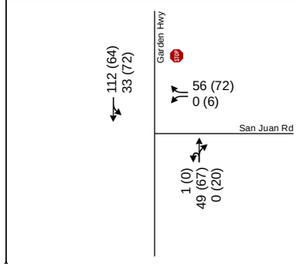

### 2. Power Line Rd/Del Paso Rd



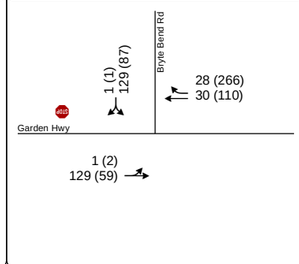

### 3. Power Line Rd/Garden Hwy



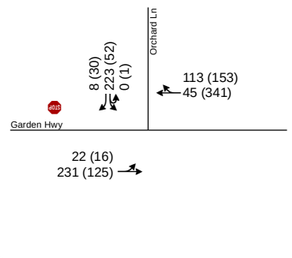

### 4. Garden Hwy/San Juan Rd



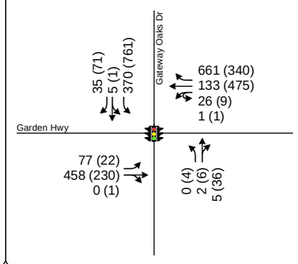

### 5. Bryte Bend Rd/Garden Hwy



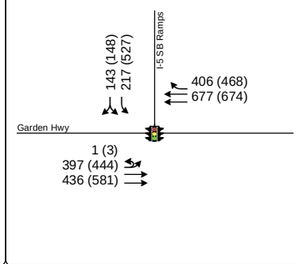

### 6. Orchard Ln/Garden Hwy



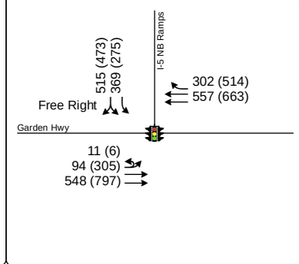

### 7. Gateway Oaks Dr/Garden Hwy



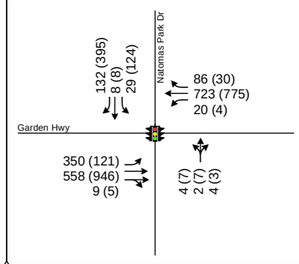

### 8. I-5 SB Ramps/Garden Hwy



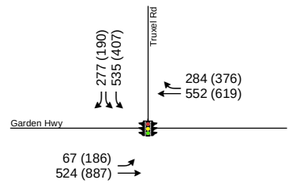

### 9. I-5 NB Ramps/Garden Hwy



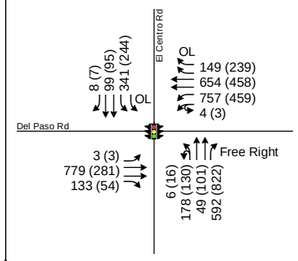

### 10. Natomas Park Dr/Garden Hwy



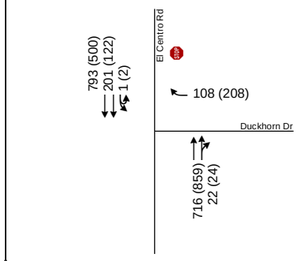

### 11. Truxel Rd/Garden Hwy



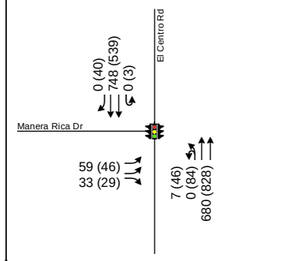

### 12. El Centro Rd/Del Paso Rd



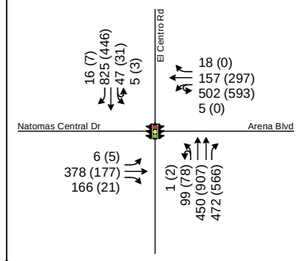

### 13. El Centro Rd/Duckhorn Dr



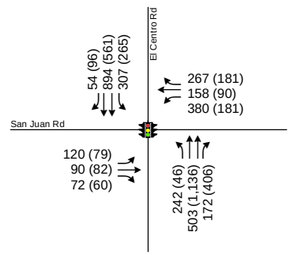

### 14. El Centro Rd/Manera Rica Dr



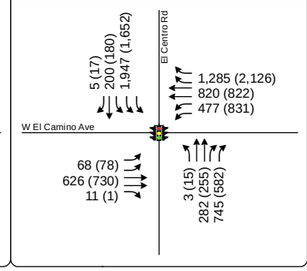

### 15. El Centro Rd/Natomas Central Dr/Arena Blvd



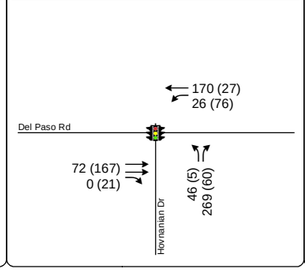

### 16. El Centro Rd/San Juan Rd



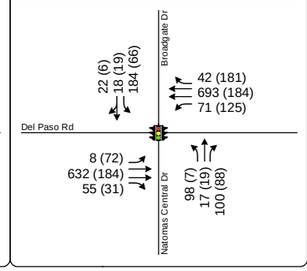

### 17. El Centro Rd/W El Camino Ave



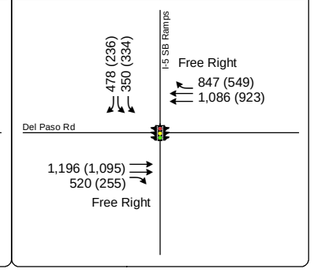

### 18. Hovnanian Dr/Del Paso Rd




### 19. Natomas Central Dr/Broadgate Dr/Del Paso Rd




### 20. I-5 SB Ramps/Del Paso Rd




1 Study Intersection

• Project Study Intersection (See Figures 14c - 14f)

Upper Westside Specific Plan Boundary

City Boundary

County Boundary

Turn Lane

AM (PM) Peak Hour Traffic Volume

Traffic Signal

Stop Sign

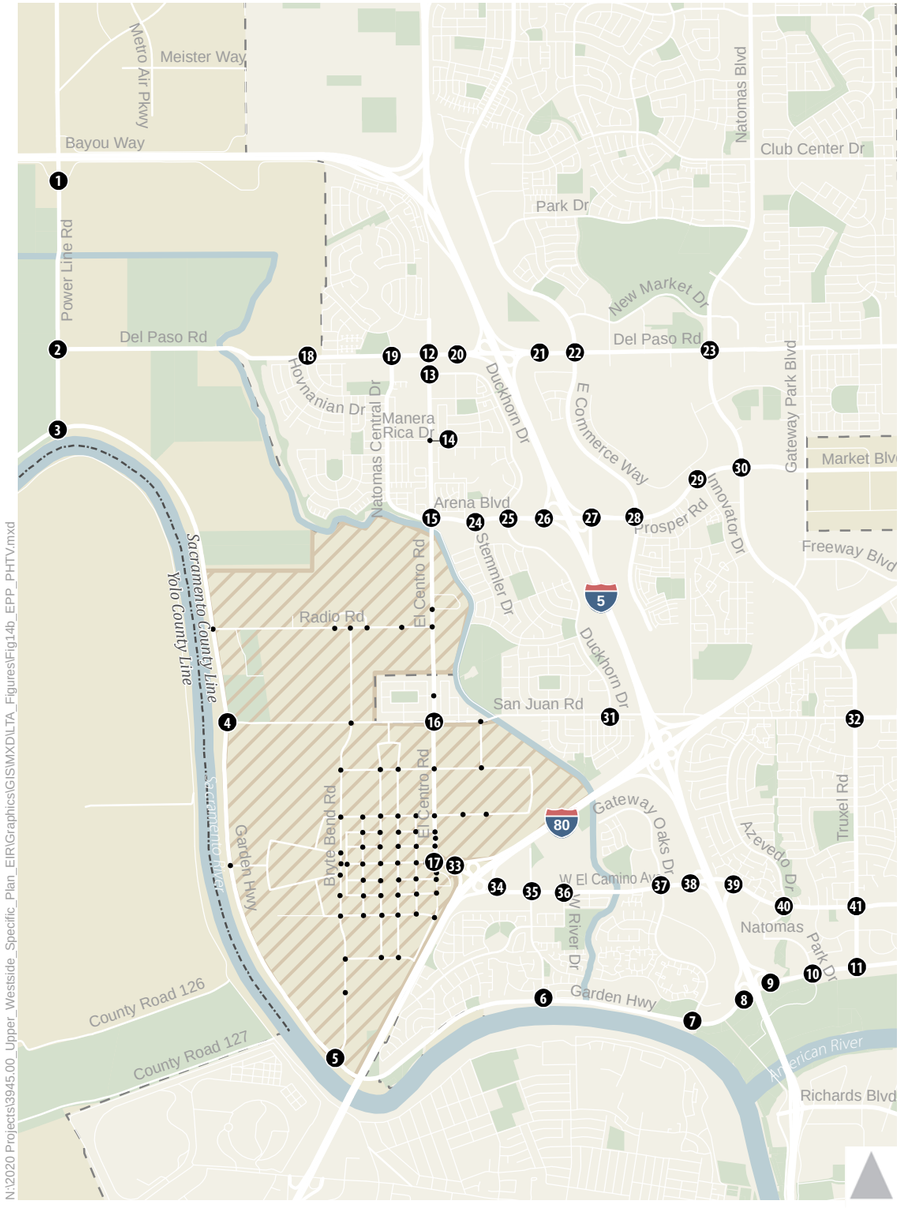
Free Right Free Right-Turn

OL Turning Overlap

Yield Sign

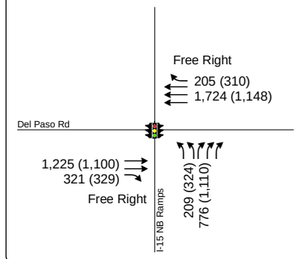
Figure 14a

## Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Project Conditions

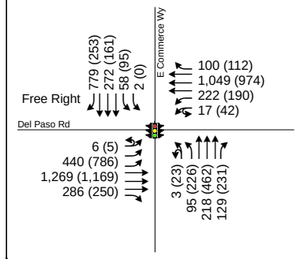



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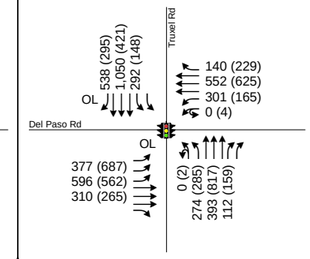
**21. I-15 NB Ramps/Del Paso Rd**



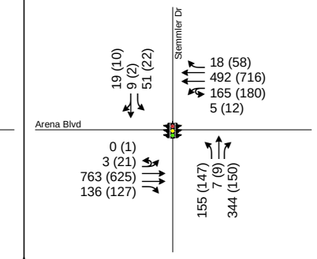

**22. E Commerce Wy/Del Paso Rd**



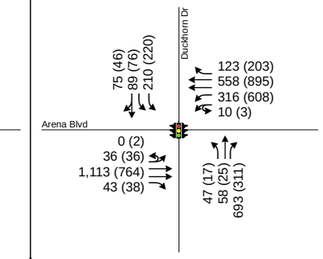

**23. Truxel Rd/Del Paso Rd**



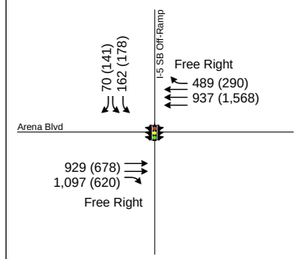

**24. Stemmler Dr/Arena Blvd**



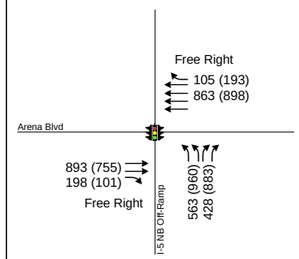

**25. Duckhorn Dr/Arena Blvd**



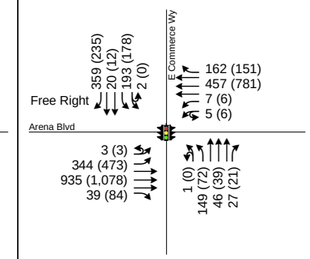

**26. I-5 SB Off-Ramp/Arena Blvd**



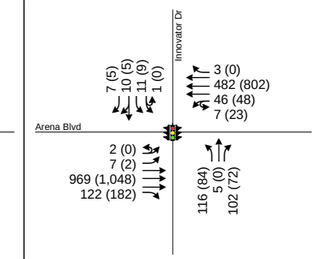

**27. I-5 NB Off-Ramp/I-5 NB On-Ramp/Arena Blvd**



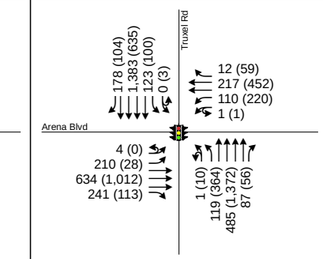

**28. E Commerce Wy/Arena Blvd**



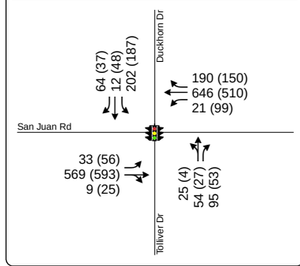

**29. Innovator Dr/Arena Blvd**



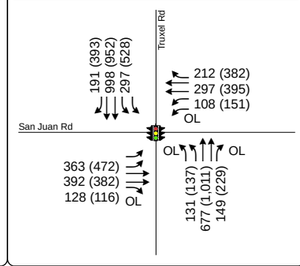

**30. Truxel Rd/Arena Blvd**



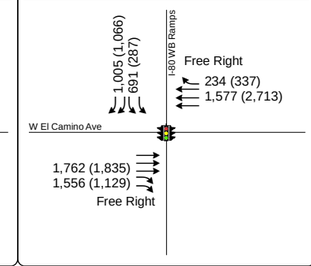

**31. Tolliver Dr/Duckhorn Dr/San Juan Rd**



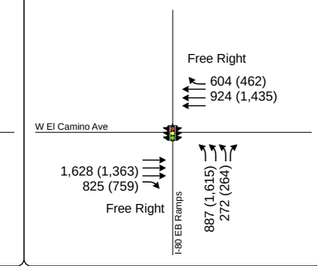

**32. Truxel Rd/San Juan Rd**



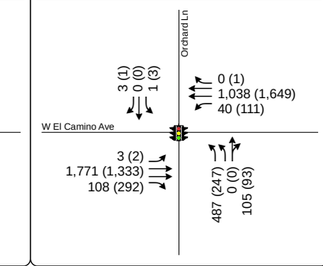

**33. I-80 WB Ramps/W El Camino Ave**



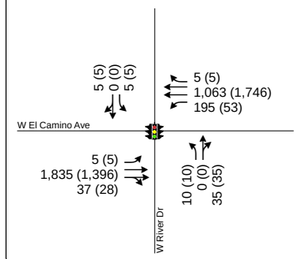

**34. I-80 EB Ramps/W El Camino Ave**



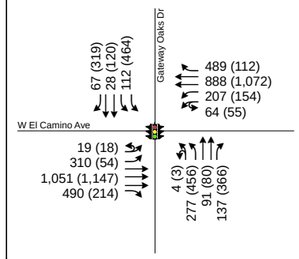

**35. Orchard Ln/W El Camino Ave**



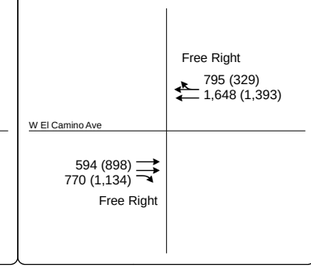

**36. W River Dr/W El Camino Ave**



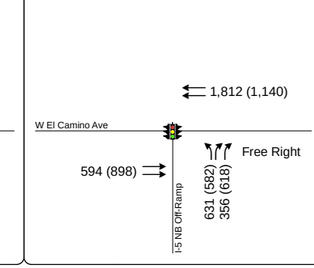

**37. Gateway Oaks Dr/W El Camino Ave**



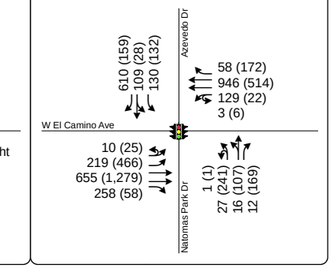

**38. I-5 SB Ramps/W El Camino Ave**



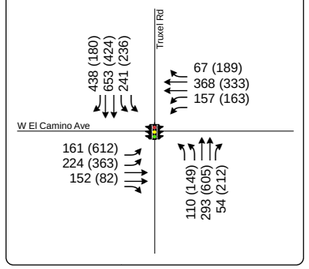

**39. I-5 NB Off-Ramp/W El Camino Ave**




**40. Natomas Park Dr/Azevedo Dr/W El Camino Ave**




**41. Truxel Rd/W El Camino Ave**




1 Study Intersection

• Project Study Intersection (See Figures 14c - 14f)

Upper Westside Specific Plan Boundary

City Boundary

County Boundary

Turn Lane

AM (PM) Peak Hour Traffic Volume

Traffic Signal

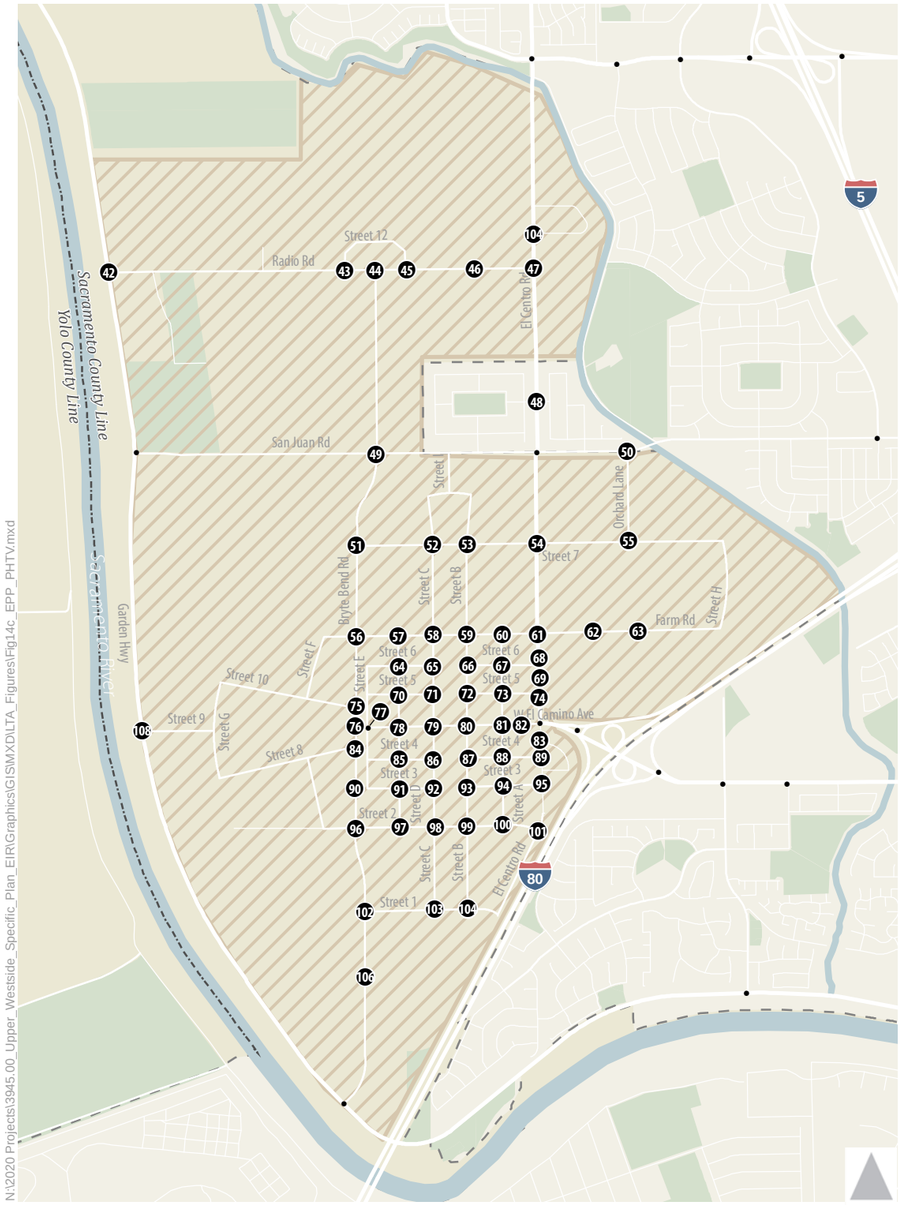
Stop Sign

Free Right Free Right-Turn

OL Turning Overlap

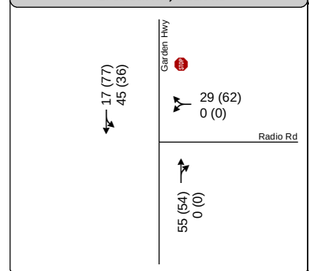
Figure 14b

# Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Project Conditions

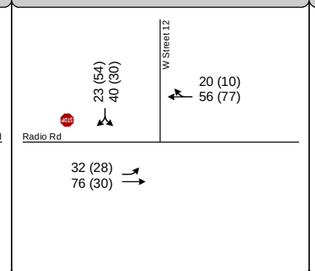



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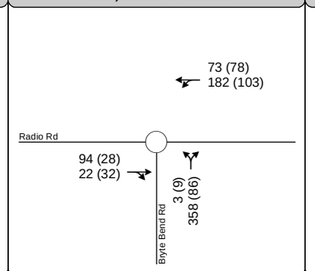
### 42. Garden Hwy/Radio Rd



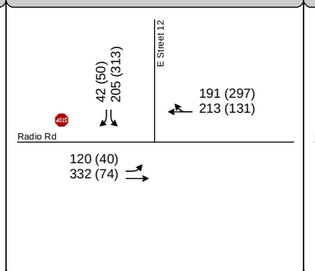

### 43. W Street 12/Radio Rd



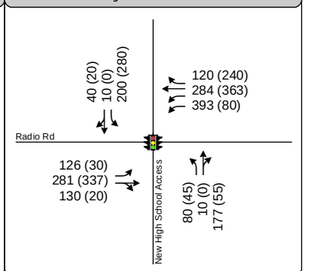

### 44. Bryte Bend Rd/Radio Rd



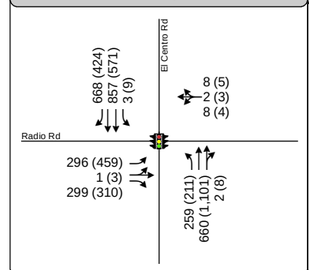

### 45. E Street 12/Radio Rd



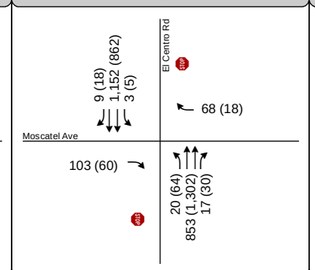

### 46. New High School Access/Radio Rd



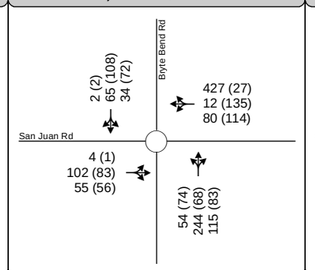

### 47. El Centro Rd/Radio Rd



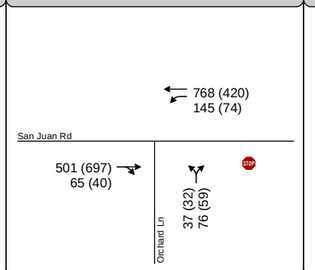

### 48. El Centro Rd/Moscatel Ave



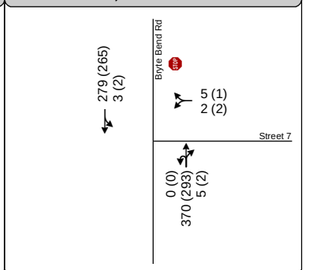

### 49. Bryte Bend Rd/San Juan Rd



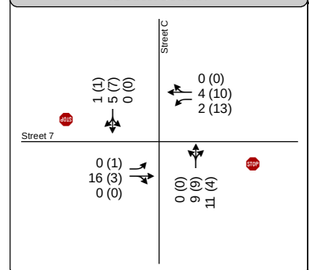

### 50. Orchard Ln/San Juan Rd



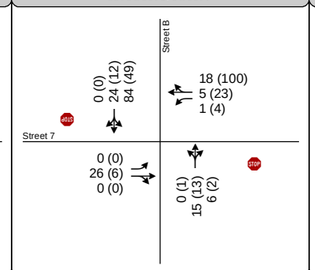

### 51. Bryte Bend Rd/Street 7



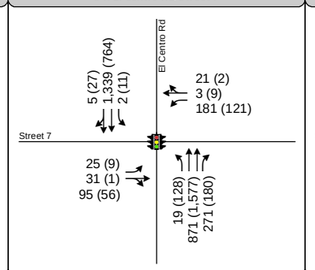

### 52. Street C/Street 7



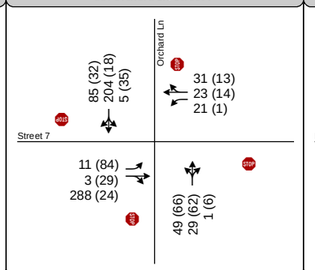

### 53. Street B/Street 7



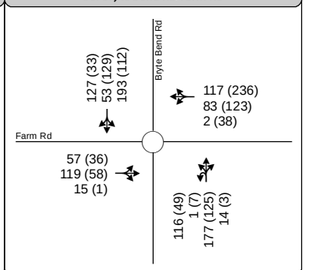

### 54. El Centro Rd/Street 7



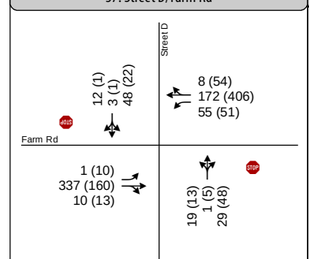

### 55. Orchard Ln/Street 7



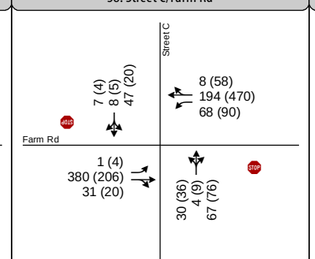

### 56. Bryte Bend Rd/Farm Rd



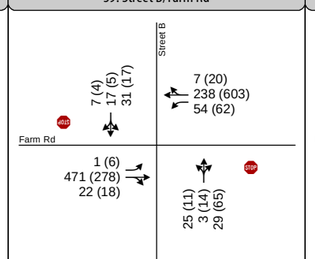

### 57. Street D/Farm Rd



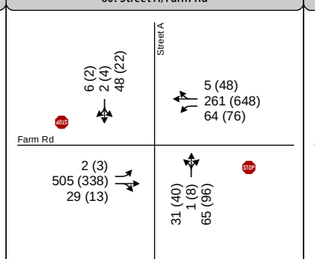

### 58. Street C/Farm Rd



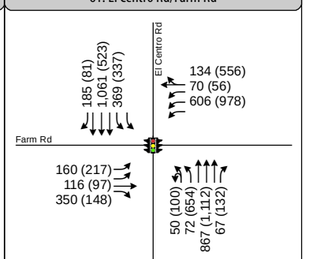

### 59. Street B/Farm Rd




### 60. Street A/Farm Rd




### 61. El Centro Rd/Farm Rd




1 Project Study Intersection

• Study Intersection (See Figures 14a - 14b)

Upper Westside Specific Plan Boundary

City Boundary

County Boundary

Turn Lane

AM (PM) Peak Hour Traffic Volume

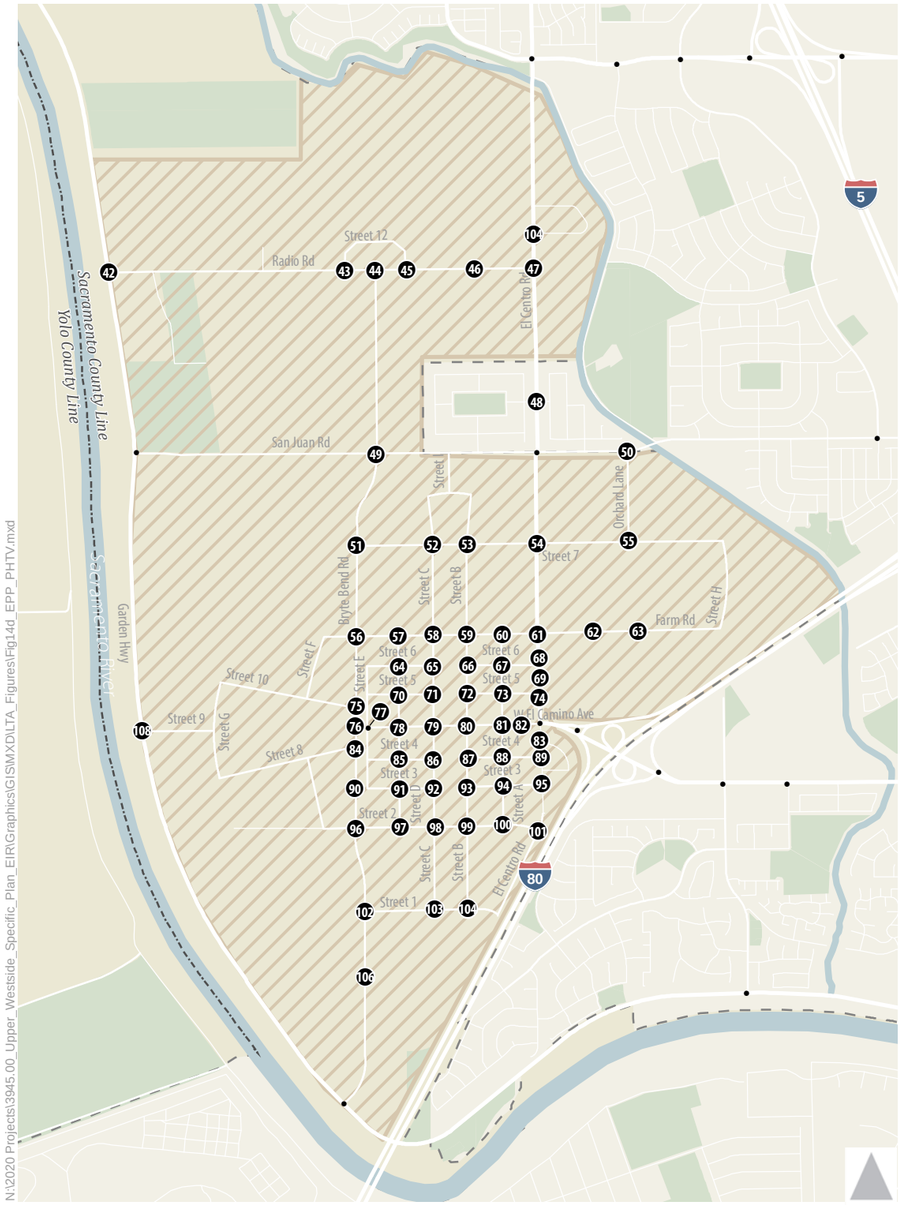
Traffic Signal

Stop Sign

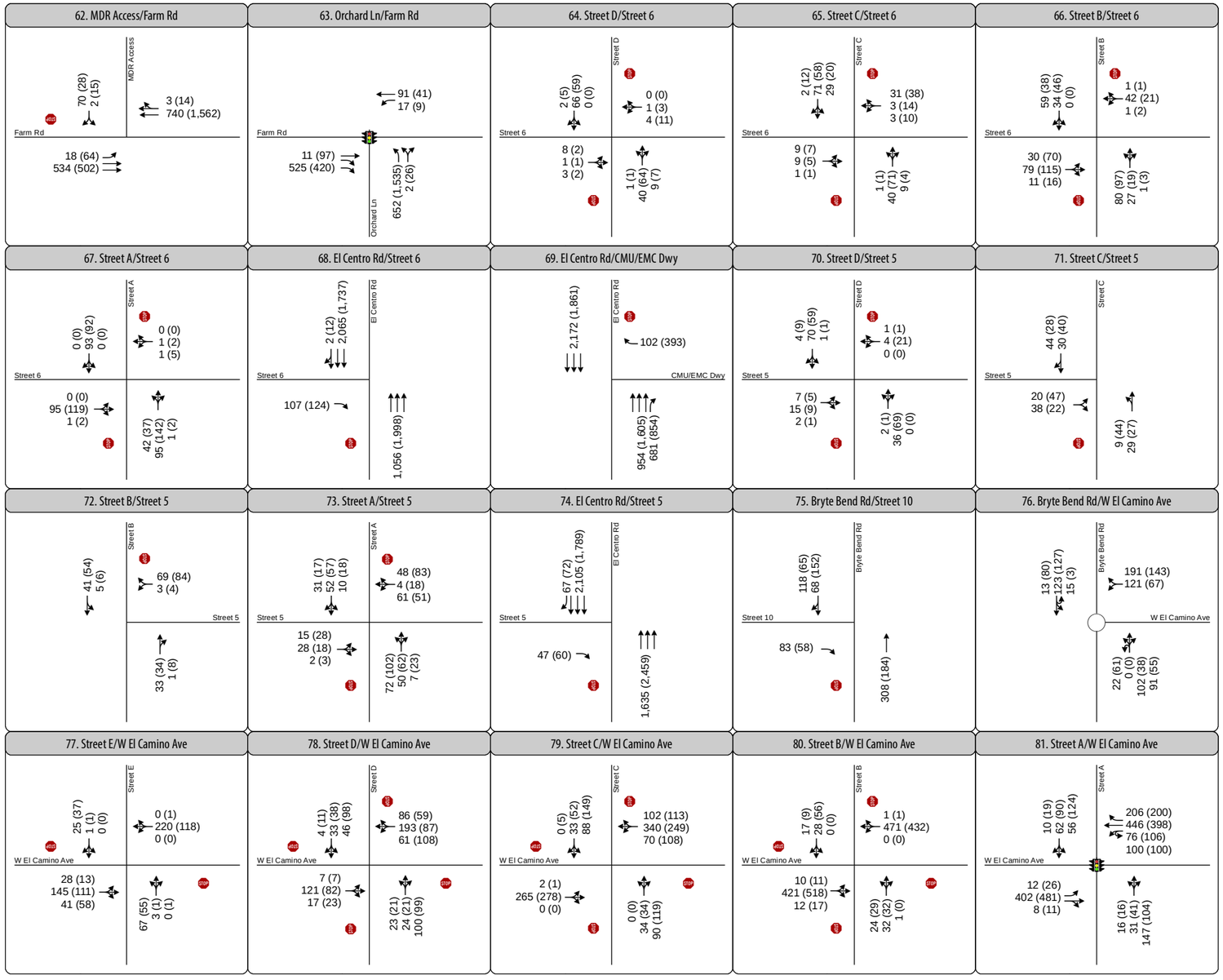
Roundabout

Figure 14c

# Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Project Conditions




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1 Project Study Intersection

• Study Intersection (See Figures 14a - 14b)

Upper Westside Specific Plan Boundary

City Boundary

County Boundary

Turn Lane

AM (PM) Peak Hour Traffic Volume

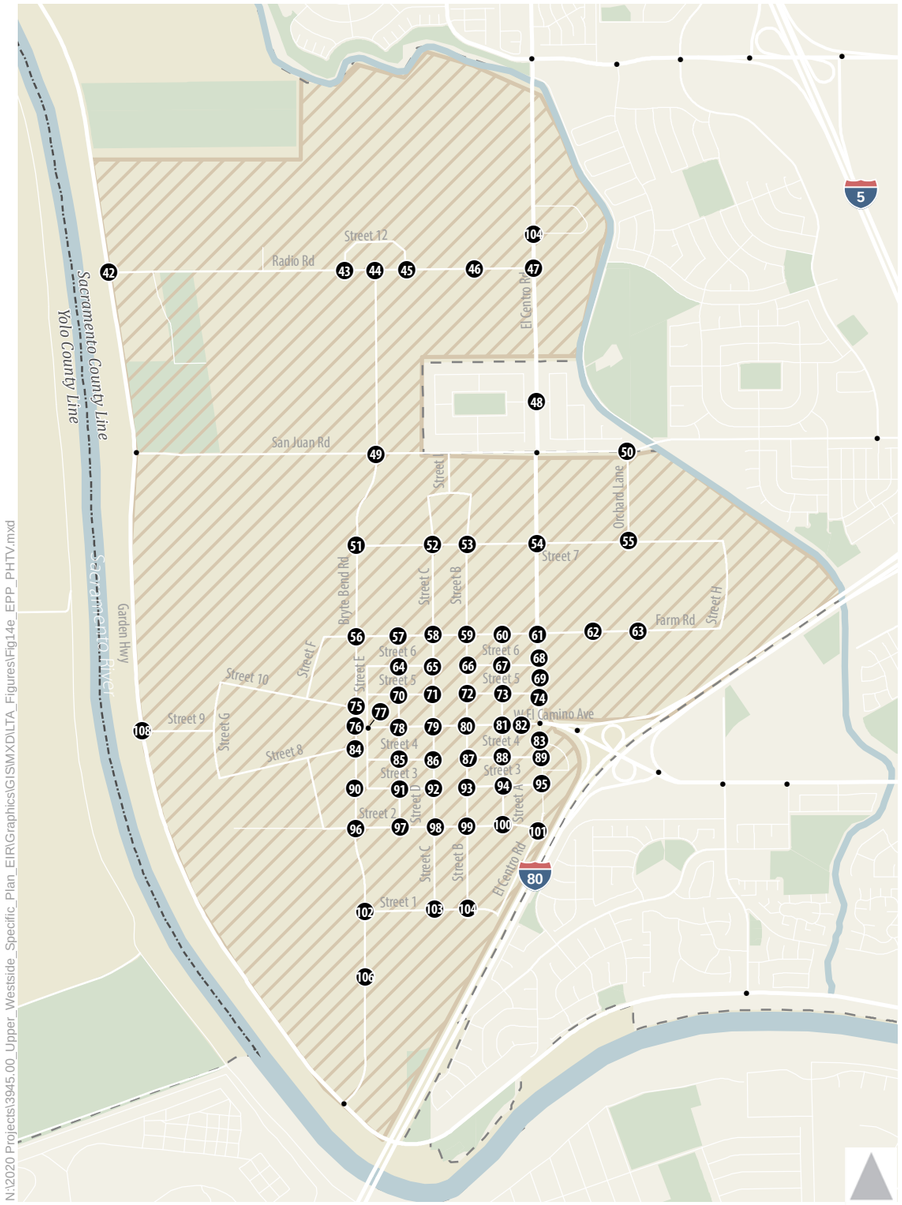
Traffic Signal

Stop Sign

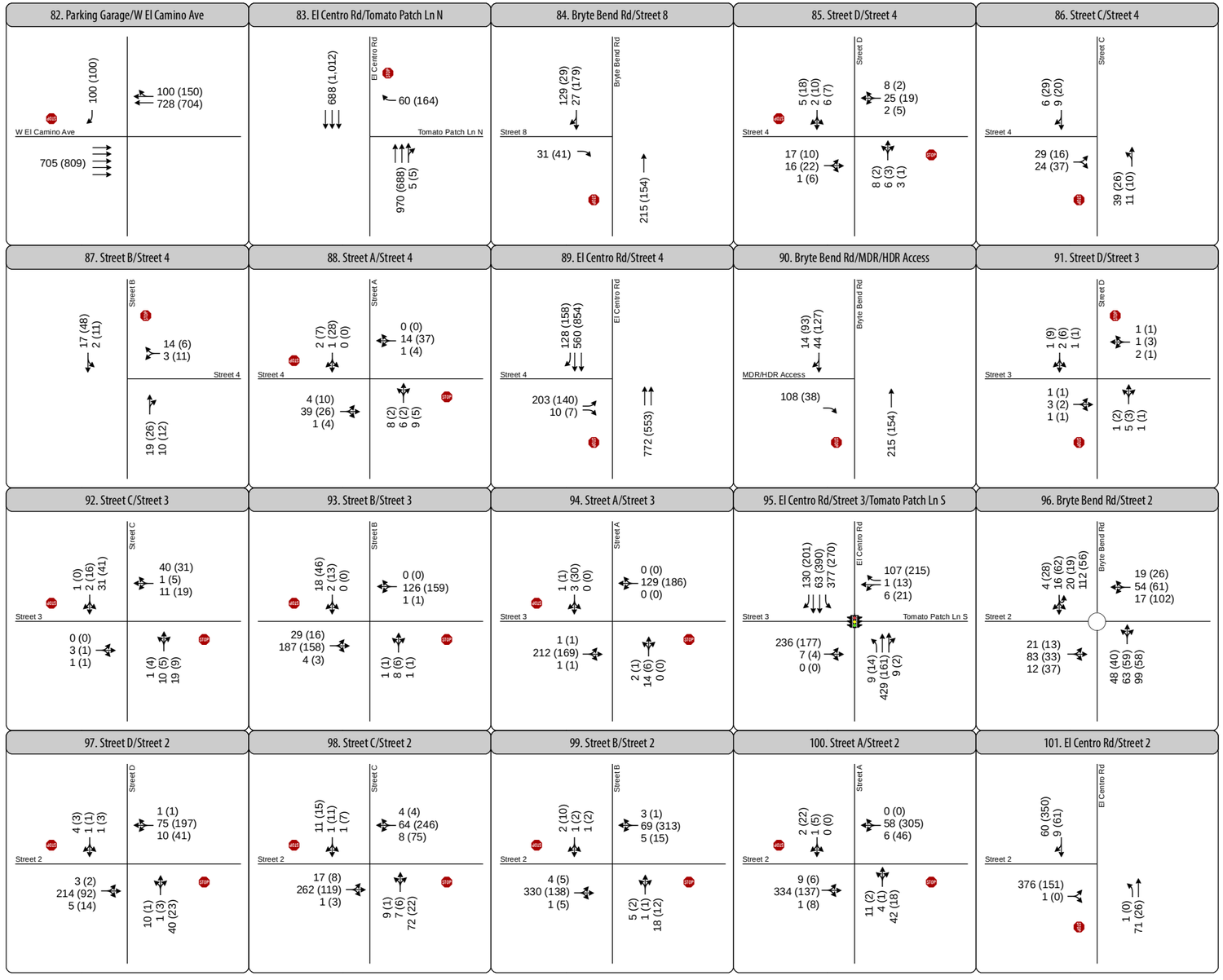
Roundabout

Figure 14d

# Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Project Conditions




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1 Project Study Intersection

• Study Intersection (See Figures 14a - 14b)

Upper Westside Specific Plan Boundary

City Boundary

County Boundary

Turn Lane

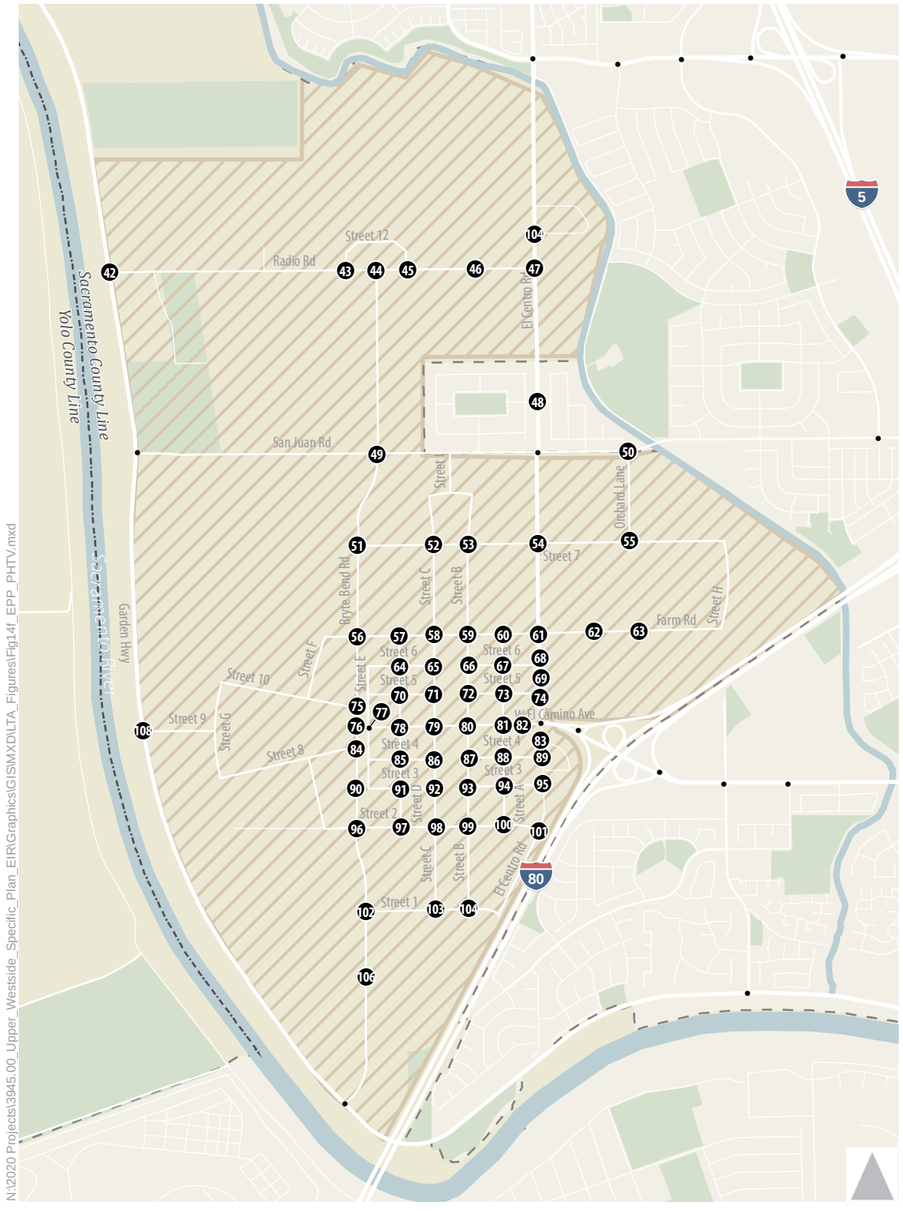
AM (PM) Peak Hour Traffic Volume

Traffic Signal

Stop Sign

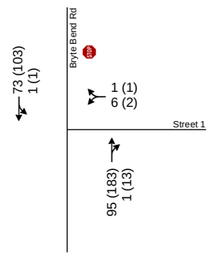
Figure 14e

# Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Project Conditions

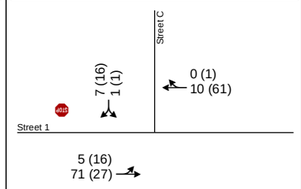



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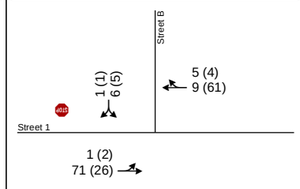
### 102. Bryte Bend Rd/Street 1




### 103. Street C/Street 1



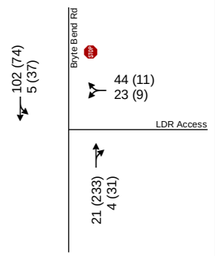

### 104. Street B/Street 1




### 105. El Centro Rd/Street 1

Intersection Does Not Exist

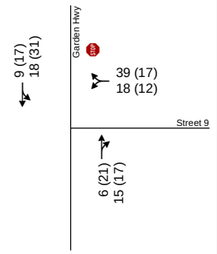
### 106. Bryte Bend Rd/LDR Access




### 107. Bryte Bend Rd/El Centro Rd

Intersection Does Not Exist

### 108. Bryte Bend Rd/El Centro Rd




- Project Study Intersection
- Study Intersection (See Figures 14a - 14b)
- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary
- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- Traffic Signal
- Stop Sign

Figure 14f

# Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Project Conditions

The values shown in **Table 10** represent the project's effect on travel on each of the external project gateways. The totals are comprised of both new trips generated by the project that use a given roadway and also trips currently being made through the project area that reroute as a consequence of the project construction. Each existing rerouted trip subtracts two trip ends (i.e., the trip entering the project site area and the trip exiting the project site area) from the gateway total.

**Table 10: Change in Daily Traffic at Project Gateways – Existing Plus Project Conditions**

| Segment | Existing ADT [1] | Existing Plus Project ADT [1] | Increase (% of Total) |
|---|---|---|---|
| West El Camino Avenue west of I-80 | 14,200 | 83,300 | 69,100 (69%) |
| San Juan Road west of Duckhorn Drive | 6,600 | 14,300 | 7,700 (8%) |
| El Centro Road south of Arena Boulevard | 7,900 | 27,000 | 19,100 (19%) |
| Garden Highway north of Radio Road | 2,300 | 4,200 | 1,900 (2%) |
| Garden Highway under I-80 | 1,900 | 4,200 | 2,300 (2%) |
| Total | 32,900 | 133,000 | 100,100 (100%) |

Notes:
1. Based on Figures 8 and 13A.
ADT = Average Daily Traffic volume; ADT values are rounded to the nearest 100 vehicles.
Source: Fehr & Peers, 2021

The model's estimate of a net increase in 100,100 daily trips is only slightly lower than the predicted 100,840 net increase in daily trips generated by the project (see Table 9). This implies that the analysis was somewhat conservative because there would almost certainly be more than just 370 daily vehicle trips (i.e., half of 100,840 minus 100,100 daily trips) that would reroute the area due to increased travel time (e.g., along El Centro Road) caused by the project.

Table 10 indicates that 69 percent of the net increase in daily trips would use the I-80/West El Camino Avenue interchange. This large percentage makes sense given that 73 percent of the project's total vehicle trips are generated by uses located south of Farm Road. Hence, the interchange's close proximity to those uses, combined with its assumed capacity increase, results in the large predicted percentage increase. Parallel routes such as Garden Highway or San Juan Road are more circuitous and/or do not provide access to the same level of complementary land uses, though the project would still add trips to them.

A trip distribution figure (with fixed percentages for each segment) was not provided because the project would add new roadways and alter background travel behavior. These effects are not well represented by a fixed set of trip distribution percentages. The data in Table 10 provides a better sense of how the project would affect travel on various corridors serving the site.

## Roadway Segment Operations

**Table 11** displays the v/c ratio and LOS for the Sacramento County study roadway segments under existing plus project conditions. This table includes both existing study roadways and numerous new County roadways that would be constructed with the project. Because project construction would transform the project site area into an urbanized environment, the County's urban service boundary standard of LOS E was applied for all new roadways constructed by the project or existing roadways improved by the project. Functional classifications of new/widened roadways were based on the proposed project street cross-sections and discussions with DOT staff.

This table indicates that all Sacramento County roadway segments would operate at an acceptable level with the exception of West El Camino Avenue from El Centro Road to I-80 WB Ramps, which would operate at LOS F despite being widened from two to six lanes.

The vast majority of new streets constructed by the project would operate at LOS A. However, operations would be at LOS D on West El Camino Avenue within the Town Center (i.e., west of El Centro Road). El Centro Road north of West El Camino Avenue, despite being widened to six lanes, would operate at LOS E with a v/c ratio of 0.97 (i.e., close to LOS F).

**Table 11: Sacramento County Roadway Segment Operations – Existing Plus Project Conditions**

| Segment | LOS [1] Standard | Existing Conditions | | | | Existing Plus Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Classification | ADT [2] | V/C [3] | LOS | Classification | ADT [2] | V/C [3] | LOS |
| Del Paso Road: Powerline Road to Hovnanian Drive | D | Rural, 2 lane road, <24' of pavement, <6' shoulders | 2,200 | 0.17 | C | Rural, 2 lane road, <24' of pavement, <6' shoulders | 2,200 | 0.17 | C |
| San Juan Road: Garden Highway to Bryte Bend Road | D | Rural, 2 lane road, <24' of pavement, <6' shoulders | 2,300 | 0.18 | C | Residential collector without frontage (2 lanes) | 4,700 | 0.47 | A |
| San Juan Road: Bryte Bend Road to Street I | D / E [1] | | | | | Arterial, low access control (2 lanes) | 8,400 | 0.56 | A |
| San Juan Road: Street I to El Centro Road | D / E [1] | | | | | Arterial, low access control (2 lanes) | 6,800 | 0.45 | A |
| San Juan Road: El Centro Road to Orchard Lane | E | Arterial, low access control (2 lanes) | 6,600 | 0.47 | A | Arterial, low access control (2 lanes) | 13,900 | 0.93 | E |
| Powerline Road: Bayou Way to Del Paso Road | D | Rural, 2 lane road, <24' of pavement, <6' shoulders | 2,900 | 0.23 | C | Rural, 2 lane road, <24' of pavement, <6' shoulders | 4,800 | 0.38 | D |
| Powerline Road: Del Paso Road to Garden Highway | D | Rural, 2 lane road, <24' of pavement, <6' shoulders | 2,500 | 0.20 | C | Rural, 2 lane road, <24' of pavement, <6' shoulders | 4,400 | 0.34 | D |
| Garden Highway: Powerline Road to Radio Road | D | Rural, 2 lane road, <24' of pavement, <6' shoulders | 2,300 | 0.18 | C | Rural, 2 lane road, <24' of pavement, <6' shoulders | 3,800 | 0.30 | D |
| Garden Highway: Radio Road to San Juan Road | D | Rural, 2 lane road, <24' of pavement, <6' shoulders | 2,300 | 0.18 | C | Rural, 2 lane road, <24' of pavement, <6' shoulders | 1,900 | 0.15 | B |
| Garden Highway: San Juan Road to Street 9 | D | Rural, 2 lane road, <24' of pavement, <6' shoulders | 1,800 | 0.14 | B | Rural, 2 lane road, <24' of pavement, <6' shoulders | 1,900 | 0.15 | B |
| Garden Highway: Street 9 to Bryte Bend Road | | | | | | Rural, 2 lane road, <24' of pavement, <6' shoulders | 2,400 | 0.19 | C |

**Table 11: Sacramento County Roadway Segment Operations – Existing Plus Project Conditions**

| Segment | LOS [1] Standard | Existing Conditions | | | | Existing Plus Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Classification | ADT [2] | V/C [3] | LOS | Classification | ADT [2] | V/C [3] | LOS |
| El Centro Road: Arena Boulevard/Natomas Central Drive to Radio Road | D / E [1] | Arterial, moderate access control (2 lanes) | 7,900 | 0.44 | A | Arterial, moderate access control (4 lanes) | 27,000 | 0.75 | C |
| El Centro Road: Radio Road to San Juan Road | | | | | | Arterial, moderate access control (4 lanes) | 23,100 | 0.64 | B |
| El Centro Road: San Juan Road to Street 7 | D / E [1] | Arterial, moderate access control (2 lanes) | 13,400 | 0.74 | C | Arterial, moderate access control (4 lanes) | 28,100 | 0.78 | C |
| El Centro Road: Street 7 to Farm Road | | | | | | Arterial, moderate access control (4 lanes) | 33,000 | 0.92 | E |
| El Centro Road: Farm Road to Street 6 | | | | | | Arterial, moderate access control (6 lanes) | 43,900 | 0.81 | D |
| El Centro Road: Street 6 to Street 5 | | | | | | Arterial, moderate access control (6 lanes) | 51,200 | 0.95 | E |
| El Centro Road: Street 5 to El Camino Avenue | | | | | | Arterial, moderate access control (6 lanes) | 52,600 | 0.97 | E |
| El Centro Road: El Camino Avenue to Street 4 | D / E [1] | Arterial, low access control (2 lanes) | 2,000 | 0.13 | A | Arterial, moderate access control (6 lanes) | 21,700 | 0.40 | A |
| El Centro Road: Street 4 to Street 3 | | | | | | Arterial, low access control (4 lanes) | 17,800 | 0.59 | A |
| El Centro Road: Street 3 to Street 2 | | | | | | Arterial, low access control (4 lanes) | 9,100 | 0.30 | A |
| El Centro Road: Street 2 to Street 1 | | Does Not Exist | | | | Residential collector without frontage (2 lanes) | 900 | 0.09 | A |
| Bayou Way: Airport Boulevard to Powerline Road | D | Rural, 2 lane road, <24' of pavement, <6' shoulders | 3,200 | 0.25 | C | Rural, 2 lane road, <24' of pavement, <6' shoulders | 5,100 | 0.40 | D |
| Bryte Bend Road: Radio Road to San Juan Road | E | Does Not Exist | | | | Arterial, low access control (2 lanes) | 5,100 | 0.34 | A |
| Bryte Bend Road: San Juan Road to Street 7 | E | | | | | Arterial, low access control (2 lanes) | 5,400 | 0.36 | A |
| Bryte Bend Road: Street 7 to Farm Road | E | | | | | Arterial, low access control (2 lanes) | 6,300 | 0.42 | A |
| Bryte Bend Road: Farm Road to Street 10 | E | | | | | Arterial, low access control (2 lanes) | 2,200 | 0.15 | A |
| Bryte Bend Road: Street 10 to El Camino Ave | E | | | | | Arterial, low access control (2 lanes) | 3,700 | 0.25 | A |

**Table 11: Sacramento County Roadway Segment Operations – Existing Plus Project Conditions**

| Segment | LOS [1] Standard | Existing Conditions | | | | Existing Plus Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Classification | ADT [2] | V/C [3] | LOS | Classification | ADT [2] | V/C [3] | LOS |
| Bryte Bend Road: El Camino Avenue to Street 8 | E | | | | | Arterial, low access control (2 lanes) | 2,600 | 0.17 | A |
| Bryte Bend Road: Street 8 to Street 2 | E | | | | | Arterial, low access control (2 lanes) | 1,700 | 0.11 | A |
| Bryte Bend Road: Street 2 to Street 1 | E | | | | | Arterial, low access control (2 lanes) | 2,600 | 0.17 | A |
| Bryte Bend Road: Street 1 to Bryte Bend LDR Access | E | | | | | Arterial, low access control (2 lanes) | 1,700 | 0.11 | A |
| Bryte Bend Road: El Centro Road to Garden Highway | E | | | | | Residential collector without frontage (2 lanes | 2,100 | 0.21 | A |
| Street A: Farm Road to Street 6 | E | | | | | Residential collector without frontage (2 lanes) | 1,600 | 0.16 | A |
| Street A: Street 6 to Street 5 | E | | | | | Residential collector without frontage (2 lanes) | 2,200 | 0.22 | A |
| Street A: Street 5 to El Camino Avenue | E | | | | | Residential collector without frontage (2 lanes) | 6,800 | 0.68 | B |
| Street A: El Camino Avenue to Street 4 | E | | | | | Residential collector without frontage (2 lanes) | 3,900 | 0.39 | A |
| Street A: Street 4 to Street 3 | E | | | | | Residential collector without frontage (2 lanes) | 300 | 0.03 | A |
| Street A: Street 3 to Street 2 | E | Does Not Exist | | | | Residential collector without frontage (2 lanes) | 200 | 0.02 | A |
| Street B: Street I to Street 7 | E | | | | | Residential collector without frontage (2 lanes) | 100 | 0.01 | A |
| Street B: Street 7 to Farm Road | E | | | | | Residential collector without frontage (2 lanes) | 600 | 0.06 | A |

| Table 11: Sacramento County Roadway Segment Operations – Existing Plus Project Conditions | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Segment | LOS [1] Standard | Existing Conditions | | | | Existing Plus Conditions | | | |
| | | Classification | ADT [2] | V/C [3] | LOS | Classification | ADT [2] | V/C [3] | LOS |
| Street B: Farm Road to Street 6 | E | | | | | Residential collector without frontage (2 lanes) | 1,700 | 0.17 | A |
| Street B: Street 6 to Street 5 | E | | | | | Residential collector without frontage (2 lanes) | 1,900 | 0.19 | A |
| Street B: Street 5 to El Camino Avenue | E | | | | | Residential collector without frontage (2 lanes) | 900 | 0.09 | A |
| Street B: El Camino Avenue to Street 4 | E | | | | | Residential collector without frontage (2 lanes) | 1,100 | 0.11 | A |
| Street B: Street 4 to Street 3 | E | | | | | Residential collector without frontage (2 lanes) | 700 | 0.07 | A |
| Street B: Street 3 to Street 2 | E | | | | | Residential collector without frontage (2 lanes) | 200 | 0.02 | A |
| Street B: Street 2 to Street 1 | E | | | | | Residential collector without frontage (2 lanes) | 400 | 0.04 | A |
| Street C: Street I to Street 7 | E | | | | | Residential collector without frontage (2 lanes) | 1,700 | 0.17 | A |
| Street C: Street 7 to Farm Road | E | | | | | Residential collector without frontage (2 lanes) | 800 | 0.08 | A |
| Street C: Farm Road to Street 6 | E | | | | | Residential collector without frontage (2 lanes) | 2,000 | 0.20 | A |
| Street C: Street 6 to Street 5 | E | | | | | Residential collector without frontage (2 lanes) | 1,300 | 0.13 | A |
| Street C: Street 5 to El Camino Avenue | E | | | | | Residential collector without frontage (2 lanes) | 3,800 | 0.38 | A |

**Table 11: Sacramento County Roadway Segment Operations – Existing Plus Project Conditions**

| Segment | LOS [1] Standard | Existing Conditions | | | | Existing Plus Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Classification | ADT [2] | V/C [3] | LOS | Classification | ADT [2] | V/C [3] | LOS |
| Street C: El Camino Avenue to Street 4 | E | Does Not Exist | | | | Residential collector without frontage (2 lanes) | 3,300 | 0.33 | A |
| Street C: Street 4 to Street 3 | E | | | | | Residential collector without frontage (2 lanes) | 700 | 0.07 | A |
| Street C: Street 3 to Street 2 | E | | | | | Residential collector without frontage (2 lanes) | 400 | 0.04 | A |
| Street C: Street 2 to Street 1 | E | | | | | Residential collector without frontage (2 lanes) | 1,300 | 0.13 | A |
| Street D: Farm Road to Street 6 | E | | | | | Residential collector without frontage (2 lanes) | 1,200 | 0.12 | A |
| Street D: Street 6 to Street 5 | E | | | | | Residential collector without frontage (2 lanes) | 1,300 | 0.13 | A |
| Street D: Street 5 to El Camino Avenue | E | Does Not Exist | | | | Residential collector without frontage (2 lanes) | 2,700 | 0.27 | A |
| Street D: El Camino Avenue to Street 4 | E | | | | | Residential collector without frontage (2 lanes) | 3,300 | 0.33 | A |
| Street D: Street 4 to Street 3 | E | | | | | Residential collector without frontage (2 lanes) | 200 | 0.02 | A |
| Street D: Street 3 to Street 2 | E | | | | | Residential collector without frontage (2 lanes) | 100 | 0.01 | A |
| Street E: Street 6 to Street 5 | E | | | | | Residential collector without frontage (2 lanes) | 100 | 0.01 | A |
| Street E: Street 5 to El Camino Avenue | E | | | | | Residential collector without frontage (2 lanes) | 500 | 0.05 | A |

**Table 11: Sacramento County Roadway Segment Operations – Existing Plus Project Conditions**

| Segment | LOS [1] Standard | Existing Conditions | | | | Existing Plus Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Classification | ADT [2] | V/C [3] | LOS | Classification | ADT [2] | V/C [3] | LOS |
| Street E: El Camino Avenue to Street 4 | E | | | | | Residential collector without frontage (2 lanes) | 900 | 0.09 | A |
| Street E: Street 4 to Street 3 | E | | | | | Residential collector without frontage (2 lanes) | 100 | 0.01 | A |
| Street F: Street 10 to Farm Road | E | | | | | Residential collector without frontage (2 lanes) | 1,100 | 0.11 | A |
| Street F: Street 8 to Street 2 | E | | | | | Residential collector without frontage (2 lanes) | 600 | 0.06 | A |
| Street G: Street 10 to Street 9 | E | | | | | Residential collector without frontage (2 lanes) | 100 | 0.01 | A |
| Street G: Street 9 to Street 8 | E | | | | | Residential collector without frontage (2 lanes) | 800 | 0.08 | A |
| Street H: Street 7 to Farm Road | E | | | | | Residential collector without frontage (2 lanes) | 1,000 | 0.10 | A |
| Street I: San Juan Road to Street C/Street B | E | | | | | Residential collector without frontage (2 lanes) | 700 | 0.07 | A |
| Radio Road: Garden Highway to Street 12 | D / E [1] | | | | | Residential collector without frontage (2 lanes) | 1,300 | 0.13 | A |
| Radio Road: Street 12 (W) to Bryte Bend Road | E | | | | | Arterial, low access control (2 lanes) | 800 | 0.05 | A |
| Radio Road: Bryte Bend Road to Street 12 | E | | | | | Arterial, low access control (2 lanes) | 3,800 | 0.25 | A |
| Radio Road: Street 12 (E) to El Centro Road | E | | | | | Arterial, low access control (2 lanes) | 14,700 | 0.98 | E |
| El Camino Avenue: El Centro Road to I-80 WB Ramps | E | Arterial, low access control (2 lanes) | 14,200 | 0.95 | E | Arterial, moderate access control (6 lanes) | **83,300** | **1.54** | **F** |
| El Camino Avenue: El Centro Road to Street A | E | | | | | Arterial, low access control (4 lanes) | 20,100 | 0.67 | B |

**Table 11: Sacramento County Roadway Segment Operations – Existing Plus Project Conditions**

| Segment | LOS [1] Standard | Existing Conditions | | | | Existing Plus Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Classification | ADT [2] | V/C [3] | LOS | Classification | ADT [2] | V/C [3] | LOS |
| El Camino Avenue: Street A to Street B | E | | | | | Arterial, low access control (2 lanes) | 12,200 | 0.81 | D |
| El Camino Avenue: Street B to Street C | E | | | | | Arterial, low access control (2 lanes) | 12,800 | 0.85 | D |
| El Camino Avenue: Street C to Street D | E | | | | | Arterial, low access control (2 lanes) | 7,200 | 0.48 | A |
| El Camino Avenue: Street D to Street E | E | | | | | Arterial, low access control (2 lanes) | 4,500 | 0.30 | A |
| El Camino Avenue: Street E to Bryte Bend Road | E | | | | | Arterial, low access control (2 lanes) | 4,500 | 0.30 | A |
| Street 1: El Centro Road to Street B | E | | | | | Residential collector without frontage (2 lanes) | 900 | 0.09 | A |
| Street 1: Street B to Street C | E | | | | | Residential collector without frontage (2 lanes) | 900 | 0.09 | A |
| Street 1: Street C to Bryte Bend Road | E | | | | | Residential collector without frontage (2 lanes) | 1,000 | 0.10 | A |
| Street 2: El Centro Road to Street A | E | | | | | Arterial, low access control (2 lanes) | 6,200 | 0.41 | A |
| Street 2: Street A to Street B | E | | | | | Arterial, low access control (2 lanes) | 5,800 | 0.39 | A |
| Street 2: Street B to Street C | E | | | | | Arterial, low access control (2 lanes) | 5,600 | 0.37 | A |
| Street 2: Street C to Street D | E | | | | | Arterial, low access control (2 lanes) | 4,700 | 0.31 | A |
| Street 2: Street D to Bryte Bend Road | E | | | | | Arterial, low access control (2 lanes) | 3,700 | 0.25 | A |
| Street 2: Bryte Bend Road to Street F | E | | | | | Arterial, low access control (2 lanes) | 2,000 | 0.13 | A |
| Street 3: El Centro Road to Street A | E | | | | | Residential collector without frontage (2 lanes) | 4,900 | 0.49 | A |
| Street 3: Street A to Street B | E | Does Not Exist | | | | Residential collector without frontage (2 lanes) | 4,400 | 0.44 | A |

| Table 11: Sacramento County Roadway Segment Operations – Existing Plus Project Conditions | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Segment | LOS [1] Standard | Existing Conditions | | | | Existing Plus Conditions | | | |
| | | Classification | ADT [2] | V/C [3] | LOS | Classification | ADT [2] | V/C [3] | LOS |
| Street 3: Street C to Street D | E | | | | | Residential collector without frontage (2 lanes) | 100 | 0.01 | A |
| Street 4: El Centro Road to Street A | E | | | | | Residential collector without frontage (2 lanes) | 4,200 | 0.42 | A |
| Street 4: Street A to Street B | E | | | | | Residential collector without frontage (2 lanes) | 800 | 0.08 | A |
| Street 4: Street C to Street D | E | | | | | Residential collector without frontage (2 lanes) | 1,100 | 0.11 | A |
| Street 4: Street D to Street E | E | | | | | Residential collector without frontage (2 lanes) | 700 | 0.07 | A |
| Street 5: El Centro Road to Street A | E | | | | | Residential collector without frontage (2 lanes) | 2,800 | 0.28 | A |
| Street 5: Street A to Street B | E | | | | | Residential collector without frontage (2 lanes) | 2,000 | 0.20 | A |
| Street 5: Street C to Street D | E | | | | | Residential collector without frontage (2 lanes) | 1,400 | 0.14 | A |
| Street 5: Street D to Street E | E | | | | | Residential collector without frontage (2 lanes) | 400 | 0.04 | A |
| Street 6: El Centro Road to Street A | E | | | | | Residential collector without frontage (2 lanes) | 1,800 | 0.18 | A |
| Street 6: Street A to Street B | E | | | | | Residential collector without frontage (2 lanes) | 2,100 | 0.21 | A |
| Street 6: Street C to Street D | E | | | | | Residential collector without frontage (2 lanes) | 300 | 0.03 | A |

**Table 11: Sacramento County Roadway Segment Operations – Existing Plus Project Conditions**

| Segment | LOS [1] Standard | Existing Conditions | | | | Existing Plus Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Classification | ADT [2] | V/C [3] | LOS | Classification | ADT [2] | V/C [3] | LOS |
| Street 6: Street D to Street E | E | | | | | Residential collector without frontage (2 lanes) | 100 | 0.01 | A |
| Farm Road: Street H to El Centro Road | E | | | | | Arterial, moderate access control (4 lanes) | 15,600 | 0.43 | A |
| Farm Road: El Centro Road to Street A | E | | | | | Arterial, low access control (2 lanes) | 11,800 | 0.79 | C |
| Farm Road: Street A to Street B | E | Does Not Exist | | | | Arterial, low access control (2 lanes) | 10,100 | 0.67 | B |
| Farm Road: Street B to Street C | E | | | | | Arterial, low access control (2 lanes) | 8,900 | 0.59 | A |
| Farm Road: Street C to Street D | E | | | | | Arterial, low access control (2 lanes) | 7,200 | 0.48 | A |
| Farm Road: Street D to Bryte Bend Road | E | | | | | Arterial, low access control (2 lanes) | 5,900 | 0.39 | A |
| Farm Road: Bryte Bend Road to Street F | E | | | | | Arterial, low access control (2 lanes) | 2,900 | 0.19 | A |
| Street 7: Street H to Orchard Lane | E | | | | | Residential collector without frontage (2 lanes) | 900 | 0.09 | A |
| Street 7: Orchard Lane to El Centro Road | E | | | | | Residential collector without frontage (2 lanes) | 3,900 | 0.39 | A |
| Street 7: El Centro Road to Street B | E | | | | | Residential collector without frontage (2 lanes) | 2,300 | 0.23 | A |
| Street 7: Street B to Street C | E | | | | | Residential collector without frontage (2 lanes) | 200 | 0.02 | A |
| Street 7: Street C to Bryte Bend Road | E | | | | | Residential collector without frontage (2 lanes) | 100 | 0.01 | A |
| Street 8: Street 2 to Bryte Bend Rd | E | | | | | Residential collector without frontage (2 lanes) | 900 | 0.09 | A |
| Street 8: Street G to Street F | E | | | | | Residential collector without frontage (2 lanes) | 800 | 0.08 | A |

**Table 11: Sacramento County Roadway Segment Operations – Existing Plus Project Conditions**

| Segment | LOS [1] Standard | Existing Conditions | | | | Existing Plus Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Classification | ADT [2] | V/C [3] | LOS | Classification | ADT [2] | V/C [3] | LOS |
| Street 10: Street F to Bryte Bend Rd | E | | | | | Residential collector without frontage (2 lanes) | 1,800 | 0.18 | A |
| Street 10: Street G to Garden Highway | E | | | | | Residential collector without frontage (2 lanes) | 900 | 0.09 | A |
| Street 12 (East): North of Radio Road | E | | | | | Residential collector without frontage (2 lanes) | 8,700 | 0.87 | D |
| Bryte Bend LDR Access: Bryte Bend Road to El Centro Road | E | | | | | Residential collector without frontage (2 lanes) | 100 | 0.01 | A |
| Orchard Lane: San Juan Road to Street 7 | E | | | | | Residential collector without frontage (2 lanes) | 2,700 | 0.27 | A |

Notes:
1. LOS D / E = Existing LOS Standard / Existing Plus Project LOS Standard (due to study area becoming urbanized).
2. ADT = average daily traffic volume; ADT values are rounded to the nearest 100 vehicles.
3. V/C = volume-to-capacity ratio

Bolded cells represent unacceptable operations.

Source: Fehr & Peers, 2021.

## Intersection Operations

**Table 12** shows the average delay and LOS at all existing and new project study intersections under existing plus project conditions. At off-site intersections, no changes in signal timings were assumed. Thus, the only change in operating conditions at these locations would be the addition of project trips. Refer to separately bound **Appendix C** for technical calculations.

Table 12 indicates that a number of intersections would experience degradations of one or more service levels. This includes multiple intersections along the West El Camino Avenue, El Centro Road, Garden Highway, and Arena Boulevard corridors. The majority of new project intersections operate acceptably. Refer to Chapter 6 for a complete list of intersections to which the project would cause deficient operations or contribute to already deficient operations.

The following page contains a screenshot image from the SimTraffic model of the West El Camino Avenue and El Centro Road corridors during AM peak hour conditions.

A traffic signal warrant analysis was performed at unsignalized study intersections located in Sacramento County. The list of study locations was further refined (per the Thresholds of Significance) to only include locations whose side-street worst movement would operate at LOS F (if within Urban Service Boundary) or LOS E or F (if outside the Urban Service Boundary). The results are shown in **Table 13** for the seven study intersections that satisfy the above criteria. See separately bound **Appendix C** for technical calculations.

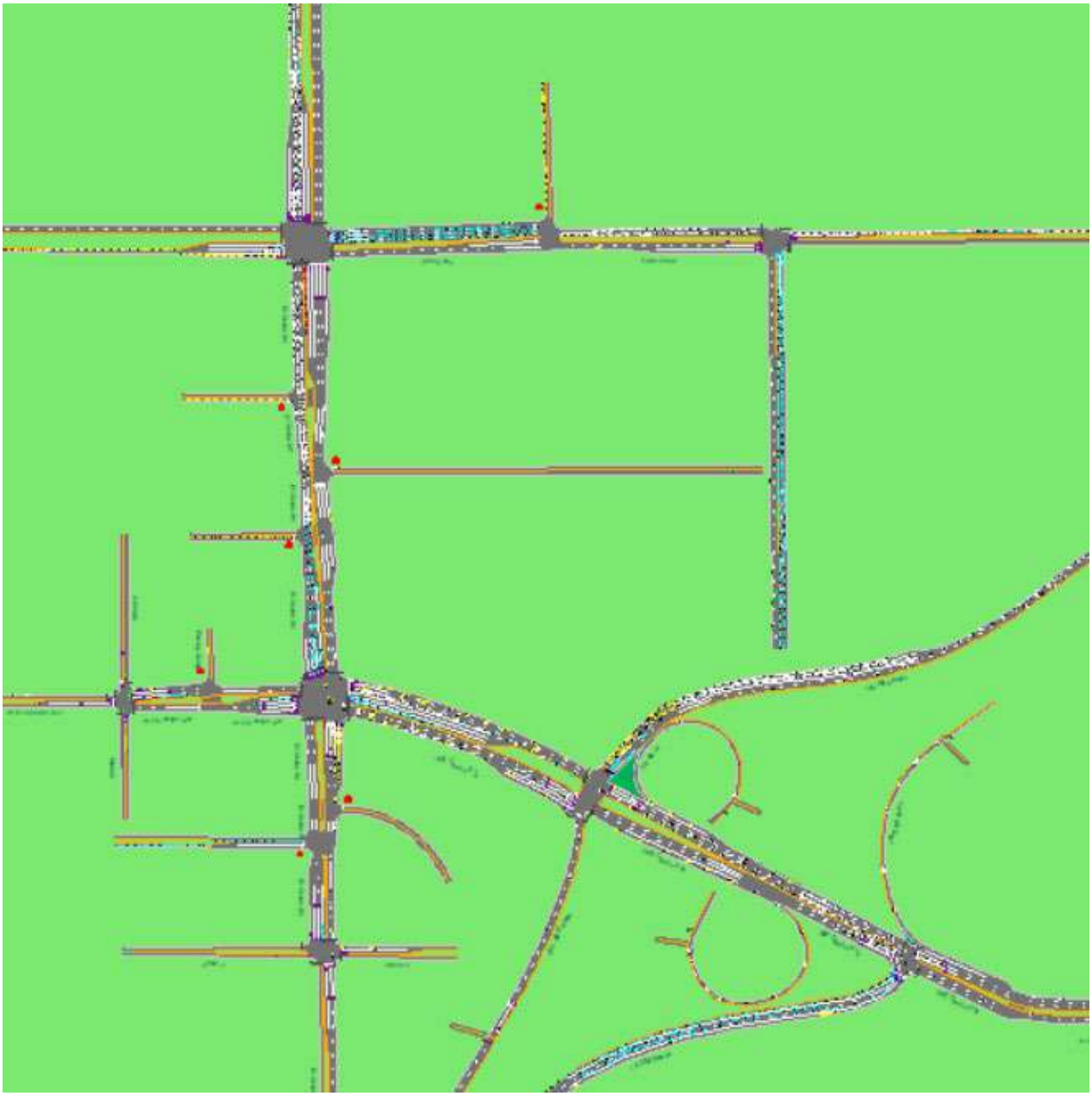


**Image of congested conditions during the AM peak hour based on SimTraffic modeling. Key observations include:**

- **Southbound queue on El Centro Road extends back from West El Camino Avenue to beyond Farm Road.**
- **Westbound queue on West El Camino Avenue spills back from El Centro Road to I-80, causing queue off-ramp spillbacks onto the freeway.**

**Table 12:**
**Intersection Level of Service – Existing Plus Project Conditions**

| | | | Existing Conditions | | | | Existing Plus Project Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| Intersection | Traffic Control[1] | Agency | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS |
| 1. Powerline Road/Bayou Way | SSSC | Sac Co | 6 (23) | A (C) | 15 (18) | B (C) | 9 (33) | A (D) | **67 (92)** | **F (F)** |
| 2. Powerline Road/Del Paso Road | SSSC | Sac Co | 4 (11) | A (B) | 4 (11) | A (B) | 4 (13) | A (B) | 3 (14) | A (B) |
| 3. Powerline Road/Garden Highway | SSSC | Sac Co | 3 (9) | A (A) | 3 (9) | A (A) | 4 (9) | A (A) | 5 (10) | A (B) |
| 4. Garden Highway/San Juan Road | SSSC | Sac Co | 3 (10) | A (A) | 4 (9) | A (A) | 3 (9) | A (A) | 4 (9) | A (A) |
| 5. Garden Highway/Bryte Bend Road | SSSC | Sac Co | 0 (9) | A (A) | 0 (9) | A (A) | 4 (10) | A (B) | 2 (10) | A (A) |
| 6. Orchard Lane/Garden Highway | SSSC | City of Sac | 6 (12) | A (B) | 2 (10) | A (A) | 5 (14) | A (B) | 2 (13) | A (B) |
| 7. Gateway Oaks Drive/Garden Highway | Signal | City of Sac | 19 | B | 15 | B | 19 | B | 42 | D |
| 8. I-5 SB Ramps/Garden Highway | Signal | Caltrans | 17 | B | 30 | C | 21 | C | 93 | F |
| 9. I-5 NB Ramps/Garden Highway | Signal | Caltrans | 12 | B | 31 | C | 12 | B | 49 | D |
| 10. Natomas Park Drive/Garden Highway | Signal | City of Sac | 22 | C | 24 | C | 41 | D | 48 | D |
| 11. Truxel Road/Garden Highway | Signal | City of Sac | 20 | C | 26 | C | 23 | C | 48 | D |
| 12. El Centro Road/Del Paso Road | Signal | City of Sac | 26 | C | 18 | B | 53 | D | 18 | B |
| 13. El Centro Road/Duckhorn Drive | SSSC | City of Sac | 3 (7) | A (A) | 3 (6) | A (A) | 4 (11) | A (B) | 5 (17) | A (C) |
| 14. El Centro Road/Manera Rica Drive | Signal | City of Sac | 7 | A | 7 | A | 6 | A | 8 | A |
| 15. El Centro Road/Arena Boulevard/Natomas Central Dr | Signal | City of Sac | 22 | C | 17 | B | 137 | F | 85 | F |
| 16. El Centro Road/San Juan Road | AWSC / Signal | City of Sac / Sac Co | 84 | F | 11 | B | 37 | D | 29 | C |
| 17. El Centro Road/W. El Camino Avenue | SSSC / Signal | Sac Co | 23 (238) | C (F) | 13 (21) | B (C) | **113** | **F** | **126** | **F** |
| 18. Hovnanian Drive/Del Paso Road | Signal | City of Sac | 6 | A | 7 | A | 6 | A | 7 | A |
| 19. Natomas Central Drive/Del Paso Road | Signal | City of Sac | 23 | C | 14 | B | 25 | C | 15 | B |
| 20. I-5 SB Ramps/Del Paso Road | Signal | Caltrans | 8 | A | 7 | A | 45 | D | 8 | A |
| 21. I-5 NB Ramps/Del Paso Road | Signal | Caltrans | 16 | B | 16 | B | 17 | B | 19 | B |

**Table 12:**
**Intersection Level of Service – Existing Plus Project Conditions**

| | | | Existing Conditions | | | | Existing Plus Project Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| Intersection | Traffic Control[1] | Agency | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS |
| 22. East Commerce Way/Del Paso Road | Signal | City of Sac | 31 | C | 49 | D | 34 | C | 52 | D |
| 23. Truxel Road/Del Paso Road | Signal | City of Sac | 42 | D | 44 | D | 42 | D | 45 | D |
| 24. Stemmler Drive/Arena Boulevard | Signal | City of Sac | 15 | B | 12 | B | 139 | F | 96 | F |
| 25. Duckhorn Drive/Arena Boulevard | Signal | City of Sac | 46 | D | 24 | C | 123 | F | 79 | E |
| 26. I-5 SB Ramps/Arena Boulevard | Signal | Caltrans | 6 | A | 6 | A | 48 | D | 47 | D |
| 27. I-5 NB Ramps/Arena Boulevard | Signal | Caltrans | 11 | B | 17 | B | 43 | D | 147 | F |
| 28. East Commerce Way/Arena Boulevard | Signal | City of Sac | 19 | B | 23 | C | 20 | C | 37 | D |
| 29. South Entrance Rd/Innovator Dr/Arena Blvd | Signal | City of Sac | 19 | B | 16 | B | 17 | B | 15 | B |
| 30. Truxel Road/Arena Boulevard | Signal | City of Sac | 37 | D | 43 | D | 37 | D | 46 | D |
| 31. Duckhorn Drive/San Juan Road | Signal | City of Sac | 15 | B | 15 | B | 17 | B | 19 | B |
| 32. Truxel Road/San Juan Road | Signal | City of Sac | 42 | D | 45 | D | 43 | D | 50 | D |
| 33. I-80 WB Ramps/W. El Camino Avenue | Signal | Caltrans | 21 | C | 13 | B | 140 | F | 140 | F |
| 34. I-80 EB Ramps/W. El Camino Avenue | Signal | Caltrans | 13 | B | 16 | B | 36 | D | 223 | F |
| 35. Orchard Lane/W. El Camino Avenue | Signal | City of Sac | 15 | B | 18 | B | 42 | D | 15 | B |
| 36. West River Drive/W. El Camino Avenue | Signal | City of Sac | 15 | B | 7 | A | 16 | B | 11 | B |
| 37. Gateway Oaks Drive/W. El Camino Avenue | Signal | City of Sac | 28 | C | 44 | D | 31 | C | 103 | F |
| 38. I-5 SB Ramps/W. El Camino Avenue | Free | Caltrans | 7 | A | 2 | A | 7 | A | 5 | A |
| 39. I-5 NB Ramps/W. El Camino Avenue | Signal | Caltrans | 29 | C | 6 | A | 45 | D | 15 | B |
| 40. Natomas Park Drive/W. El Camino Avenue | Signal | City of Sac | 22 | C | 25 | C | 22 | C | 25 | C |
| 41. Truxel Road/W. El Camino Avenue | Signal | City of Sac | 41 | D | 44 | D | 40 | D | 48 | D |
| 42. Garden Highway/Radio Road | SSSC | Sac Co | Does Not Exist | | | | 4 (9) | A (A) | 4 (9) | A (A) |

**Table 12:**
**Intersection Level of Service – Existing Plus Project Conditions**

| | | | Existing Conditions | | | | Existing Plus Project Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| **Intersection** | **Traffic Control[1]** | **Agency** | **Delay[2]** | **LOS** | **Delay[2]** | **LOS** | **Delay[2]** | **LOS** | **Delay[2]** | **LOS** |
| 43. Street 12 (W)/Radio Road | SSSC | Sac Co | | | | | 4 (10) | A (A) | 4 (10) | A (A) |
| 44. Bryte Bend Road/Radio Road | RAB | Sac Co | | | | | 5 | A | 4 | A |
| 45. Street 12 (E)/Radio Road | SSSC | Sac Co | | | | | **13 (54)** | **B (F)** | 10 (23) | A (C) |
| 46. High School Access/Radio Road | Signal | Sac Co | | | | | 42 | D | 26 | C |
| 47. El Centro Road/Radio Road | Signal | Sac Co | | | | | 31 | C | 33 | C |
| 48. Moscatel Avenue/El Centro Road | SSSC | Sac Co | | | | | 1 (16) | A (C) | 1 (15) | A (B) |
| 49. San Juan Road/Bryte Bend Road | RAB | Sac Co | | | | | 8 | A | 5 | A |
| 50. San Juan Road/Orchard Lane | SSSC | Sac Co | | | | | 4 (38) | A (E) | 2 (25) | A (D) |
| 51. Street 7/Bryte Bend Road | SSSC | Sac Co | | | | | 0 (12) | A (B) | 0 (12) | A (B) |
| 52. Street 7/Street C | SSSC | Sac Co | | | | | 5 (9) | A (A) | 6 (9) | A (A) |
| 53. Street 7/Street B | SSSC | Sac Co | | | | | 7 (10) | A (A) | 4 (10) | A (A) |
| 54. Street 7/El Cerrito Road | Signal | Sac Co | | | | | 24 | C | 23 | C |
| 55. Street 7/Orchard Lane | AWSC | Sac Co | | | | | 10 | B | 8 | A |
| 56. Farm Road/Bryte Bend Road | RAB | Sac Co | | | | | 7 | A | 6 | A |
| 57. Farm Road/Street D | SSSC | Sac Co | | | | | 3 (16) | A (C) | 2 (19) | A (C) |
| 58. Farm Road/Street C | SSSC | Sac Co | Does Not Exist | | | | 4 (21) | A (C) | 4 (24) | A (C) |
| 59. Farm Road/Street B | SSSC | Sac Co | | | | | 3 (21) | A (C) | 3 (28) | A (D) |
| 60. Farm Road/Street A | SSSC | Sac Co | | | | | 4 (29) | A (D) | 4 (41) | A (E) |
| 61. El Centro Road/Farm Road | Signal | Sac Co | | | | | **388** | **F** | **310** | **F** |
| 62. MDR Access/Farm Road | SSSC | Sac Co | | | | | 200 (461) | F (F) | 150 (382) | F (F) |
| 63. Orchard Lane/Farm Road/CMU Driveway | Signal | Sac Co | | | | | **266** | **F** | **218** | **F** |
| 64. Street 6/Street D | SSSC | Sac Co | | | | | 1 (10) | A (A) | 1 (10) | A (A) |
| 65. Street 6/Street C | SSSC | Sac Co | | | | | 4 (10) | A (B) | 4 (10) | A (B) |
| 66. Street 6/Street B | SSSC | Sac Co | | | | | 7 (12) | A (B) | 9 (14) | A (B) |
| 67. Street 6/Street A | SSSC | Sac Co | Does Not Exist | | | | 5 (12) | A (B) | 5 (13) | A (B) |

**Table 12:**
**Intersection Level of Service – Existing Plus Project Conditions**

| | | | Existing Conditions | | | | Existing Plus Project Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| Intersection | Traffic Control[1] | Agency | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS |
| 68. El Centro Road/Street 6 | SSSC | Sac Co | | | | | 69 (346) | F (F) | 81 (315) | F (F) |
| 69. El Centro Road/CMU/EHC Driveway | SSSC | Sac Co | | | | | 26 (77) | D (F) | 68 (405) | F (F) |
| 70. Street 5/Street D | SSSC | Sac Co | | | | | 2 (10) | A (B) | 2 (10) | A (B) |
| 71. Street 5/Street C | SSSC | Sac Co | | | | | 4 (9) | A (A) | 5 (10) | A (B) |
| 72. Street 5/Street B | SSSC | Sac Co | | | | | 5 (9) | A (A) | 5 (9) | A (A) |
| 73. Street 5/Street A | SSSC | Sac Co | | | | | 7 (12) | A (B) | 7 (14) | A (B) |
| 74. El Centro Road/Street 5 | SSSC | Sac Co | | | | | 21 (900) | C (F) | 35 (900) | E (F) |
| 75. Street 10/Bryte Bend Road | SSSC | Sac Co | | | | | 1 (10) | A (A) | 1 (10) | A (B) |
| 76. W. El Camino Avenue/Bryte Bend Road | RAB | Sac Co | | | | | 5 | A | 4 | A |
| 77. Street E/W. El Camino Avenue | SSSC | Sac Co | | | | | 3 (7) | A (A) | 2 (6) | A (A) |
| 78. Street D/W. El Camino Avenue | AWSC | Sac Co | | | | | 8 | A | 7 | A |
| 79. Street C/W. El Camino Avenue | AWSC | Sac Co | | | | | 11 | B | 11 | B |
| 80. Street B/W. El Camino Avenue | AWSC | Sac Co | | | | | 11 | B | 15 | B |
| 81. Street A/W. El Camino Avenue | Signal | Sac Co | | | | | 19 | B | 28 | C |
| 82. Parking Garage/W. El Camino Avenue | SSSC | Sac Co | | | | | 6 (9) | A (A) | 8 (11) | A (B) |
| 83. El Centro Road/Tomato Patch Lane N | SSSC | Sac Co | | | | | 4 (43) | A (E) | 5 (27) | A (D) |
| 84. Street 8/Bryte Bend Road | SSSC | Sac Co | | | | | 1 (9) | A (A) | 1 (10) | A (A) |
| 85. Street 4/Street D | SSSC | Sac Co | | | | | 4 (10) | A (A) | 5 (10) | A (A) |
| 86. Street 4/Street C | SSSC | Sac Co | | | | | 7 (9) | A (A) | 5 (9) | A (A) |
| 87. Street 4/Street B | SSSC | Sac Co | Does Not Exist | | | | 3 (9) | A (A) | 2 (9) | A (A) |
| 88. Street 4/Street A | SSSC | Sac Co | | | | | 3 (9) | A (A) | 4 (10) | A (B) |
| 89. El Centro Road/Street 4 | SSSC | Sac Co | | | | | 18 (124) | C (F) | 5 (35) | A (D) |
| 90. MDR/HDR Access/Bryte Bend Road | SSSC | Sac Co | | | | | 3 (9) | A (A) | 1 (10) | A (A) |
| 91. Street 3/Street D | SSSC | Sac Co | | | | | 5 (9) | A (A) | 3 (9) | A (A) |

**Table 12:**
**Intersection Level of Service – Existing Plus Project Conditions**

| | | | Existing Conditions | | | | Existing Plus Project Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| Intersection | Traffic Control[1] | Agency | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS |
| 92. Street 3/Street C | SSSC | Sac Co | | | | | 6 (9) | A (A) | 6 (10) | A (A) |
| 93. Street 3/Street B | SSSC | Sac Co | | | | | 1 (12) | A (B) | 2 (12) | A (B) |
| 94. Street 3/Street A | SSSC | Sac Co | | | | | 1 (12) | A (B) | 1 (12) | A (B) |
| 95. El Centro Road/Street 3/Tomato Patch Lane S | Signal | Sac Co | | | | | 19 | B | 12 | B |
| 96. Street 2/Bryte Bend Road | RAB | Sac Co | | | | | 5 | A | 4 | A |
| 97. Street 2/Street D | SSSC | Sac Co | | | | | 2 (10) | A (B) | 2 (11) | A (B) |
| 98. Street 2/Street C | SSSC | Sac Co | | | | | 3 (11) | A (B) | 3 (13) | A (B) |
| 99. Street 2/Street B | SSSC | Sac Co | | | | | 1 (11) | A (B) | 1 (11) | A (B) |
| 100. Street2/Street A | SSSC | Sac Co | | | | | 2 (11) | A (B) | 2 (11) | A (B) |
| 101. El Centro Road/Street 2 | SSSC | Sac Co | | | | | 6 (7) | A (A) | 5 (8) | A (A) |
| 102. Street 1/Bryte Bend Road | SSSC | Sac Co | | | | | 0 (10) | A (A) | 0 (10) | A (B) |
| 103. Street 1/Street C | SSSC | Sac Co | | | | | 1 (9) | A (A) | 2 (9) | A (A) |
| 104. Street 1/Street B | SSSC | Sac Co | Does Not Exist | | | | 1 (9) | A (A) | 1 (9) | A (A) |
| 105. Street 1/El Centro Road | SSSC | Sac Co | | | | | Does Not Exist [3] | | | |
| 106. LDR Access/Bryte Bend Road | SSSC | Sac Co | | | | | 3 (9) | A (A) | 1 (11) | A (B) |
| 107. El Centro Road/Bryte Bend Road | RAB | Sac Co | | | | | Does Not Exist [3] | | | |
| 108. Street 9/Bryte Bend Road | SSSC | Sac Co | | | | | 6 (9) | A (A) | 4 (9) | A (A) |

Notes:
1. AWSC = all-way stop controlled intersection; SSSC = side-street stop controlled intersection. RAB = Roundabout.
2. The overall average intersection control delay is reported in seconds per vehicle for signalized and all-way stop controlled intersections and roundabouts. For side-street stop controlled intersections, the average control delay/LOS for the movement with the greatest delay is shown in parentheses, while the average delay/LOS for the entire intersection is shown not in parentheses.
3. Project roadway modification removed extension of El Centro Road southwesterly from Street 1 to Bryte Bend Road. Hence, these intersections no longer exist.

Bolded cells represent unacceptable operations, based on the County's Level of Service policy. Side-street stop controlled intersections exceeding the Level of Service policy are considered acceptable if signal warrants are not met or signals are not considered feasible. See Table 13.

Source: Fehr & Peers, 2021.

**Table 13:**
**Unsignalized Intersection Traffic Signal Warrant Analysis – Existing Plus Project Conditions**

| Intersection [1] | Traffic Control[2] | Agency | AM Peak Hour | | | | PM Peak Hour | | | | Signal Recommended ? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Delay[3] | LOS | Warrant 3A [4] | Warrant 3B [4] | Delay[3] | LOS | Warrant 3A [4] | Warrant 3B [4] | |
| 1. Powerline Road/Bayou Way South | SSSC | Sac Co | 9 (33) | A (D) | Not Met | Not Met | 67 (92) | F (F) | Met | Met | Yes |
| 45. Street 12 (E)/Radio Road | SSSC | Sac Co | 13 (54) | B (F) | Not Met | Not Met | 10 (23) | A (C) | Not Met | Not Met | No [5] |
| 62. MDR Access/Farm Road | SSSC | Sac Co | 200 (461) | F(F) | Not Met | Not Met | 150 (382) | F(F) | Not Met | Not Met | No |
| 68. El Centro Road/Street 6 | SSSC | Sac Co | 69 (346) | F (F) | Met | Met | 81 (315) | F (F) | Met | Met | No |
| 69. El Centro Road/ CMU/EHC Dwy | SSSC | Sac Co | 26 (77) | D (F) | Not Met | Met | 68 (405) | F (F) | Met | Met | No |
| 74. El Centro Road/Street 5 | SSSC | Sac Co | 21 (900) | C (F) | Not Met | Not Met | 35 (900) | E (F) | Not Met | Not Met | No |
| 89. El Centro Road/Street 4 | SSSC | Sac Co | 18 (124) | C(F) | Met | Met | 5 (35) | A (D) | Not Met | Not Met | No |

Notes:
1. Only a subset of unsignalized study intersections selected for analysis. Refer to prior page for selection criteria, which relates to Sacramento County thresholds of significance for unsignalized intersections.
2. SSSC = side-street stop controlled intersection.
3. For side-street stop controlled intersections, the average control delay for the movement with the greatest delay is shown in parentheses in seconds per vehicle.
4. Warrant 3A is the "Peak Hour Delay" warrant and Warrant 3B is the "Peak Hour Volume" warrant as described in the California MUTCD (2014).
5. Recommendation changes under cumulative plus project conditions (see Table 17).

Source: Fehr & Peers, 2021.

Four of the seven intersections would satisfy either Warrant 3A or 3B during the AM and/or PM peak hours. The El Centro Road/Street 6 (#68), El Centro Road/CMU/EHC Driveway (#69), and El Centro Road/Street 4 (#89) intersections each satisfy the warrant and are situated along the segment of El Centro Road near the Town Center in which a detailed access plan has already been developed. Traffic signals are not considered viable solutions at these three intersections due to their proximity to other signalized intersections. The other remaining intersection that meets the warrant is Powerline Road/Bayou Way South (#1), in which both warrants 3A and 3B are met during the PM peak hour. A traffic signal is recommended at this location.

# 4. CUMULATIVE CONDITIONS

This chapter describes anticipated transportation conditions under cumulative conditions, which corresponds to the Year 2040.

## Travel Demand Forecasts

Cumulative traffic forecasts were developed for the following two scenarios:

- Cumulative No Project Conditions – assumes the project site remains in its current state.
- Cumulative Plus Project Conditions – assumes the full buildout of the proposed project.

The following describes the land use and roadway network assumptions under cumulative conditions.

### Land Use Assumptions

The cumulative version of SACSIM travel demand model already includes partial or full buildout of a number of planned and pending projects within the study area. At the direction of Sacramento County DOT and PER staff, full buildout of each of the projects listed below was assumed:

- Metro Air Park (Sacramento County)
- Grandpark Specific Plan (Sacramento County)
- Downtown Specific Plan (City of Sacramento)
- Northlake (formerly Greenbriar) (City of Sacramento)
- Panhandle (City of Sacramento)
- West Broadway Specific Plan (City of Sacramento)
- Railyards Specific Plan (City of Sacramento)
- River District Specific Plan (City of Sacramento)

In addition to these large specific plans / projects, buildout of the following individual projects located within the City of Sacramento was assumed:

- Natomas Crossing Quad B Office Buildings (Centene Campus), Quad C office/retail, and Quad D Medical along East Commerce Way
- West El Camino Avenue Residential (directly east of I-80)
- Department of General Services (DGS) Office Complex on Richards Boulevard

The model's land use inputs were also reviewed (and modified as necessary) to ensure that it assumes development of the following currently vacant parcels within the City of Sacramento located west of I-5 in the study area:

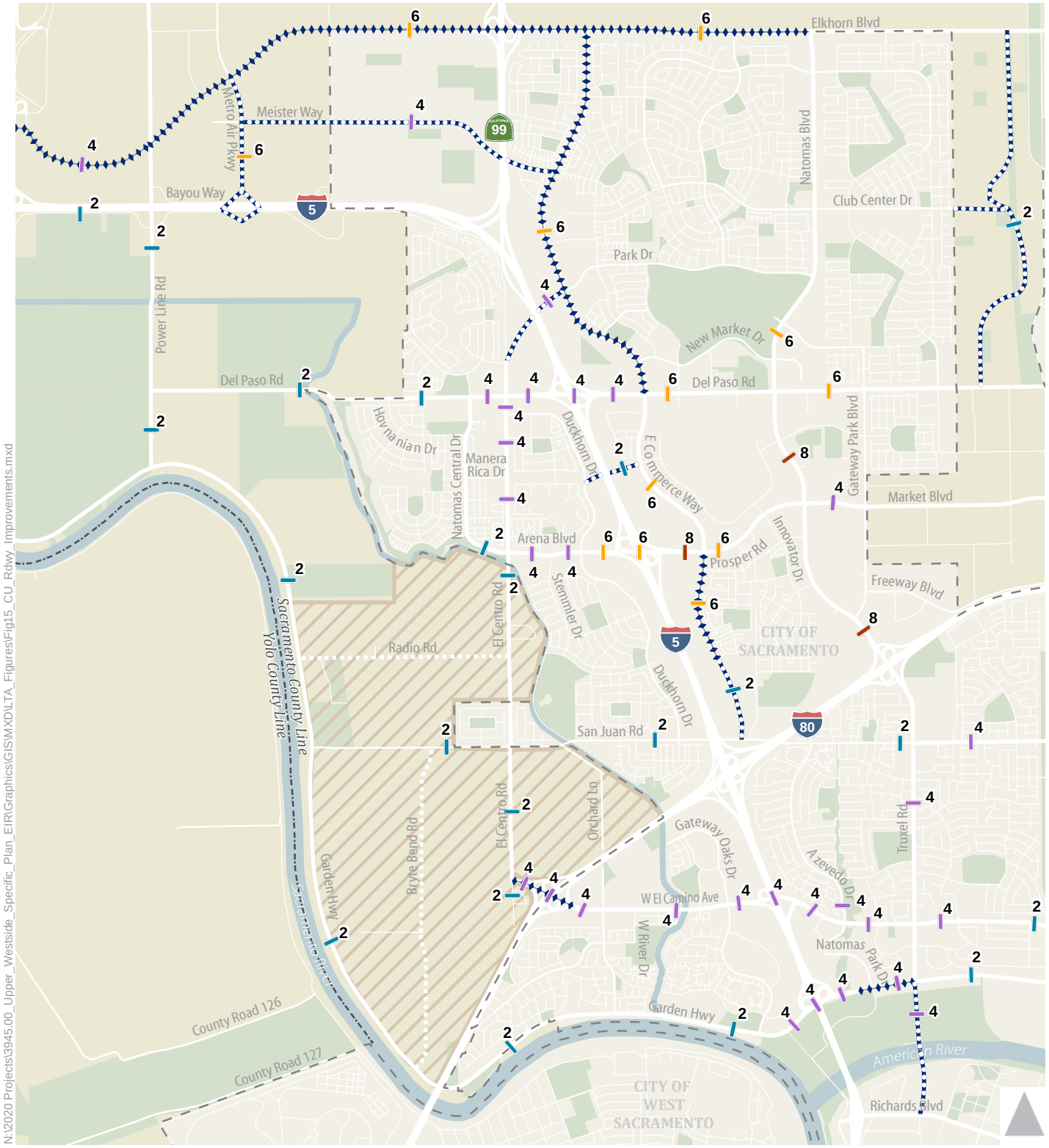
- Southeast quadrant of Arena Boulevard/El Centro Road – multi-family assumed per existing zoning
- Northeast quadrant of Arena Boulevard/Duckhorn Drive – employment center assumed per existing zoning
- East of Duckhorn Drive between Arena Boulevard and San Juan Road – employment center assumed per existing zoning
- West of El Centro Road between Del Paso Road and Manera Rica Drive – multi-family assumed per existing zoning
- Paso Verde School located north of Del Paso Road opposite Hovnanian Drive

Land use information for these projects was derived from a variety of sources including the City of Sacramento and Sacramento County websites, City of Sacramento General Plan Update land use database, and other land use data identified through internet searches.

At the time that the cumulative traffic forecasts were being developed in Spring 2021, City of Sacramento staff indicated that there was no reasonable land use assumption to make for the reuse of the Sleep Train Arena. However, it is now recognized that planning for that project has continued with the proposed Innovation Park being approved by the City Council in February 2022. However, the EIR process for this project has been underway for a considerable period, with the Notice of Preparation (NOP) of an EIR released in October 2020. The NOP establishes the baseline setting and timeframe for making assumptions for subsequent project analysis. At that time, no land use assumptions were available for Sleep Train Arena.

## Roadway Network Assumptions

**Figure 15** displays the planned cumulative roadway network improvements on surface streets within the study area. This figure shows several extended roadways, widened roadways, and new roadways that are planned for construction by 2040. The cumulative version of the SACSIM model was reviewed and modified as necessary to reflect these improvements.




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Number of Lanes
- 2
- 4
- 6
- 8

- Roadway Extension
- Widening to 4 or 6 Lanes
- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary
- Private and/or Gated, Partially Paved/ Unpaved Rural Road
- Public Roadway

Figure 15

# Cumulative Roadway Improvements

The following noteworthy roadway connections within the study area were assumed under cumulative conditions:

1. Northpark Drive overcrossing of I-5 between East Commerce Way and El Centro Road
2. Snowy Egret Drive overcrossing of I-5 between East Commerce Way and Duckhorn Drive
3. I-5/Metro Air Parkway interchange (north access only)
4. Improvements to the I-80/West El Camino Avenue interchange including widening of the interchange and modifications to the ramps.
5. New Truxel Road American River bridge from Garden Highway to Richards Boulevard
6. Extension of East Commerce Way southerly to San Juan Road
7. Meister Way overcrossing of SR 99
8. Extension of Elkhorn Boulevard westerly to Crossfield Drive

The enhanced connectivity associated Improvements 1 and 2, in combination with increased background land development, result in increased travel on El Centro Road. Improvement 3, in combination with assumed development in Metro Air Park, results in increased travel on roadways such as El Centro Road, San Juan Road, Garden Highway, and Powerline Road. Improvement 4 adds one lane in each direction of the West El Camino Avenue overcrossing at I-80, better accommodating expected traffic increases. Improvements 4 through 7 result in substantial changes in traffic volumes in the areas where the improvements are being made.

Per communications with the City of Sacramento, it was agreed that Natomas Crossing Drive would not be assumed (as a background assumed roadway network improvement) to extend westerly from East Commerce Way across I-5 to Duckhorn Drive, and would also not extend from Duckhorn Drive to El Centro Road. The 2020 MTP/SCS also lists a variety of transit improvements throughout the region. This includes the extension of SacRT's Green Line light rail service from Township 9 northerly to North Natomas Town Center. Five bus rapid transit (BRT) line and 20 enhanced bus routes are also planned. However, cumulative levels of transit service in the project vicinity are anticipated to be similar to current levels.

Various improvements were also assumed in the model on portions of I-5 and I-80 within the study area including auxiliary (weaving) lanes on I-5 at Del Paso Road and Arena Boulevard and improvements at the I-5/I-80 interchange including direct connector ramps and ramp metering. These projects are listed in the financially-constrained list of projects included in the 2020 MTP/SCS. It should be noted that the Managed Lanes projects for I-5 and I-80 were not assumed in place under cumulative conditions. This is because studies of the type of managed lane facilities (i.e., express toll lanes, carpool lanes, etc.) are ongoing. It would have been speculative to have assumed a particular configuration.

For cumulative no project conditions, the following forecasting adjustment procedure known as the "difference method" was utilized:

*Cumulative No Project Forecast = Existing Traffic Count +*
*(Cumulative Model Forecast – Base Year Model Forecast)*

In instances where the roadway currently does not exist the direct model forecast is used.

**Figure 16** shows the ADT on study roadways under cumulative no project conditions. **Figures 17A – 17B** show the cumulative no project weekday AM and PM peak hour traffic forecasts at the study intersections. Under cumulative conditions, additional through lanes were added to intersections planned to be widened as shown on Figure 15.

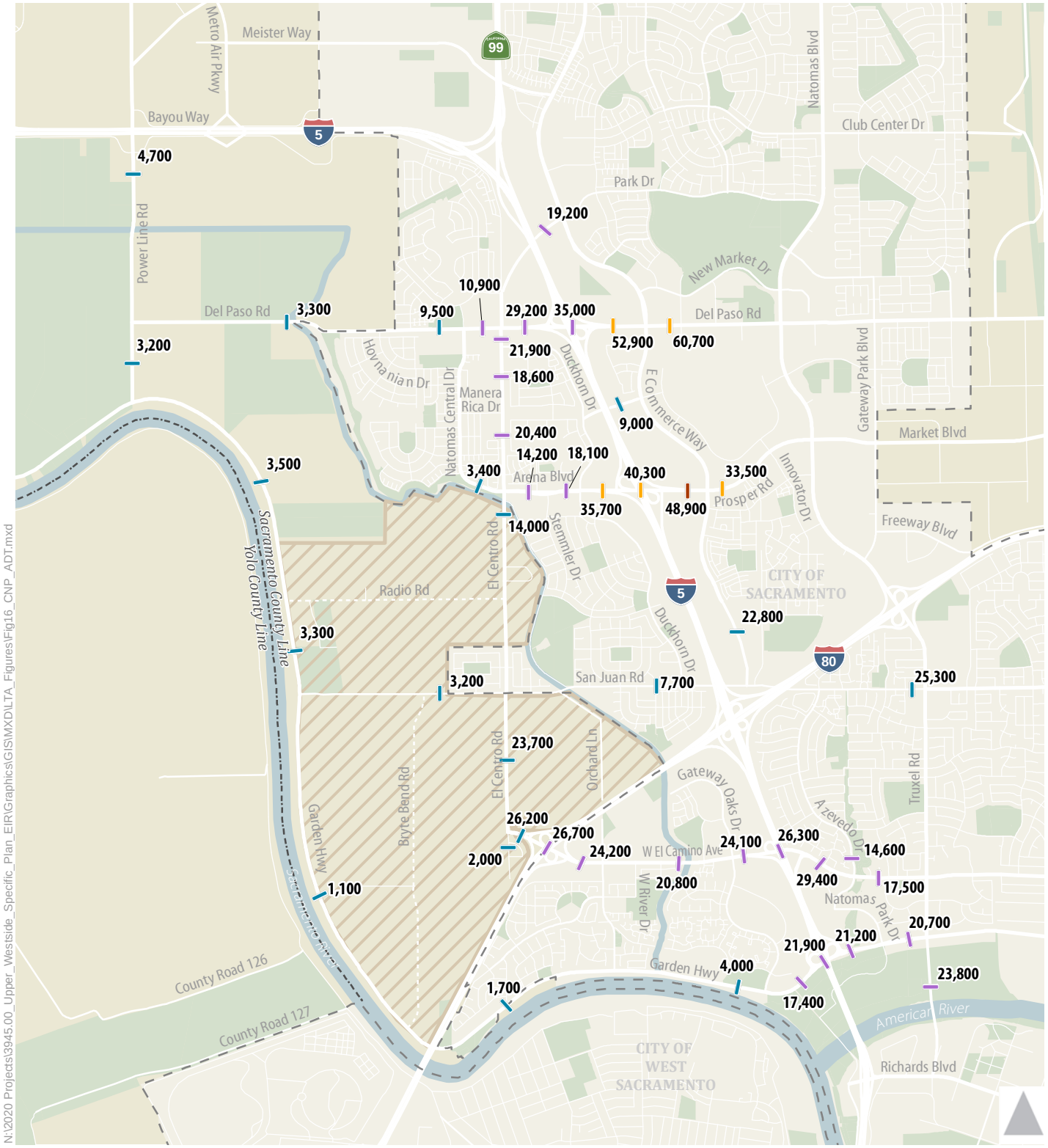
The following key findings are derived from these figures:

- Traffic volumes on the two-lane segment of El Centro Road north of West El Camino Avenue are expected to increase from 13,400 ADT today to 24,600 ADT under cumulative no project conditions. This nearly doubling of traffic is caused by several factors including additional land development west of I-5 and the aforementioned new street connections to El Centro Road (i.e., North Park Drive and Snowy Egret Drive). Traffic increases are also caused by additional through travel demand, likely caused by new land development in Metro Air Park.

- Traffic volumes on the eight-lane segment of Arena Boulevard east of I-5 are expected to increase from 24,300 ADT today to 48,900 ADT under Cumulative No Project conditions. This doubling of traffic growth is caused by substantial levels of new development along East Commerce Way (both north and south of Arena Boulevard) as well as the East Commerce Way connection to San Juan Road.

- Traffic volumes on the six-lane segment of Del Paso Road east of East Commerce Way are expected to increase from 33,400 ADT today to 60,700 ADT under Cumulative No Project conditions. This 82 percent increase is caused by both new development as well as new street connections in the area.

- Traffic growth is moderate (ranging from a 33 to 67 percent increase) on segments such as San Juan Road east of El Centro Road, Powerline Road south of Bayou Way, and Garden Highway south of Powerline Road. The growth on the rural roads is partially attributable to increased development in Metro Air Park and the new I-5/Metro Air Parkway interchange.




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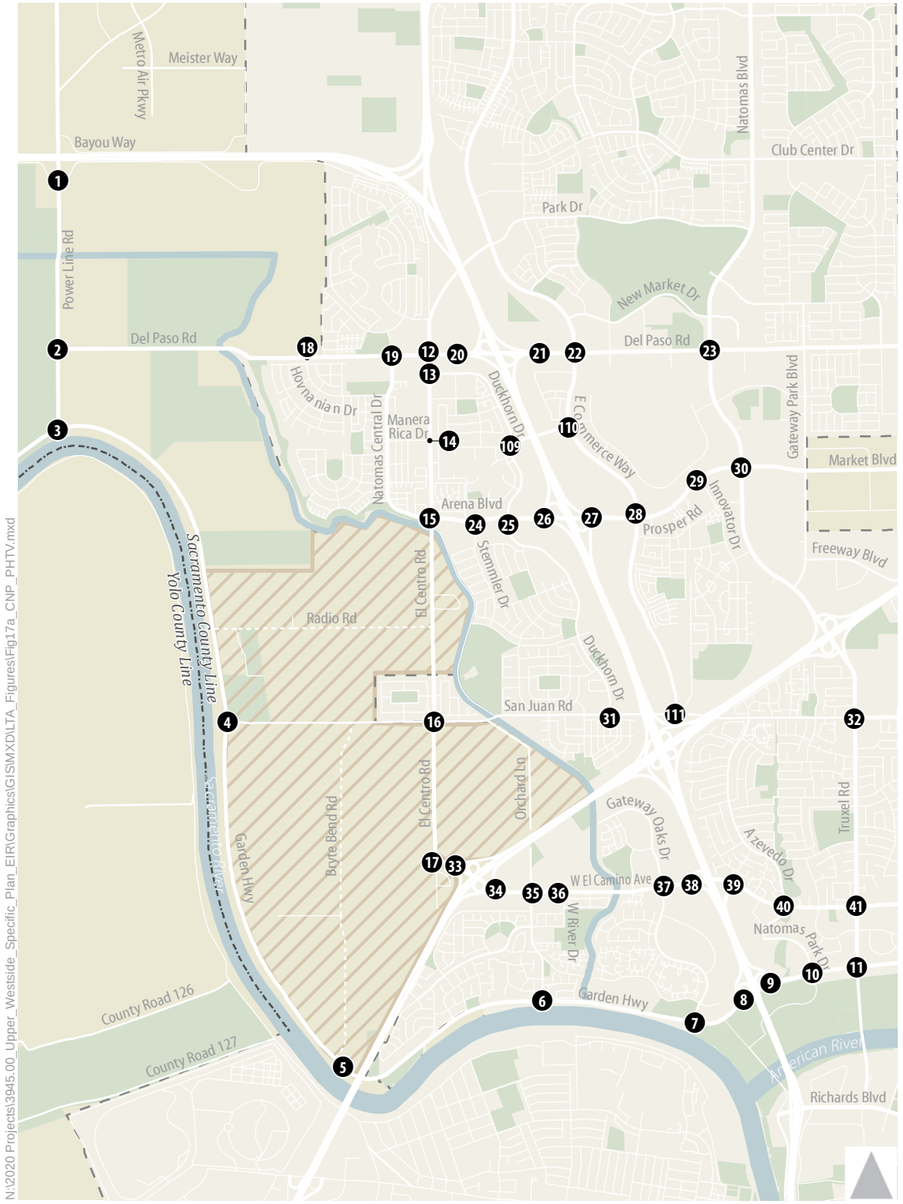
**X,XXX** Average Daily Traffic Volume

Number of Lanes
- 2
- 4
- 6
- 8

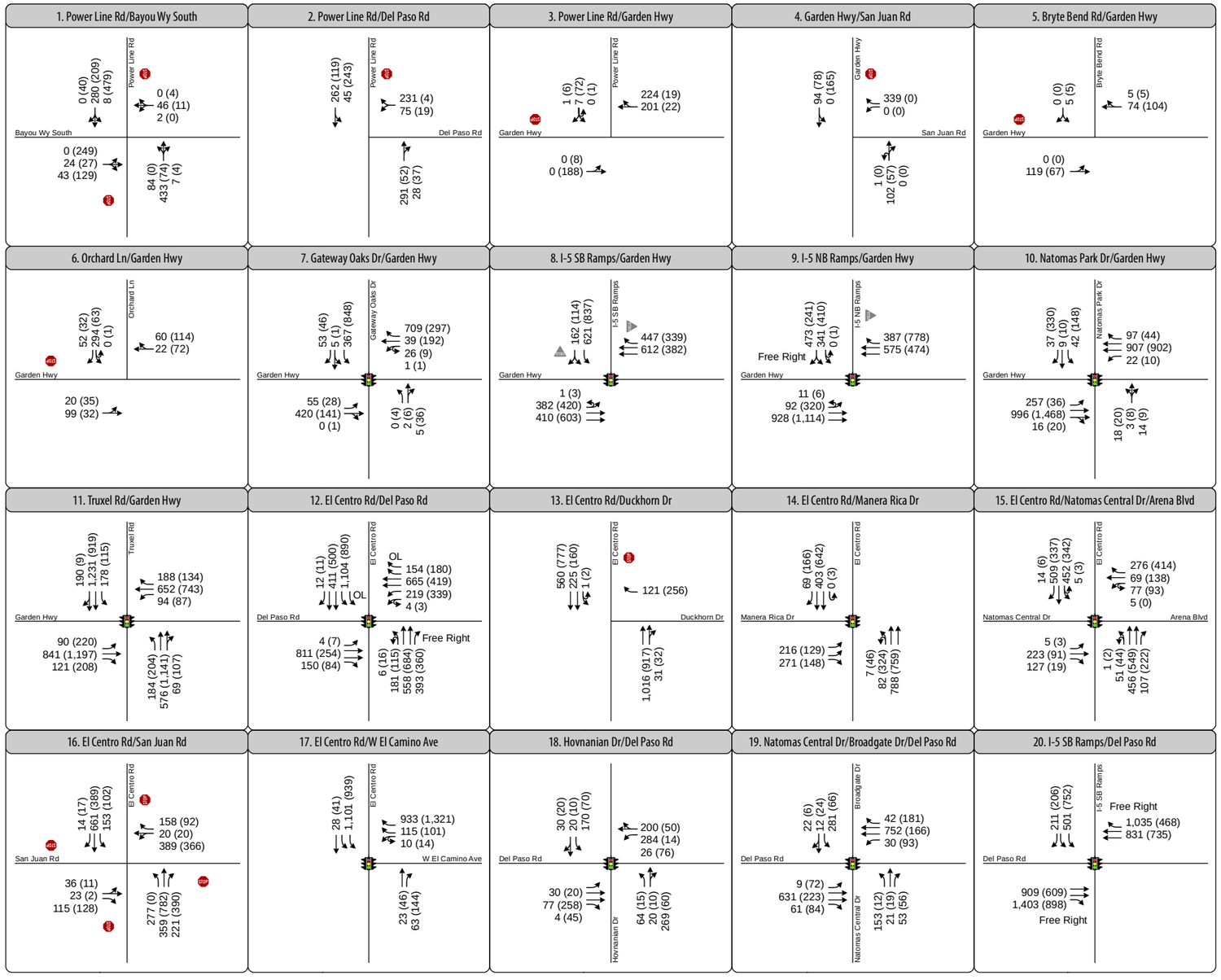
- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary
- Private and/or Gated, Partially Paved/ Unpaved Rural Road
- Public Roadway

Figure 16

# Average Daily Traffic - Cumulative No Project




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1 Study Intersection

Upper Westside Specific Plan Boundary

City Boundary

County Boundary

Private and/or Gated, Partially Paved/Unpaved Rural Road

Public Roadway

Turn Lane

AM (PM) Peak Hour Traffic Volume

Traffic Signal

Stop Sign

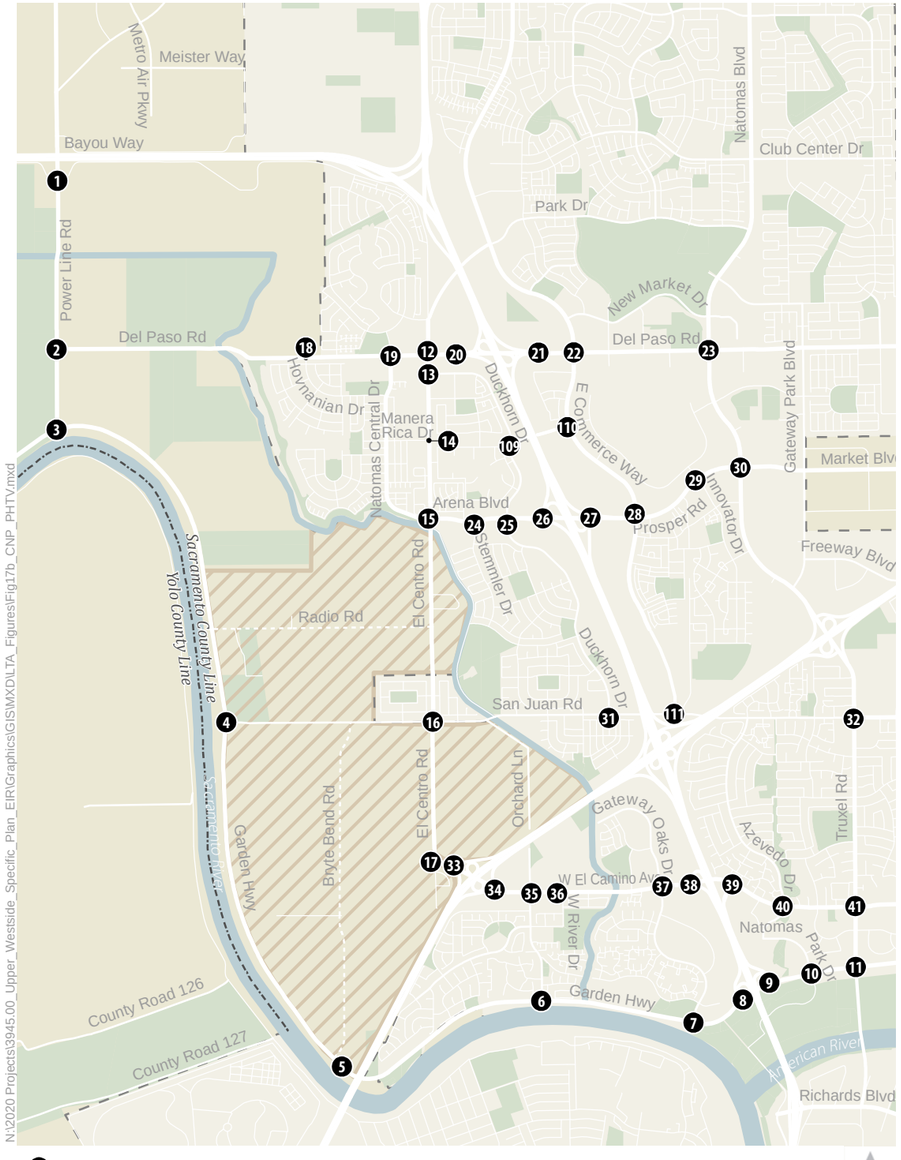
Free Right Free Right-Turn

OL Turning Overlap

Yield Sign

Figure 17a

# Peak Hour Traffic Volumes and Lane Configurations - Cumulative No Project Conditions




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1 Study Intersection

Upper Westside Specific Plan Boundary

City Boundary

County Boundary

Private and/or Gated, Partially Paved/Unpaved Rural Road

Public Roadway

Turn Lane

AM (PM) Peak Hour Traffic Volume

Traffic Signal

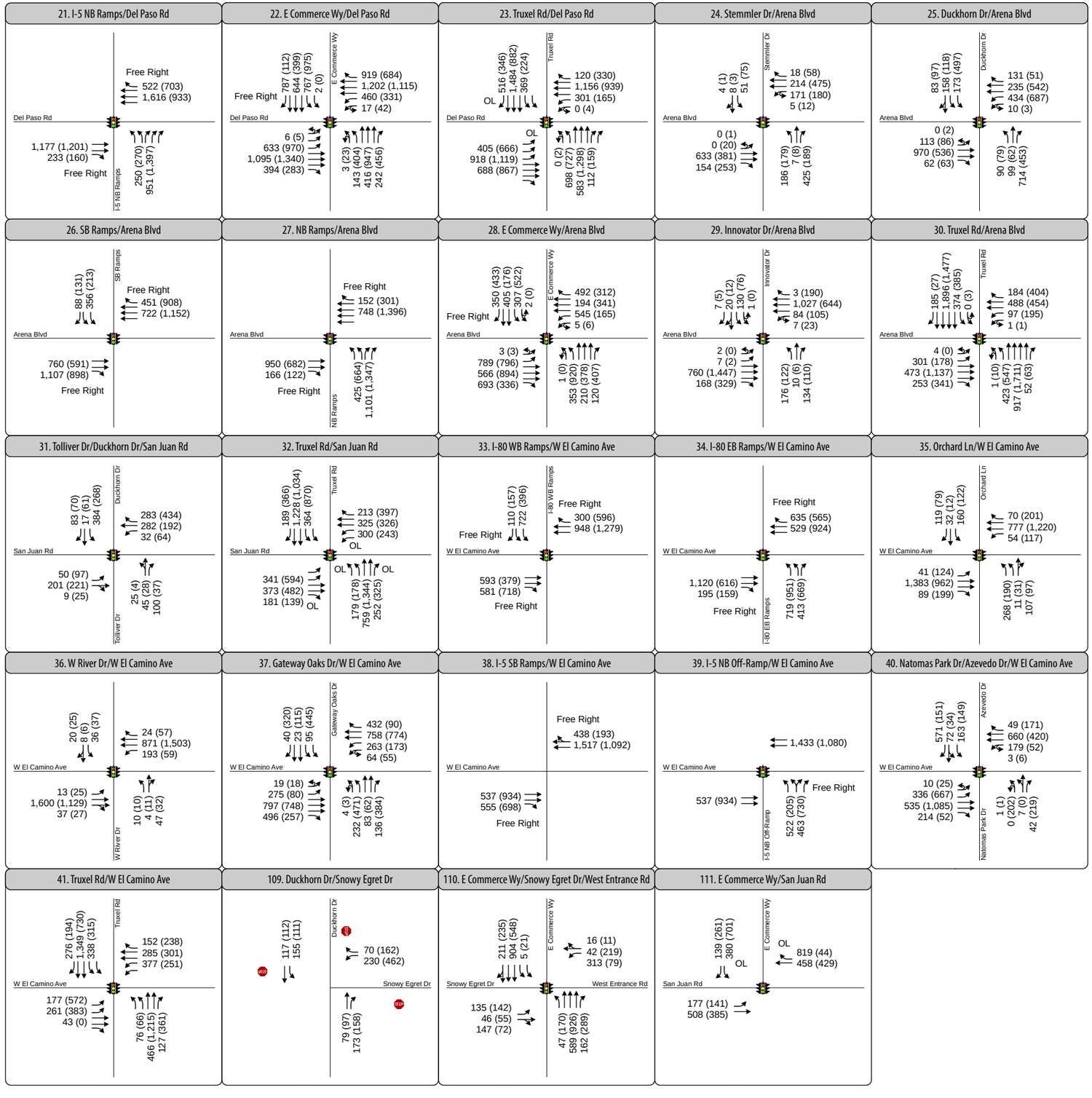
STOP Stop Sign

Free Right Free Right-Turn

OL Turning Overlap

Figure 17b

# Peak Hour Traffic Volumes and Lane Configurations - Cumulative No Project Conditions



- Traffic growth is modest (less than 33 percent increase) on segments such as West El Camino Avenue east of I-80, Garden Highway east and west of I-5, and Azevedo Drive south of San Juan Road. This is to be expected as that area is mostly built out.

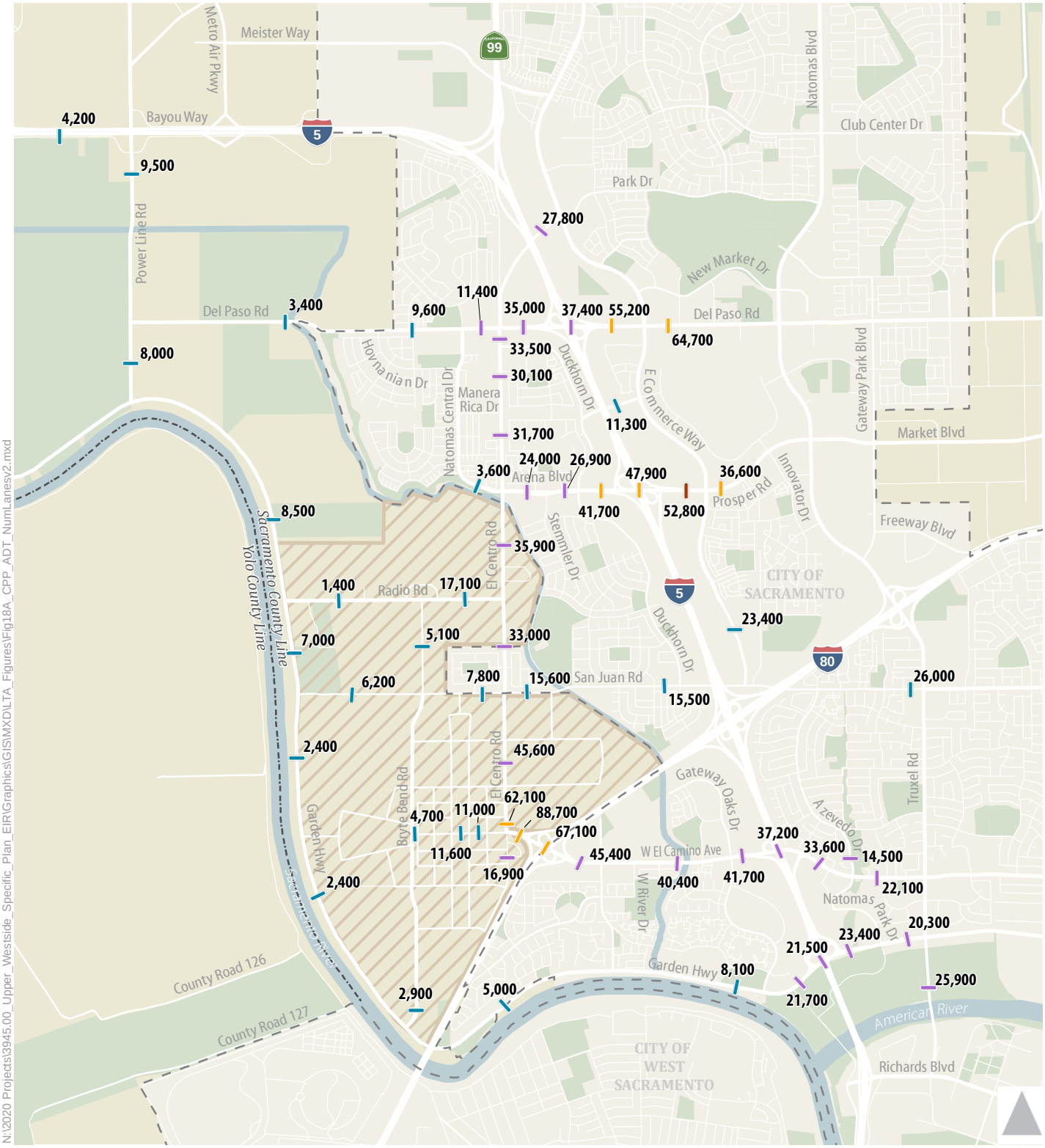
**Figure 18A** shows the ADT on study roadways under cumulative plus project conditions. **Figure 18B** shows the cumulative ADT on the roadways within the Specific Plan area.

**Figures 19A – 19F** show the cumulative plus project weekday AM and PM peak hour traffic forecasts at the existing and new project study intersections.

The southbound left-turn and westbound right-turn movements at the El Centro Road/West El Camino Avenue intersection have a major effect on overall traffic operations along the two corridors. The following compares the AM and PM peak hour forecasts for each movement under existing plus project and cumulative plus project conditions:

| *El Centro Road/West El* | *Existing Plus Project* | | *Cumulative Plus Project* | |
|---|---|---|---|---|
| *Camino Avenue* | *AM Peak Hour* | *PM Peak Hour* | *AM Peak Hour* | *PM Peak Hour* |
| Southbound Left-Turn | 1,947 | 1,652 | 2,002 (+3%) | 2,090 (+27%) |
| Westbound Right-Turn | 1,285 | 2,126 | 1,877 (+46%) | 2,241 (+5%) |

Under existing plus project conditions, the peak-travel, peak-directional movements are southbound left-turn during the AM peak hour and westbound right-turn during the PM peak hour. The cumulative plus project forecasts show a very modest five percent or less growth in these movements, which is reasonable since they are nearly at capacity. In contrast, growth of 27 percent and 46 percent is expected in the non-peak directions, reflecting the introduction of new employment uses, which attract trips (i.e., hence the 600 added AM peak hour trips turning right onto northbound El Centro Road). From this analysis, it is concluded that the travel demand model is sensitive to peak-hour, peak-direction roadway capacity limitations and reflects those conditions in its trip assignment.




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**X,XXX** Average Daily Traffic Volume (Refer to Figure 18b for complete set of daily traffic volumes on internal roadways)

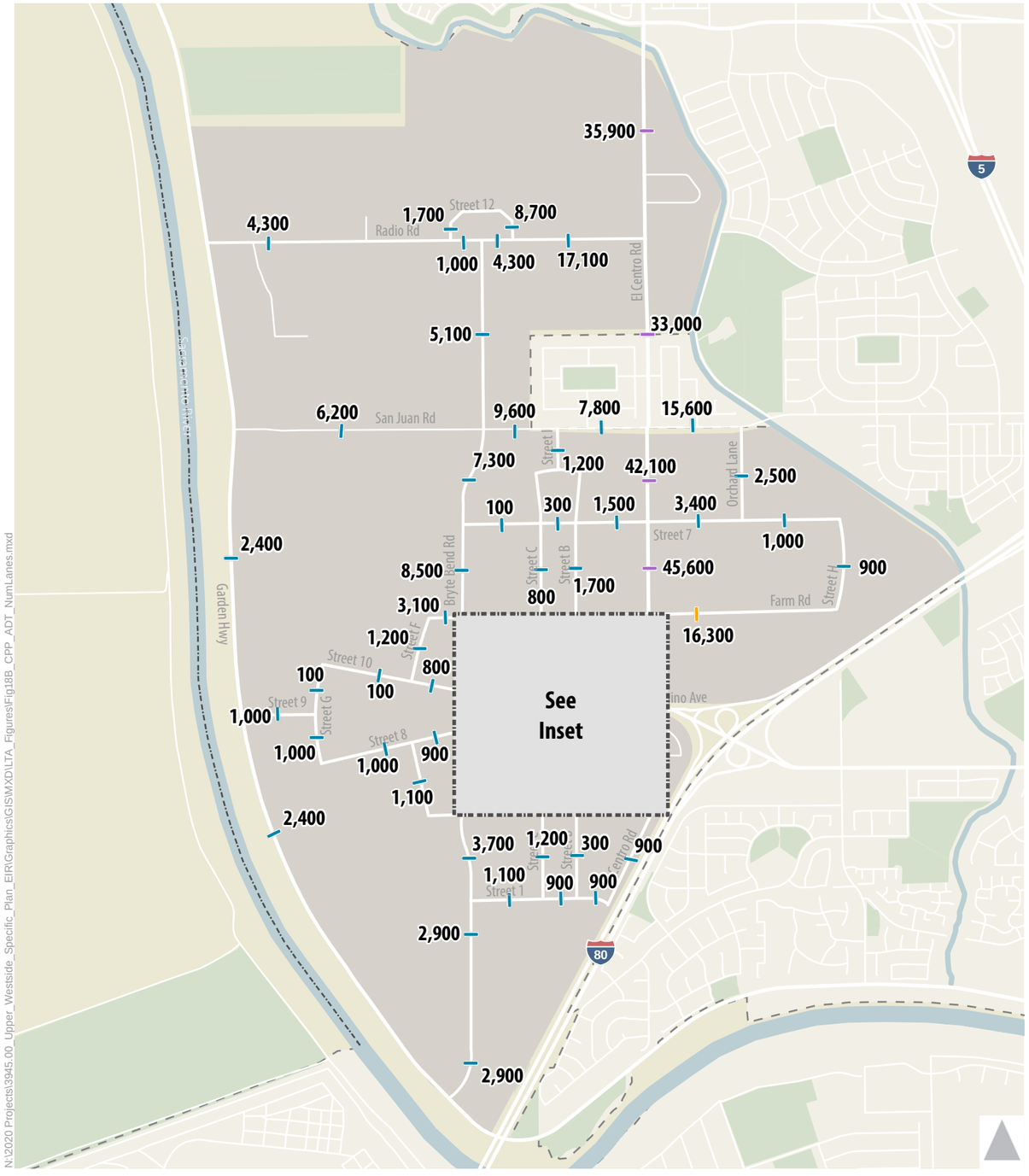
*Cumulative Plus Project Number of Lanes
- 2
- 4
- 6
- 8

**Includes through lanes only.*

- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary

Figure 18a

# Average Daily Traffic Volumes and Number of Lanes - Cumulative Plus Project Conditions




*Cumulative Plus Project Number of Lanes

- 2
- 4
- 6
- 8

*Includes through lanes only.

**x,xxx** Average Daily Traffic Volume

Upper Westside Specific Plan Boundary

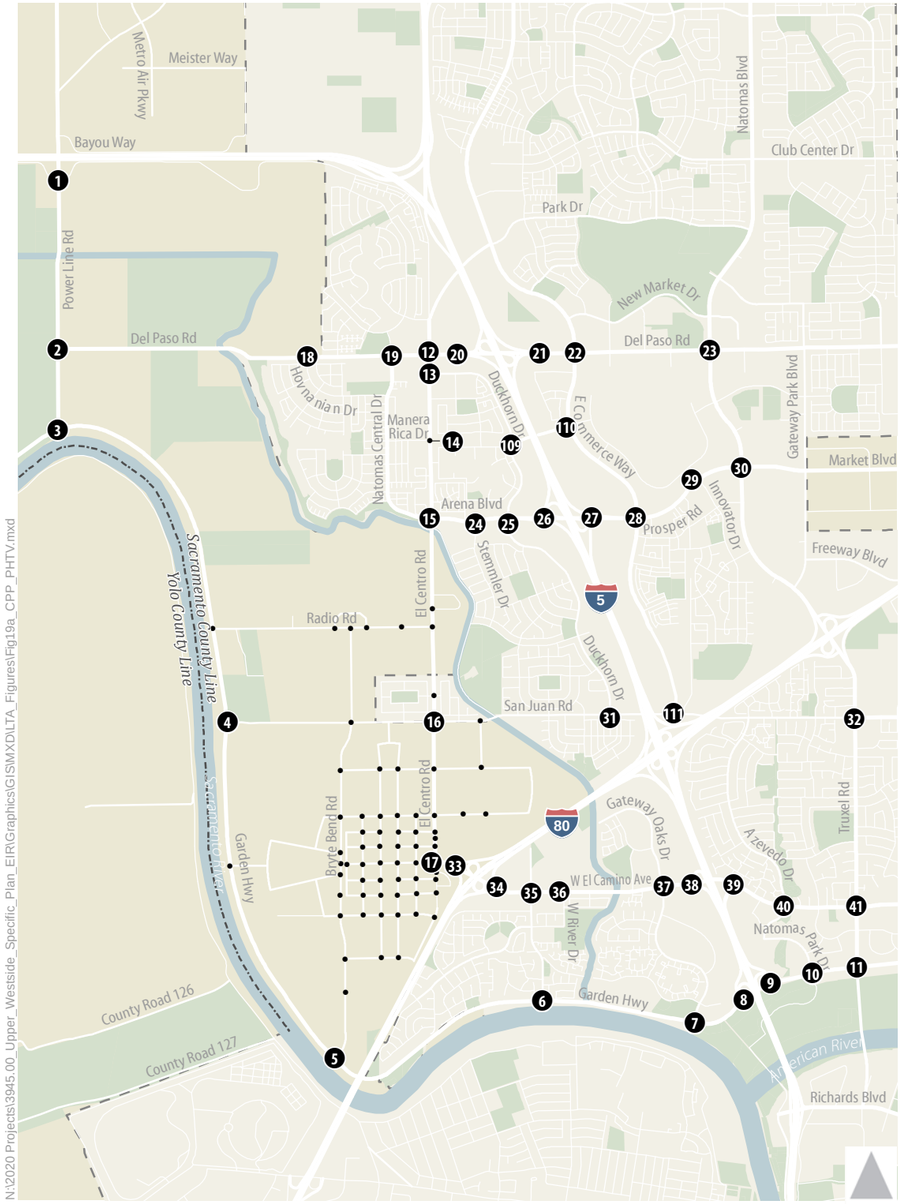
City Boundary

County Boundary

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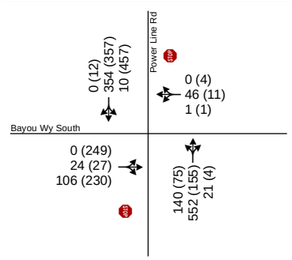
Figure 18b

Average Daily Traffic Volumes and Number of Lanes - Cumulative Plus Project Conditions

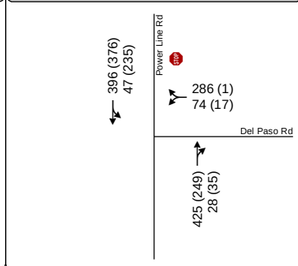



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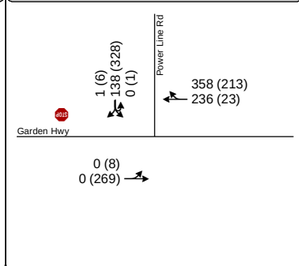
## 1. Power Line Rd/Bayou Wy South



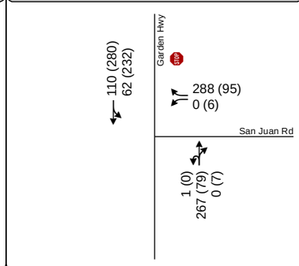

## 2. Power Line Rd/Del Paso Rd



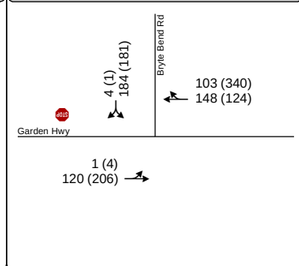

## 3. Power Line Rd/Garden Hwy



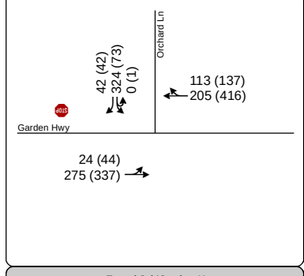

## 4. Garden Hwy/San Juan Rd



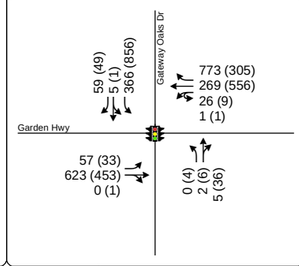

## 5. Bryte Bend Rd/Garden Hwy



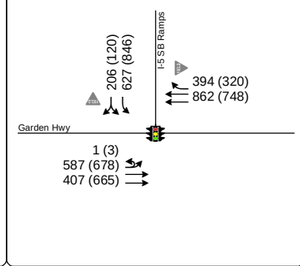

## 6. Orchard Ln/Garden Hwy



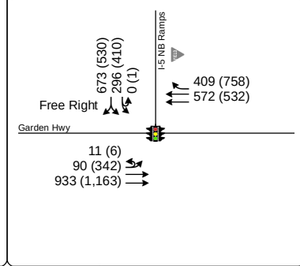

## 7. Gateway Oaks Dr/Garden Hwy



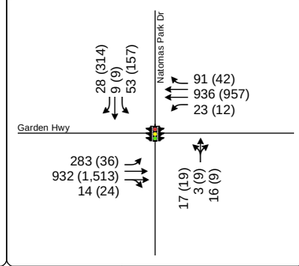

## 8. I-5 SB Ramps/Garden Hwy



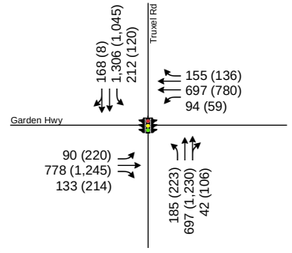

## 9. I-5 NB Ramps/Garden Hwy



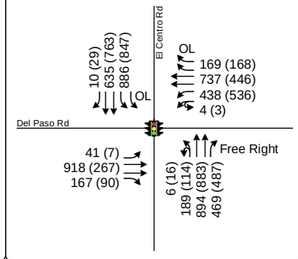

## 10. Natomas Park Dr/Garden Hwy



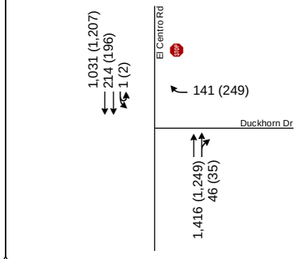

## 11. Truxel Rd/Garden Hwy



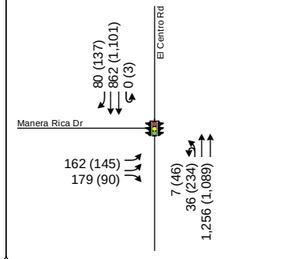

## 12. El Centro Rd/Del Paso Rd



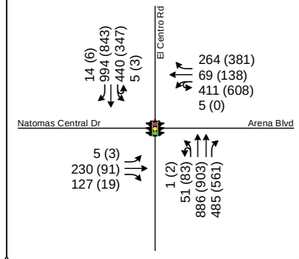

## 13. El Centro Rd/Duckhorn Dr



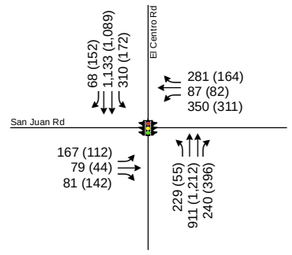

## 14. El Centro Rd/Manera Rica Dr



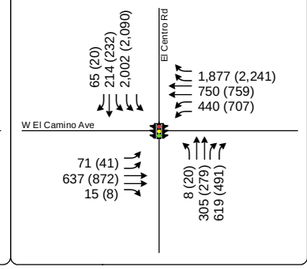

## 15. El Centro Rd/Natomas Central Dr/Arena Blvd



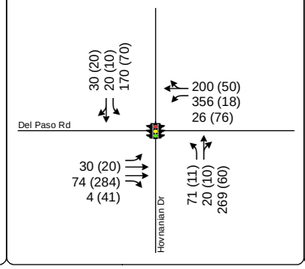

## 16. El Centro Rd/San Juan Rd



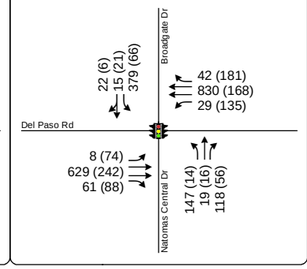

## 17. El Centro Rd/W El Camino Ave



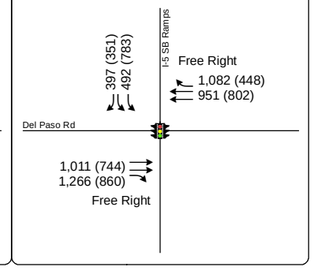

## 18. Hovnanian Dr/Del Paso Rd




## 19. Natomas Central Dr/Broadgate Dr/Del Paso Rd




## 20. I-5 SB Ramps/Del Paso Rd

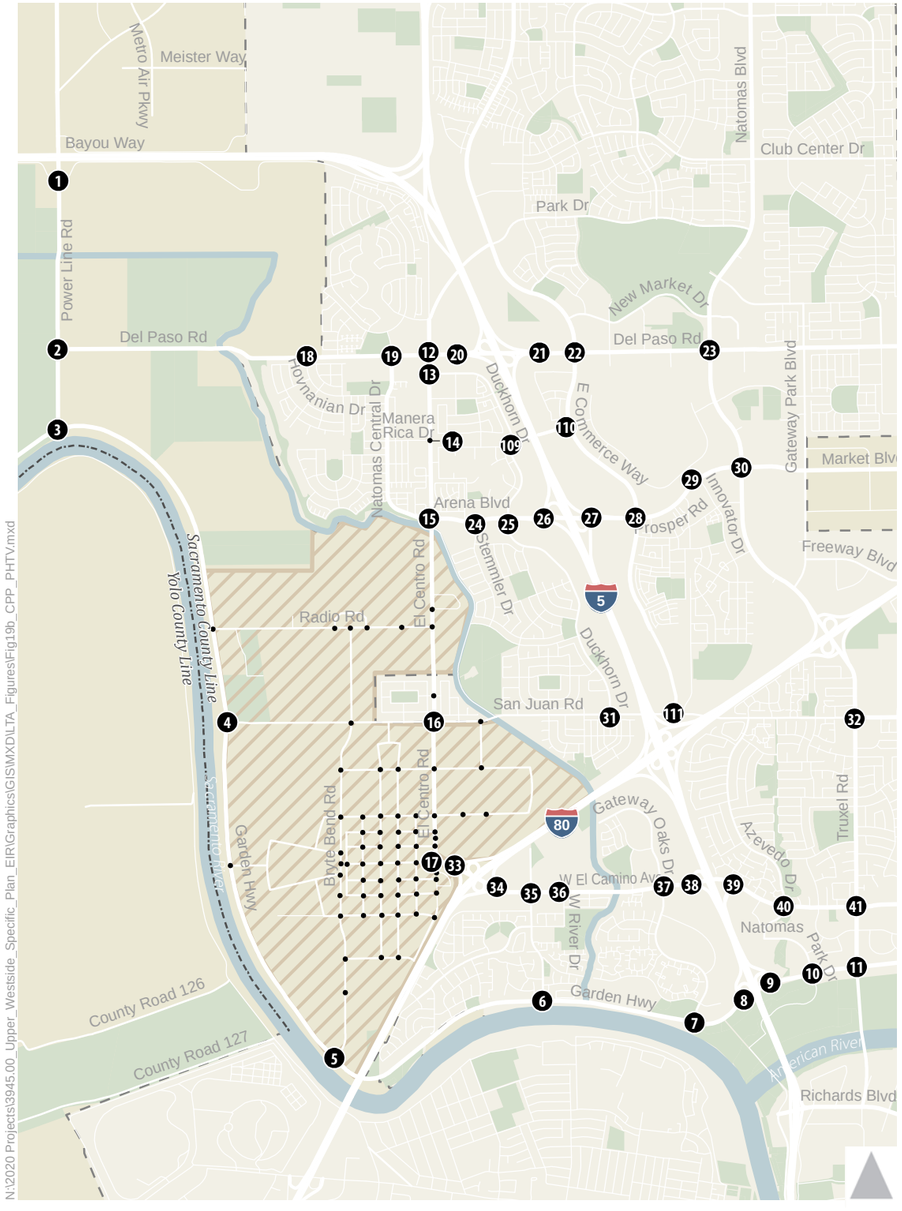



1 Study Intersection
• Project Study Intersection (See Figures 19c - 19f)
Upper Westside Specific Plan Boundary
City Boundary
County Boundary

Turn Lane
AM (PM) Peak Hour Traffic Volume
Traffic Signal
Stop Sign
Free Right Free Right-Turn
OL Turning Overlap
Yield Sign

Figure 19a

# Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus Project Conditions




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1 Study Intersection

• Project Study Intersection (See Figures 19c - 19f)

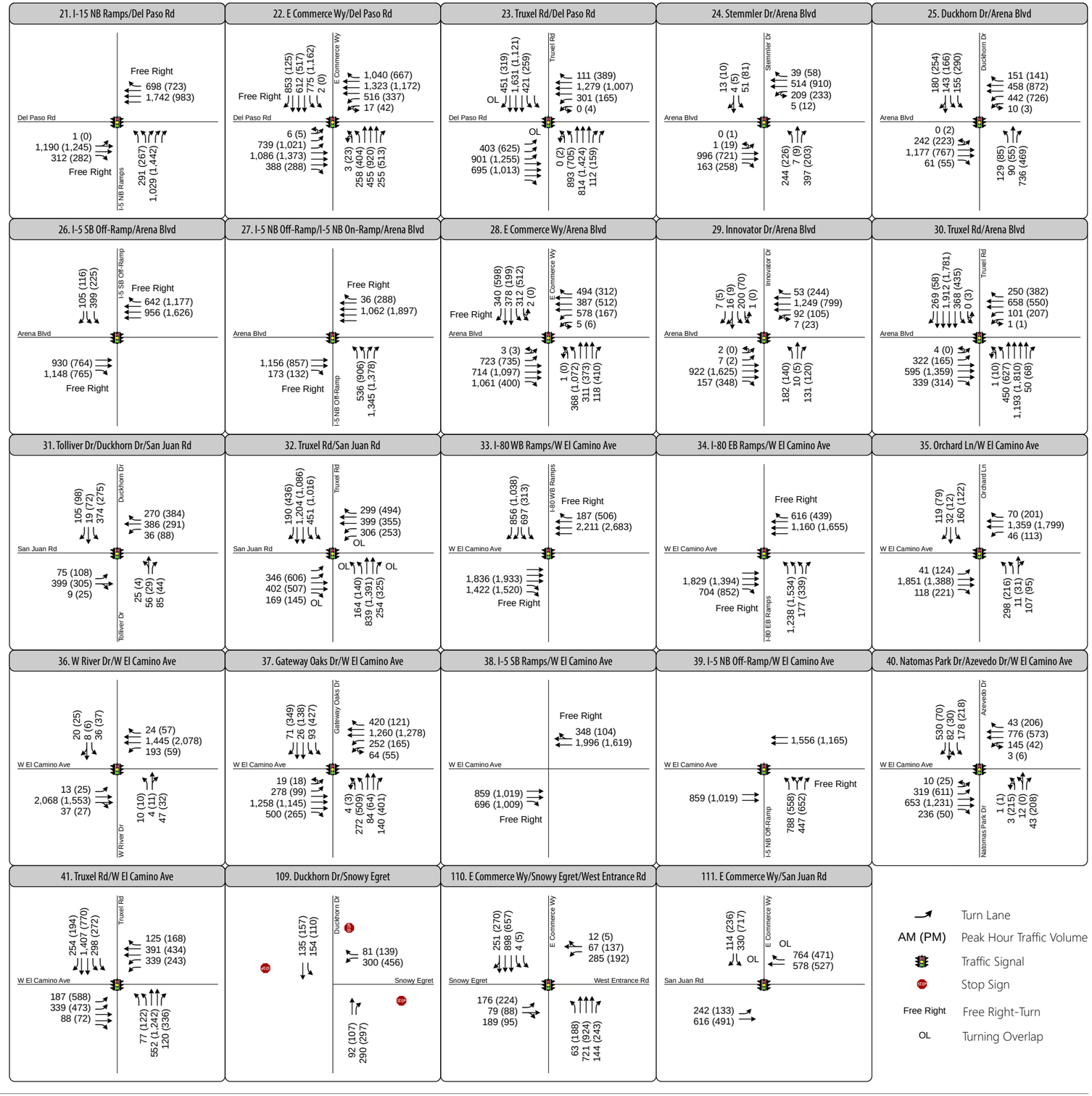
Upper Westside Specific Plan Boundary

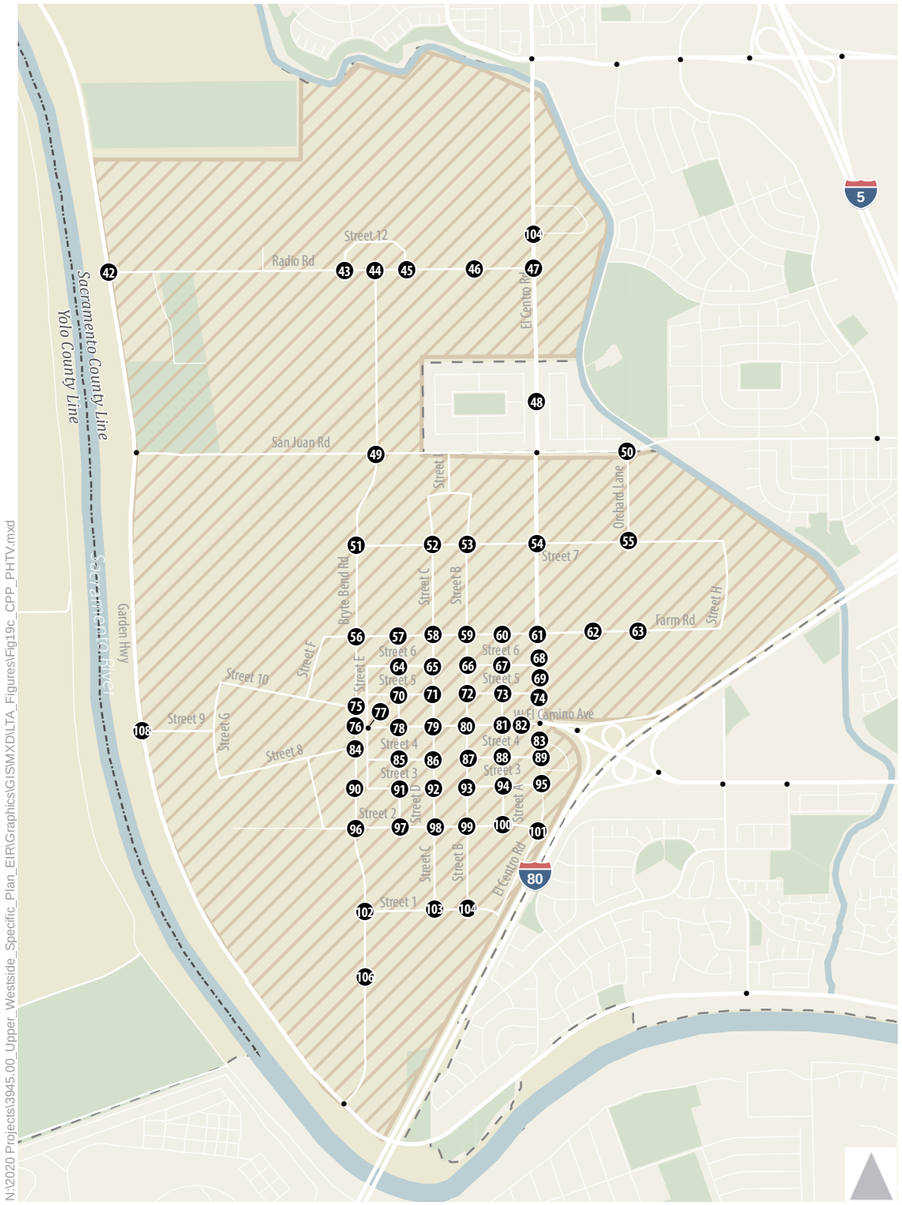
City Boundary

County Boundary

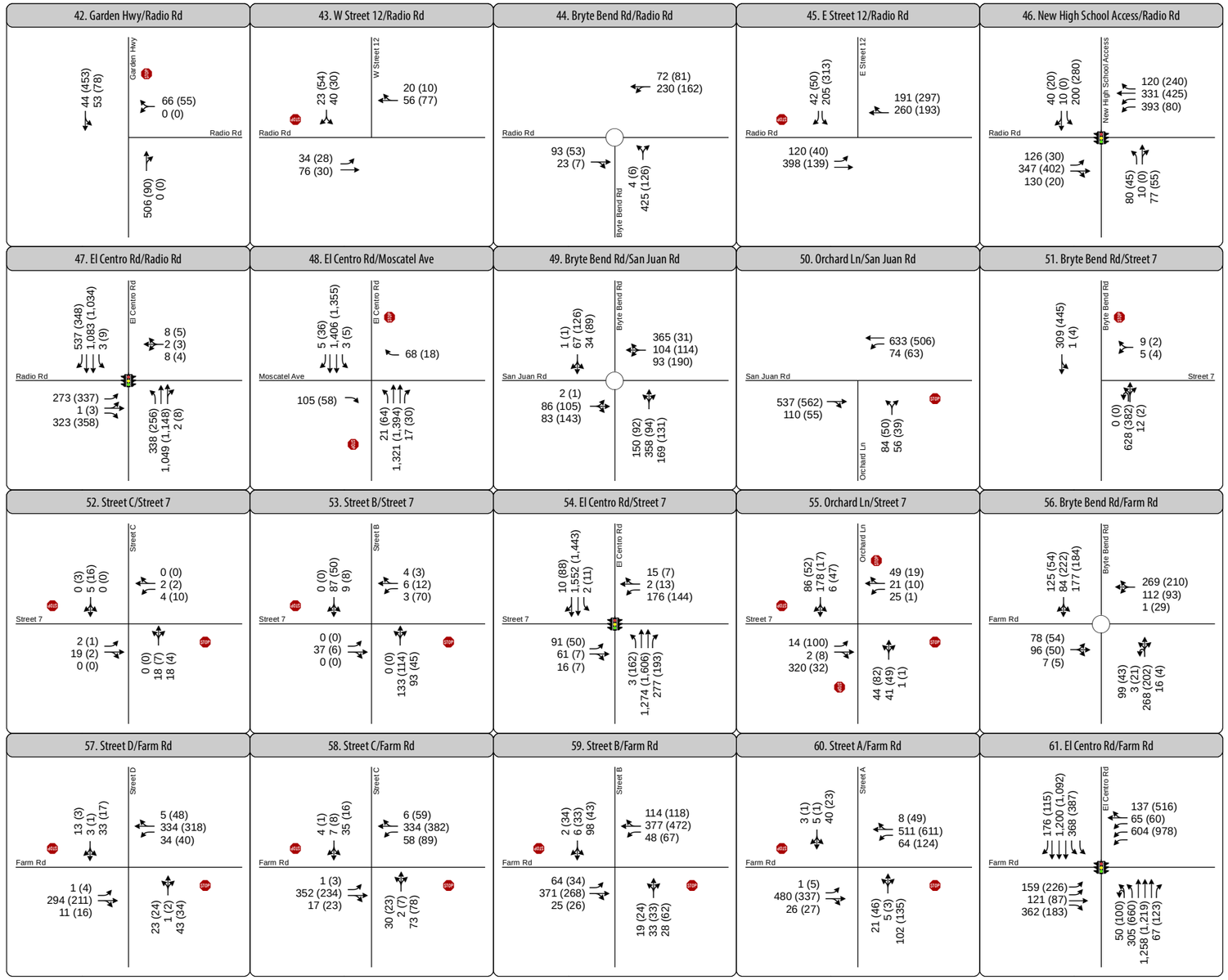
Figure 19b

# Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus Project Conditions






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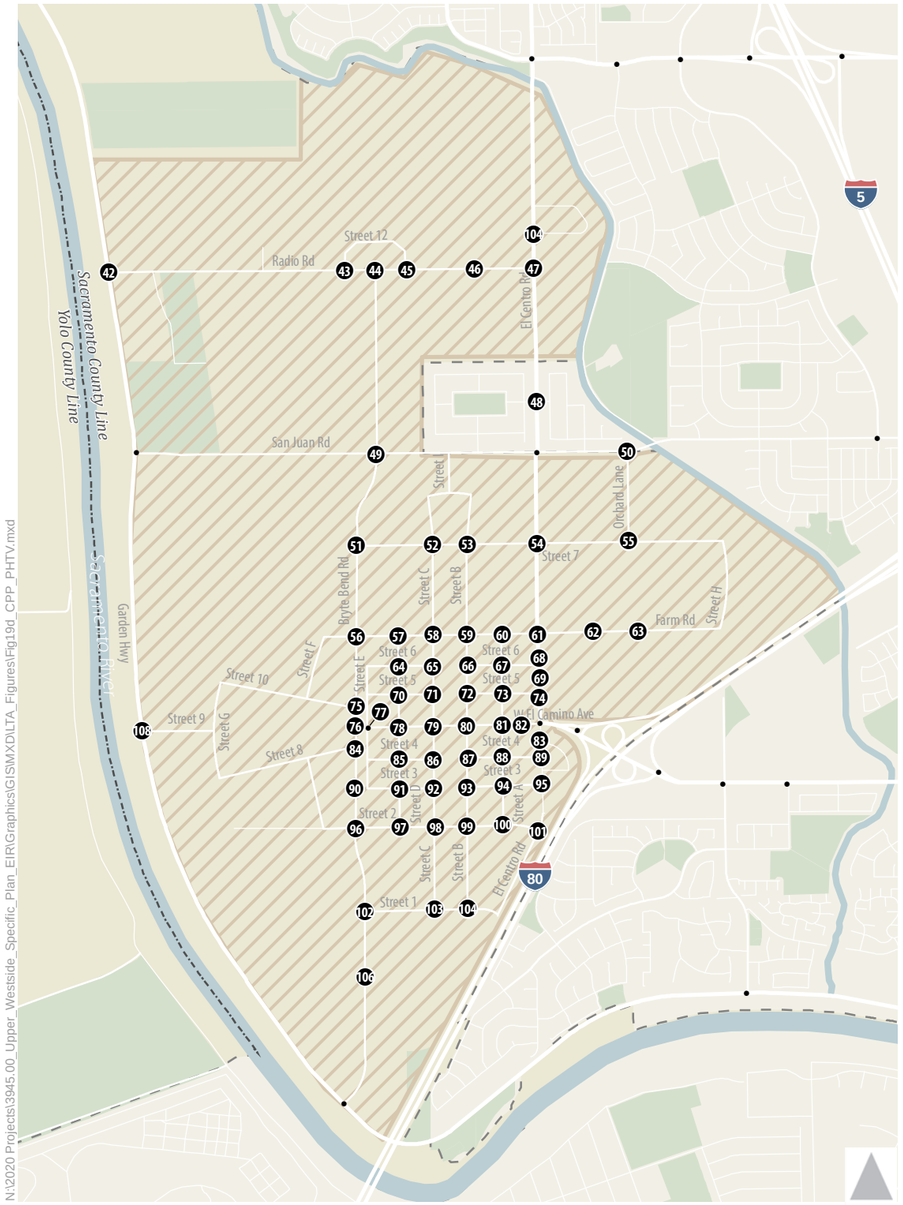



- Project Study Intersection
- Study Intersection (See Figures 19a - 19b)
- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary

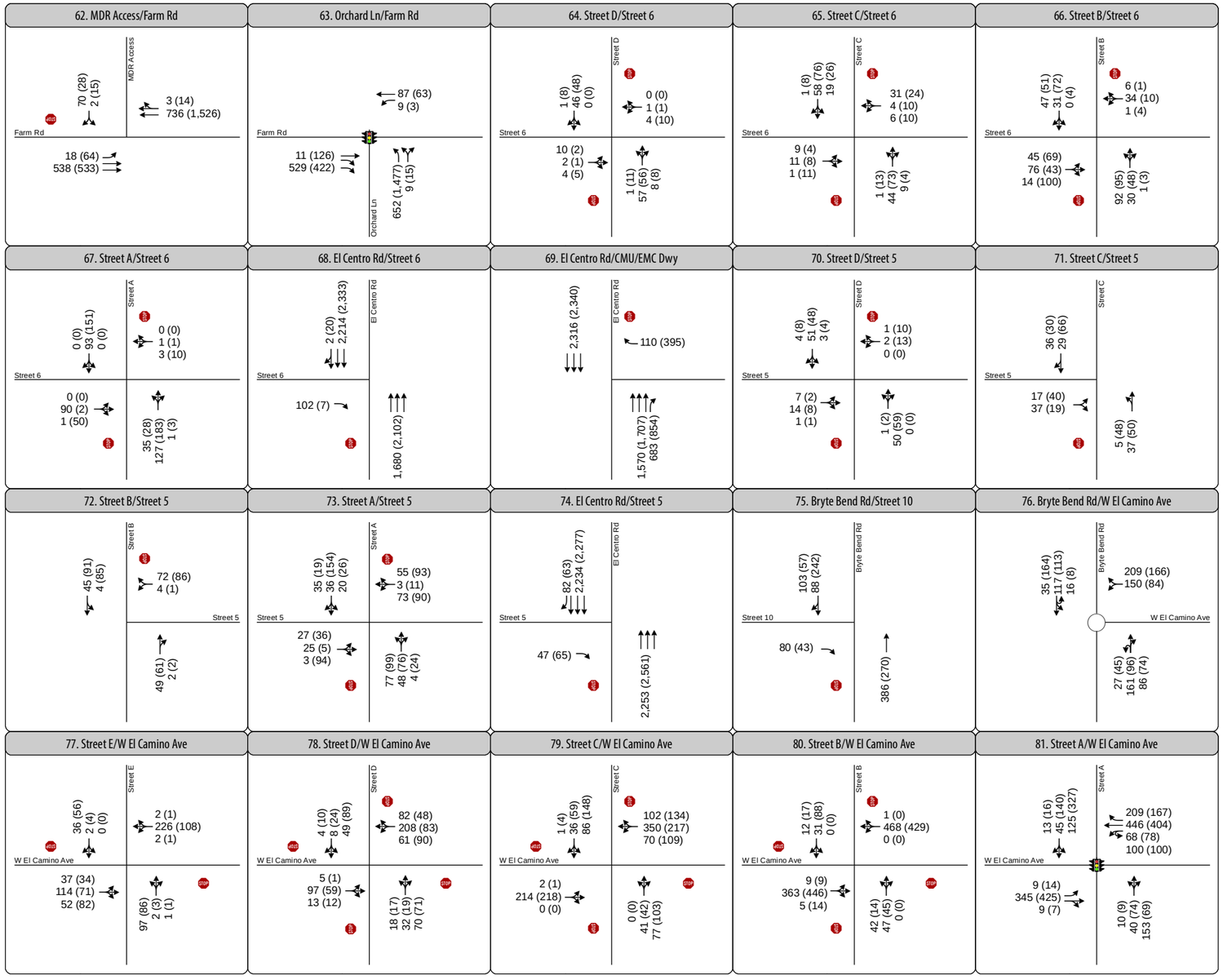
- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- Traffic Signal
- Stop Sign
- Roundabout

Figure 19c

# Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus Project Conditions




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1 Project Study Intersection

• Study Intersection (See Figures 19a - 19b)

Upper Westside Specific Plan Boundary

City Boundary

County Boundary

Turn Lane

AM (PM) Peak Hour Traffic Volume

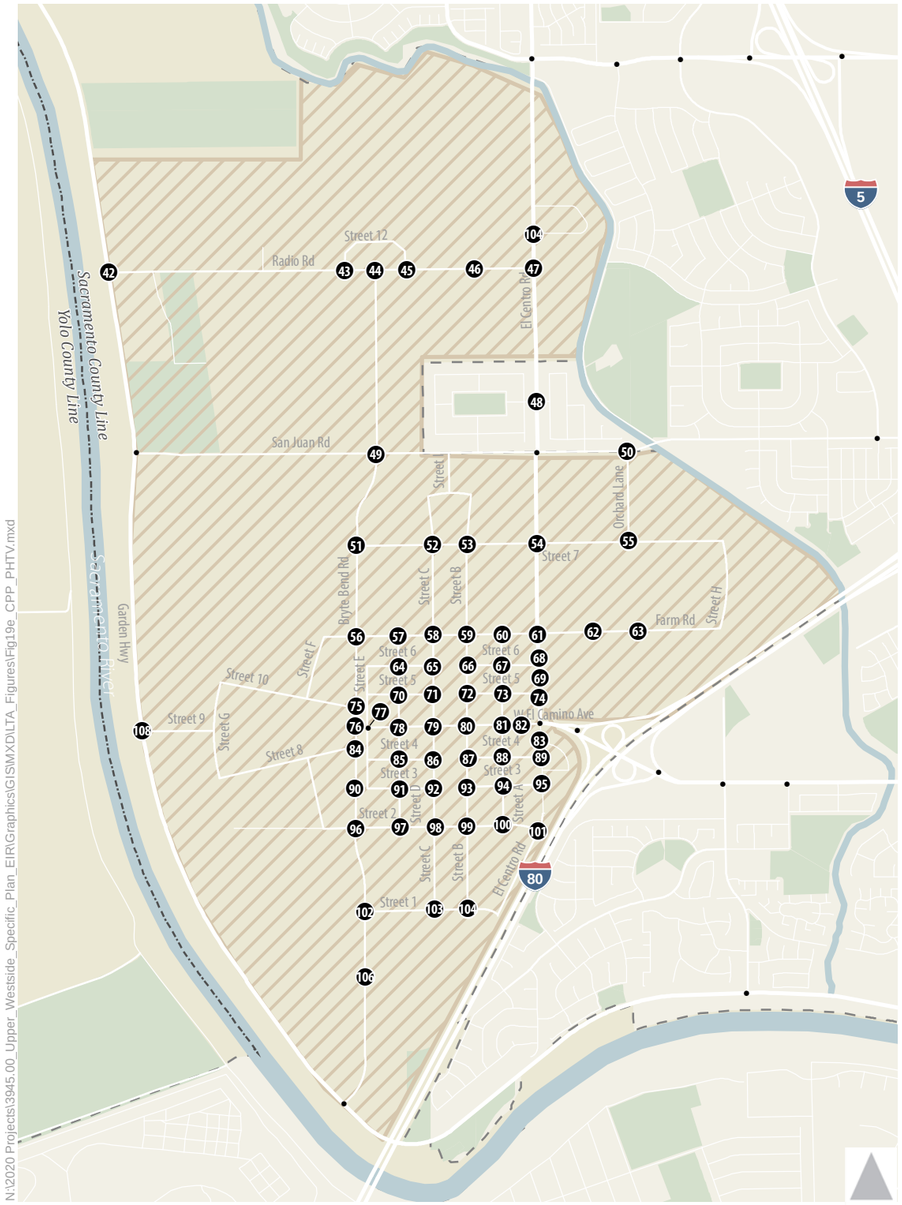
Traffic Signal

Stop Sign

Roundabout

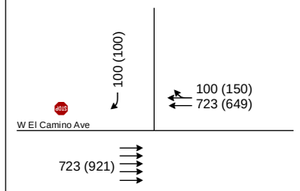
Figure 19d

# Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus Project Conditions

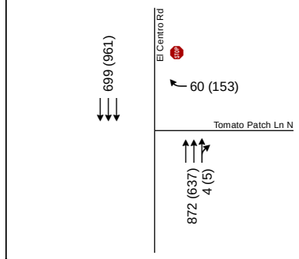



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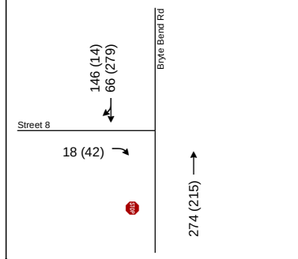
### 82. Parking Garage/W El Camino Ave



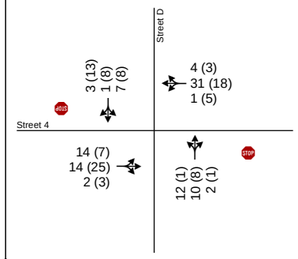

### 83. El Centro Rd/Tomato Patch Ln N



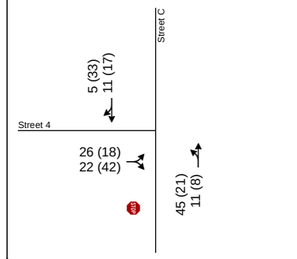

### 84. Bryte Bend Rd/Street 8



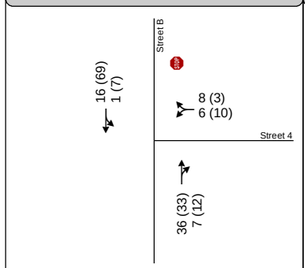

### 85. Street D/Street 4



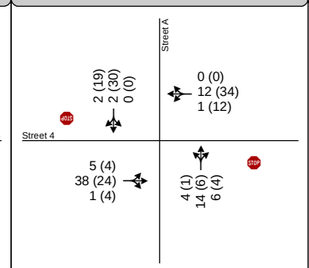

### 86. Street C/Street 4



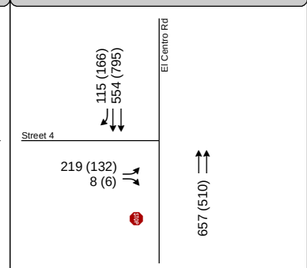

### 87. Street B/Street 4



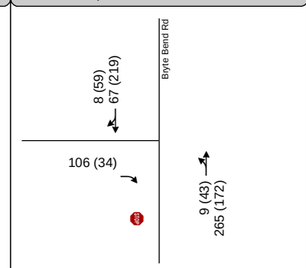

### 88. Street A/Street 4



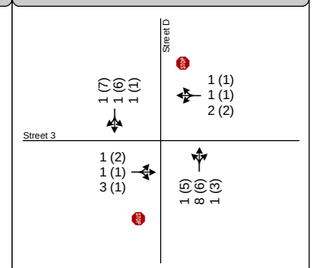

### 89. El Centro Rd/Street 4



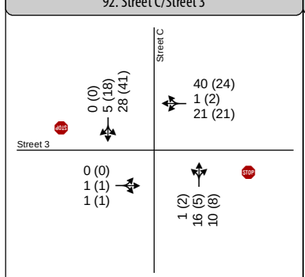

### 90. Bryte Bend Rd/MDR/HDR Access



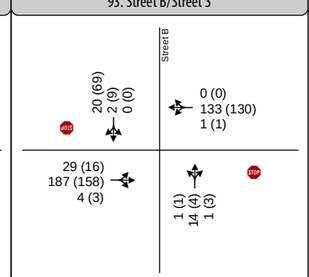

### 91. Street D/Street 3



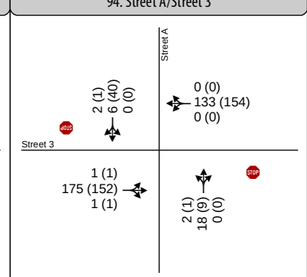

### 92. Street C/Street 3



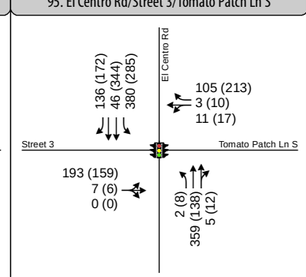

### 93. Street B/Street 3



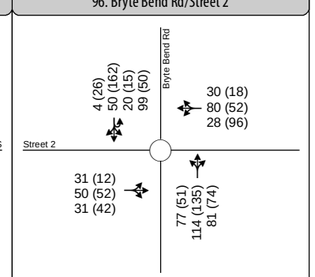

### 94. Street A/Street 3



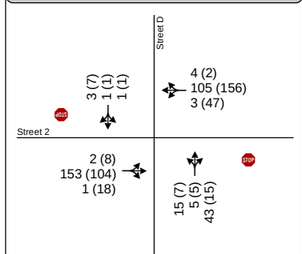

### 95. El Centro Rd/Street 3/Tomato Patch Ln S



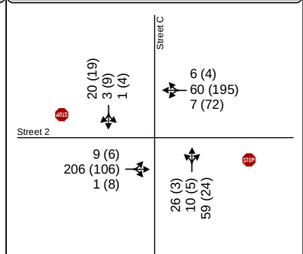

### 96. Bryte Bend Rd/Street 2



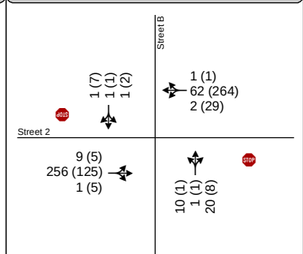

### 97. Street D/Street 2



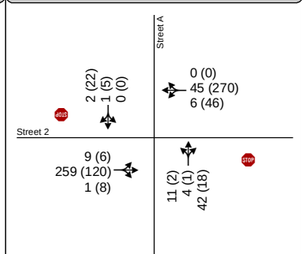

### 98. Street C/Street 2



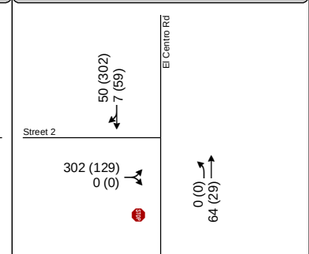

### 99. Street B/Street 2




### 100. Street A/Street 2




### 101. El Centro Rd/Street 2




1 Project Study Intersection

• Study Intersection (See Figures 19a - 19b)

Upper Westside Specific Plan Boundary

City Boundary

County Boundary

Turn Lane

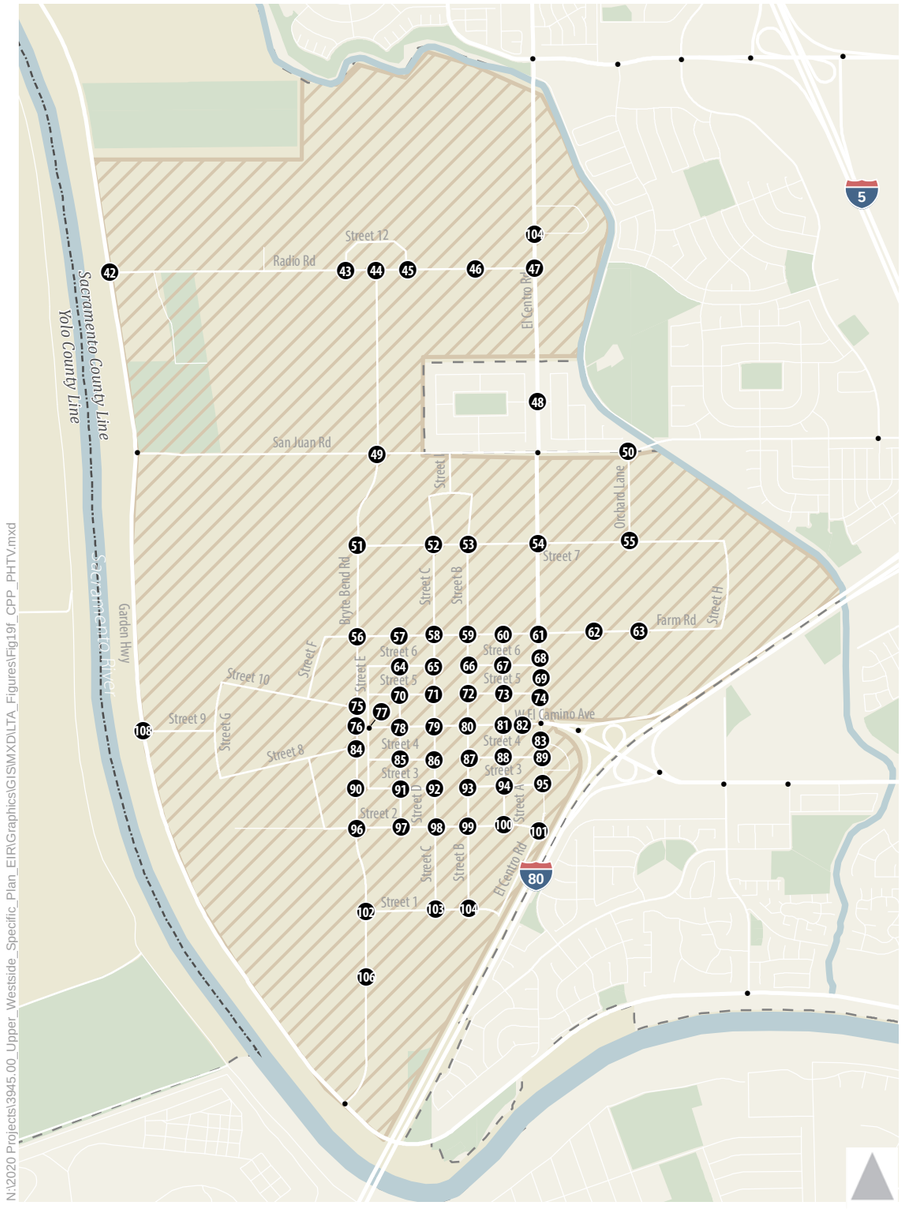
AM (PM) Peak Hour Traffic Volume

Traffic Signal

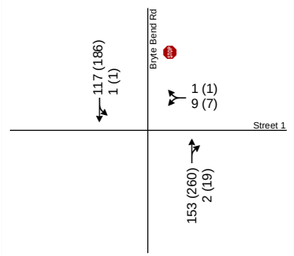
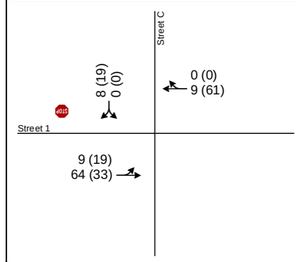
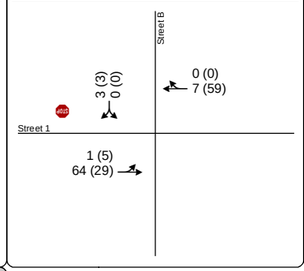
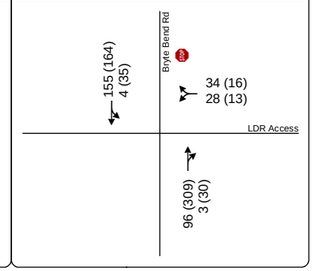
Stop Sign

Figure 19e

## Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus Project Conditions




N:\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\Graphics\GIS\MXD\LTA_Figures\Fig19f_CPP_PHTV.mxd

| 102. Bryte Bend Rd/Street 1 | 103. Street C/Street 1 | 104. Street B/Street 1 | 105. El Centro Rd/Street 1 | 106. Bryte Bend Rd/LDR Access |
|---|---|---|---|---|
|  |  |  | Intersection Does Not Exist |  |



| 107. Bryte Bend Rd/El Centro Rd | 108. Bryte Bend Rd/El Centro Rd |
|---|---|
| Intersection Does Not Exist |  |



- Project Study Intersection
- Study Intersection (See Figures 19a - 19b)
- Upper Westside Specific Plan Boundary
- City Boundary
- County Boundary
- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- Traffic Signal
- Stop Sign

Figure 19f

# Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus Project Conditions

## Roadway Segment Operations

**Table 14** displays the v/c ratio and LOS for the Sacramento County study roadway segments under cumulative conditions, without and with the project. Under cumulative no project conditions, two Sacramento County roadway segments would operate unacceptably. Under cumulative plus project conditions, 12 Sacramento County roadway segments would operate unacceptably (i.e., LOS E or F depending on segment location) including segments along San Juan Road, El Centro Road, Powerline Road, Garden Highway, Radio Road, and West El Camino Avenue.

**Table 14:**
**Sacramento County Roadway Segment Operations – Cumulative Conditions**

| Segment | LOS [1] Standard | Cumulative No Project Conditions | | | | Cumulative Plus Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Classification | ADT [2] | V/C [3] | LOS | Classification | ADT [2] | V/C [3] | LOS |
| Del Paso Road: Powerline Road to Hovnanian Drive | D | Rural, 2 lane road, <24' of pavement, <6' shoulders | 3,300 | 0.26 | C | Rural, 2 lane road, <24' of pavement, <6' shoulders | 3,400 | 0.27 | C |
| San Juan Road: Garden Highway to Bryte Bend Road | D | Rural, 2 lane road, <24' of pavement, <6' shoulders | 3,200 | 0.25 | C | Residential collector without frontage (2 lanes) | 6,200 | 0.62 | B |
| San Juan Road: Bryte Bend Road to Street I | D / E [1] | | | | | Arterial, low access control (2 lanes | 9,600 | 0.64 | B |
| San Juan Road: Street I to El Centro Road | D / E [1] | | | | | Arterial, low access control (2 lanes) | 7,800 | 0.52 | A |
| San Juan Road: El Centro Road to Orchard Lane | E | Arterial, low access control (2 lanes) | 11,000 | 0.73 | C | Arterial, low access control (2 lanes) | **15,600** | **1.04** | **F** |
| Powerline Road: Bayou Way to Del Paso Road | D | Rural, 2 lane road, <24' of pavement, <6' shoulders | 4,700 | 0.37 | D | Rural, 2 lane road, <24' of pavement, <6' shoulders | **9,500** | **0.74** | **E** |
| Powerline Road: Del Paso Road to Garden Highway | D | Rural, 2 lane road, <24' of pavement, <6' shoulders | 3,200 | 0.25 | C | Rural, 2 lane road, <24' of pavement, <6' shoulders | **8,000** | **0.63** | **E** |
| Garden Highway: Powerline Road to Radio Road | D | Rural, 2 lane road, <24' of pavement, <6' shoulders | 3,500 | 0.27 | D | Rural, 2 lane road, <24' of pavement, <6' shoulders | **8,500** | **0.66** | **E** |
| Garden Highway: Radio Road to San Juan Road | D | Rural, 2 lane road, <24' of pavement, <6' shoulders | 3,300 | 0.26 | C | Rural, 2 lane road, <24' of pavement, <6' shoulders | **7,000** | **0.55** | **E** |
| Garden Highway: San Juan Road to Street 9 | D | Rural, 2 lane road, <24' of pavement, <6' shoulders | 1,100 | 0.09 | B | Rural, 2 lane road, <24' of pavement, <6' shoulders | 2,400 | 0.12 | B |
| Garden Highway: Street 9 to Bryte Bend Road | | | | | | Rural, 2 lane road, <24' of pavement, <6' shoulders | 2,400 | 0.19 | C |
| El Centro Road: Arena Boulevard/Natomas Central Drive to Radio Road | D / E [1] | Arterial, moderate access control (2 lanes) | 14,400 | 0.80 | C | Arterial, moderate access control (4 lanes) | 35,900 | 1.00 | E |
| El Centro Road: Radio Road to San Juan Road | | | | | | Arterial, moderate access control (4 lanes) | 33,000 | 0.92 | E |
| El Centro Road: San Juan Road to Street 7 | D / E [1] | Arterial, moderate access control (2 lanes) | **23,800** | **1.32** | **F** | Arterial, moderate access control (4 lanes) | **42,100** | **1.17** | **F** |
| El Centro Road: Street 7 to Farm Road | | | | | | Arterial, moderate access control (4 lanes) | **45,600** | **1.27** | **F** |
| El Centro Road: Farm Road to Street 6 | | | | | | Arterial, moderate access control (6 lanes) | **54,300** | **1.01** | **F** |
| El Centro Road: Street 6 to Street 5 | | | | | | Arterial, moderate access control (6 lanes) | **61,000** | **1.03** | **F** |
| El Centro Road: Street 5 to El Camino Avenue | | | | | | Arterial, moderate access control (6 lanes) | **62,100** | **1.15** | **F** |
| El Centro Road: El Camino Avenue to Street 4 | D / E [1] | Arterial, low access control (2 lanes) | 2,000 | 0.13 | A | Arterial, moderate access control (6 lanes) | 20,900 | 0.70 | B |
| El Centro Road: Street 4 to Street 3 | | | | | | Arterial, low access control (4 lanes) | 16,900 | 0.56 | A |
| El Centro Road: Street 3 to Street 2 | | | | | | Arterial, low access control (4 lanes) | 8,200 | 0.27 | A |
| El Centro Road: Street 2 to Street 1 | | Does Not Exist | | | | Residential collector without frontage (2 lanes) | 900 | 0.09 | A |
| Bayou Way: Airport Boulevard to Powerline Rd | D | Rural, 2 lane road, <24' of pavement, <6' shoulders | 2,100 | 0.16 | B | Rural, 2 lane road, <24' of pavement, <6' shoulders | 4,200 | 0.33 | D |
| Bryte Bend Road: Radio Road to San Juan Road | E | Does Not Exist | | | | Arterial, low access control (2 lanes) | 5,100 | 0.34 | A |
| Bryte Bend Road: San Juan Road to Street 7 | E | | | | | Arterial, low access control (2 lanes) | 7,300 | 0.49 | A |
| Bryte Bend Road: Street 7 to Farm Road | E | | | | | Arterial, low access control (2 lanes) | 8,500 | 0.57 | A |
| Bryte Bend Road: Farm Road to Street 10 | E | | | | | Arterial, low access control (2 lanes) | 3,500 | 0.23 | A |
| Bryte Bend Road: Street 10 to El Camino Ave | E | | | | | Arterial, low access control (2 lanes) | 4,700 | 0.31 | A |
| Bryte Bend Road: El Camino Avenue to Street 8 | E | | | | | Arterial, low access control (2 lanes) | 3,200 | 0.21 | A |

**Table 14:**
**Sacramento County Roadway Segment Operations – Cumulative Conditions**

| Segment | LOS [1] Standard | Cumulative No Project Conditions | | | | Cumulative Plus Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Classification | ADT [2] | V/C [3] | LOS | Classification | ADT [2] | V/C [3] | LOS |
| Bryte Bend Road: Street 8 to Street 2 | E | | | | | Arterial, low access control (2 lanes) | 2,600 | 0.17 | A |
| Bryte Bend Road: Street 2 to Street 1 | E | | | | | Arterial, low access control (2 lanes) | 3,700 | 0.25 | A |
| Bryte Bend Road: Street 1 Road to Garden Hwy | E | | | | | Residential collector without frontage (2 lanes | 2,900 | 0.29 | A |
| Street A: Farm Road to Street 6 | E | | | | | Residential collector without frontage (2 lanes) | 2,500 | 0.25 | A |
| Street A: Street 6 to Street 5 | E | Does Not Exist | | | | Residential collector without frontage (2 lanes) | 3,000 | 0.30 | A |
| Street A: Street 5 to El Camino Avenue | E | | | | | Residential collector without frontage (2 lanes) | 7,100 | 0.28 | A |
| Street A: El Camino Avenue to Street 4 | E | | | | | Residential collector without frontage (2 lanes) | 3,900 | 0.39 | A |
| Street A: Street 4 to Street 3 | E | | | | | Residential collector without frontage (2 lanes) | 300 | 0.03 | A |
| Street A: Street 3 to Street 2 | E | | | | | Residential collector without frontage (2 lanes) | 300 | 0.03 | A |
| Street B: Street I to Street 7 | E | | | | | Residential collector without frontage (2 lanes) | 1,800 | 0.18 | A |
| Street B: Street 7 to Farm Road | E | | | | | Residential collector without frontage (2 lanes) | 1,700 | 0.17 | A |
| Street B: Farm Road to Street 6 | E | | | | | Residential collector without frontage (2 lanes) | 2,100 | 0.21 | A |
| Street B: Street 6 to Street 5 | E | | | | | Residential collector without frontage (2 lanes) | 2,200 | 0.22 | A |
| Street B: Street 5 to El Camino Avenue | E | | | | | Residential collector without frontage (2 lanes) | 1,000 | 0.10 | A |
| Street B: El Camino Avenue to Street 4 | E | | | | | Residential collector without frontage (2 lanes) | 1,200 | 0.12 | A |
| Street B: Street 4 to Street 3 | E | | | | | Residential collector without frontage (2 lanes) | 800 | 0.08 | A |
| Street B: Street 3 to Street 2 | E | | | | | Residential collector without frontage (2 lanes) | 100 | 0.01 | A |
| Street B: Street 2 to Street 1 | E | | | | | Residential collector without frontage (2 lanes) | 300 | 0.03 | A |
| Street C: Street I to Street 7 | E | | | | | Residential collector without frontage (2 lanes) | 200 | 0.02 | A |
| Street C: Street 7 to Farm Road | E | | | | | Residential collector without frontage (2 lanes) | 800 | 0.08 | A |
| Street C: Farm Road to Street 6 | E | | | | | Residential collector without frontage (2 lanes) | 2,300 | 0.23 | A |
| Street C: Street 6 to Street 5 | E | | | | | Residential collector without frontage (2 lanes) | 1,600 | 0.16 | A |
| Street C: Street 5 to El Camino Avenue | E | | | | | Residential collector without frontage (2 lanes) | 1,500 | 0.15 | A |
| Street C: El Camino Avenue to Street 4 | E | | | | | Residential collector without frontage (2 lanes) | 3,200 | 0.32 | A |
| Street C: Street 4 to Street 3 | E | Does Not Exist | | | | Residential collector without frontage (2 lanes) | 800 | 0.08 | A |
| Street C: Street 3 to Street 2 | E | | | | | Residential collector without frontage (2 lanes) | 400 | 0.04 | A |
| Street C: Street 2 to Street 1 | E | | | | | Residential collector without frontage (2 lanes) | 1,200 | 0.12 | A |
| Street D: Farm Road to Street 6 | E | | | | | Residential collector without frontage (2 lanes) | 1,300 | 0.13 | A |
| Street D: Street 6 to Street 5 | E | | | | | Residential collector without frontage (2 lanes) | 1,400 | 0.14 | A |

**Table 14:**
**Sacramento County Roadway Segment Operations – Cumulative Conditions**

| Segment | LOS [1] Standard | Cumulative No Project Conditions | | | | Cumulative Plus Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Classification | ADT [2] | V/C [3] | LOS | Classification | ADT [2] | V/C [3] | LOS |
| Street D: Street 5 to El Camino Avenue | E | | | | | Residential collector without frontage (2 lanes) | 1,200 | 0.12 | A |
| Street D: El Camino Avenue to Street 4 | E | | | | | Residential collector without frontage (2 lanes) | 2,900 | 0.29 | A |
| Street D: Street 4 to Street 3 | E | | | | | Residential collector without frontage (2 lanes) | 200 | 0.02 | A |
| Street D: Street 3 to Street 2 | E | | | | | Residential collector without frontage (2 lanes) | 100 | 0.01 | A |
| Street E: Street 6 to Street 5 | E | | | | | Residential collector without frontage (2 lanes) | 100 | 0.01 | A |
| Street E: Street 5 to El Camino Avenue | E | | | | | Residential collector without frontage (2 lanes) | 100 | 0.01 | A |
| Street E: El Camino Avenue to Street 4 | E | | | | | Residential collector without frontage (2 lanes) | 1,400 | 0.14 | A |
| Street E: Street 4 to Street 3 | E | | | | | Residential collector without frontage (2 lanes) | 200 | 0.02 | A |
| Street F: Street 10 to Farm Road | E | | | | | Residential collector without frontage (2 lanes) | 1,200 | 0.12 | A |
| Street F: Street 8 to Street 2 | E | | | | | Residential collector without frontage (2 lanes) | 1,100 | 0.11 | A |
| Street G: Street 10 to Street 9 | E | | | | | Residential collector without frontage (2 lanes) | 100 | 0.01 | A |
| Street G: Street 9 to Street 8 | E | | | | | Residential collector without frontage (2 lanes) | 1,000 | 0.10 | A |
| Street H: Street 7 to Farm Road | E | | | | | Residential collector without frontage (2 lanes) | 900 | 0.09 | A |
| Street I: San Juan Road to Street C/Street B | E | | | | | Residential collector without frontage (2 lanes) | 1,200 | 0.12 | A |
| Radio Road: Garden Highway to Street 12 | D / E | Does Not Exist | | | | Residential collector without frontage (2 lanes) | 1,400 | 0.14 | A |
| Radio Road: Street 12 (W) to Bryte Bend Road | E | | | | | Arterial, low access control (2 lanes) | 1,000 | 0.07 | A |
| Radio Road: Bryte Bend Road to Street 12 | E | | | | | Arterial, low access control (2 lanes) | 4,300 | 0.29 | A |
| Radio Road: Street 12 (E) to El Centro Road | E | | | | | Arterial, low access control (2 lanes) | **17,100** | **1.14** | **F** |
| El Camino Avenue: El Centro Road to I-80 WB Ramps | E | Arterial, low access control (2 lanes) | **26,200** | **1.75** | **F** | Arterial, moderate access control (6 lanes) | **88,700** | **1.48** | **F** |
| El Camino Avenue: El Centro Road to Street A | E | | | | | Arterial, low access control (4 lanes) | 18,800 | 0.63 | B |
| El Camino Avenue: Street A to Street B | E | | | | | Arterial, low access control (2 lanes) | 11,000 | 0.73 | C |
| El Camino Avenue: Street B to Street C | E | | | | | Arterial, low access control (2 lanes) | 11,600 | 0.77 | C |
| El Camino Avenue: Street C to Street D | E | | | | | Arterial, low access control (2 lanes) | 6,400 | 0.43 | A |
| El Camino Avenue: Street D to Street E | E | | | | | Arterial, low access control (2 lanes) | 2,700 | 0.18 | A |
| El Camino Avenue: Street E to Bryte Bend Road | E | | | | | Arterial, low access control (2 lanes) | 4,700 | 0.31 | A |
| Street 1: El Centro Road to Street B | E | | | | | Residential collector without frontage (2 lanes) | 900 | 0.09 | A |
| Street 1: Street B to Street C | E | | | | | Residential collector without frontage (2 lanes) | 900 | 0.09 | A |
| Street 1: Street C to Bryte Bend Road | E | | | | | Residential collector without frontage (2 lanes) | 1,100 | 0.11 | A |
| Street 2: El Centro Road to Street A | E | | | | | Arterial, low access control (2 lanes) | 5,300 | 0.35 | A |

**Table 14:**
**Sacramento County Roadway Segment Operations – Cumulative Conditions**

| Segment | LOS [1] Standard | Cumulative No Project Conditions | | | | Cumulative Plus Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Classification | ADT [2] | V/C [3] | LOS | Classification | ADT [2] | V/C [3] | LOS |
| Street 2: Street A to Street B | E | | | | | Arterial, low access control (2 lanes) | 5,000 | 0.33 | A |
| Street 2: Street B to Street C | E | | | | | Arterial, low access control (2 lanes) | 4,900 | 0.33 | A |
| Street 2: Street C to Street D | E | | | | | Arterial, low access control (2 lanes) | 4,100 | 0.27 | A |
| Street 2: Street D to Bryte Bend Road | E | | | | | Arterial, low access control (2 lanes) | 3,300 | 0.22 | A |
| Street 2: Bryte Bend Road to Street F | E | | | | | Arterial, low access control (2 lanes) | 2,400 | 0.16 | A |
| Street 3: El Centro Road to Street A | E | | | | | Residential collector without frontage (2 lanes) | 4,700 | 0.47 | A |
| Street 3: Street A to Street B | E | | | | | Residential collector without frontage (2 lanes) | 4,300 | 0.43 | A |
| Street 3: Street C to Street D | E | | | | | Residential collector without frontage (2 lanes) | 100 | 0.01 | A |
| Street 4: El Centro Road to Street A | E | | | | | Residential collector without frontage (2 lanes) | 4,200 | 0.42 | A |
| Street 4: Street A to Street B | E | | | | | Residential collector without frontage (2 lanes) | 800 | 0.08 | A |
| Street 4: Street C to Street D | E | | | | | Residential collector without frontage (2 lanes) | 1,100 | 0.11 | A |
| Street 4: Street D to Street E | E | | | | | Residential collector without frontage (2 lanes) | 100 | 0.01 | A |
| Street 5: El Centro Road to Street A | E | | | | | Residential collector without frontage (2 lanes) | 2,600 | 0.26 | A |
| Street 5: Street A to Street B | E | | | | | Residential collector without frontage (2 lanes) | 2,300 | 0.23 | A |
| Street 5: Street C to Street D | E | Does Not Exist | | | | Residential collector without frontage (2 lanes) | 1,400 | 0.14 | A |
| Street 5: Street D to Street E | E | | | | | Residential collector without frontage (2 lanes) | 300 | 0.03 | A |
| Street 6: El Centro Road to Street A | E | | | | | Residential collector without frontage (2 lanes) | 1,500 | 0.15 | A |
| Street 6: Street A to Street B | E | | | | | Residential collector without frontage (2 lanes) | 1,800 | 0.18 | A |
| Street 6: Street C to Street D | E | | | | | Residential collector without frontage (2 lanes) | 300 | 0.03 | A |
| Street 6: Street D to Street E | E | | | | | Residential collector without frontage (2 lanes) | 200 | 0.02 | A |
| Farm Road: Street H to El Centro Road | E | | | | | Arterial, low access control (6 lanes) | 16,300 | 0.36 | A |
| Farm Road: El Centro Road to Street A | E | | | | | Arterial, low access control (2 lanes) | 13,500 | 0.90 | D |
| Farm Road: Street A to Street B | E | | | | | Arterial, low access control (2 lanes) | 11,300 | 0.75 | C |
| Farm Road: Street B to Street C | E | | | | | Arterial, low access control (2 lanes) | 9,200 | 0.61 | B |
| Farm Road: Street C to Street D | E | | | | | Arterial, low access control (2 lanes) | 7,200 | 0.48 | A |
| Farm Road: Street D to Bryte Bend Road | E | Does Not Exist | | | | Arterial, low access control (2 lanes) | 6,200 | 0.41 | A |
| Farm Road: Bryte Bend Road to Street F | E | | | | | Arterial, low access control (2 lanes) | 3,100 | 0.21 | A |
| Street 7: Street H to Orchard Lane | E | | | | | Residential collector without frontage (2 lanes) | 1,000 | 0.10 | A |
| Street 7: Orchard Lane to El Centro Road | E | | | | | Residential collector without frontage (2 lanes) | 3,400 | 0.34 | A |

**Table 14:**
**Sacramento County Roadway Segment Operations – Cumulative Conditions**

| Segment | LOS [1] Standard | Cumulative No Project Conditions | | | | Cumulative Plus Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Classification | ADT [2] | V/C [3] | LOS | Classification | ADT [2] | V/C [3] | LOS |
| Street 7: El Centro Road to Street B | E | | | | | Residential collector without frontage (2 lanes) | 100 | 0.01 | A |
| Street 7: Street B to Street C | E | | | | | Residential collector without frontage (2 lanes) | 300 | 0.03 | A |
| Street 7: Street C to Bryte Bend Road | E | | | | | Residential collector without frontage (2 lanes) | 100 | 0.01 | A |
| Street 8: Street 2 to Bryte Bend Rd | E | | | | | Residential collector without frontage (2 lanes) | 800 | 0.08 | A |
| Street 8: Street G to Street F | E | | | | | Residential collector without frontage (2 lanes) | 1,000 | 0.10 | A |
| Street 9: Street G to Garden Highway | E | | | | | Residential collector without frontage (2 lanes) | 1,000 | 0.10 | A |
| Street 10: Street F to Bryte Bend Rd | E | | | | | Residential collector without frontage (2 lanes) | 100 | 0.01 | A |
| Street 10: Street G to Garden Highway | E | | | | | Residential collector without frontage (2 lanes) | 900 | 0.09 | A |
| Street 12 (East): north of Radio Road | E | | | | | Residential collector without frontage (2 lanes) | 8,700 | 0.87 | D |
| Bryte Bend LDR Access: Bryte Bend Road to El Centro Road | E | | | | | Residential collector without frontage (2 lanes) | 100 | 0.01 | A |
| Orchard Lane: San Juan Road to Street 7 | E | | | | | Residential collector without frontage (2 lanes) | 2,500 | 0.25 | A |

Notes:
1. D / E = Cumulative No Project Standard / Cumulative Plus Project Standard (due to study area becoming urbanized).
2. ADT = average daily traffic volume; ADT values are rounded to the nearest 100 vehicles.
3. V/C = volume-to-capacity ratio.

Bolded cells represent unacceptable operations.

Source: Fehr & Peers, 2021.

## Intersection Operations

The substantial growth in background traffic in the study area contributes to degraded operations at a number of currently existing study intersections under cumulative conditions. Implementation of the proposed project would substantially worsen conditions at many of those locations and also worsen conditions to unacceptable levels at other locations. **Table 15** summarizes the number of existing study intersections (operating either as signals, roundabout or all-way stop) that would operate at LOS F during each peak hour under both cumulative scenarios.

**Table 15:**
**Intersection LOS Summary – Cumulative Conditions**

| Metric | Cumulative No Project | | Cumulative Plus Project | |
|---|---|---|---|---|
| | AM Peak Hour | PM Peak Hour | AM Peak Hour | PM Peak Hour |
| *Currently Existing Study Intersections (Operated with a Traffic Signal or All-Way Stop)* [1] | | | | |
| Intersections Operating at LOS D or better | 21 | 18 | 15 | 7 |
| Intersections Operating at LOS E | 5 | 6 | 1 | 4 |
| Intersections Operating at LOS F | 8 | 10 | 18 | 23 |
| Total Intersections | 34 | 34 | 34 | 34 |
| Percent Operating at LOS F | 24% | 29% | 53% | 68% |
| *Project Site Study Intersections (Operated with a Traffic Signal, All-Way Stop, or Roundabout)* [1] | | | | |
| Intersections Operating at LOS E or better | Do Not Exist | | 14 | 14 |
| Intersections Operating at LOS F | | | 2 | 2 |
| Total Intersections | | | 16 | 16 |
| Percent Operating at LOS F | | | 13% | 13% |

Notes:
1. Side-street stop intersections excluded because LOS F on a side-street is not as meaningful (i.e., volume could be low, downstream queuing effects, etc.).

Source: Fehr & Peers, 2021

This table indicates that among existing 34 signalized or all-way stop study intersections, the project would cause the number that would operate at LOS F under cumulative conditions to more than double, resulting in slightly more than half of all intersections operating at LOS F during the AM peak hour and nearly 70 percent operating at LOS F during the PM peak hour. Conversely, all but two study intersections within the site would operate at LOS E or better.

**Table 16** shows the average delay and LOS at all study intersections under cumulative conditions, without and with the project. Under cumulative no project conditions, traffic signal timings were reoptimized to

accommodate changes in travel demands. Under cumulative plus project conditions at off-site intersections, signal timings were assumed to remain the same as cumulative no project conditions. Thus, the only change in operating conditions at these locations would be the addition of project trips. Refer to separately bound **Appendix D** for technical calculations.

**Table 16:**
**Intersection Level of Service – Cumulative Conditions**

| Intersection | Traffic Control[1] | Agency | Cumulative No Project Conditions | | | | Cumulative Plus Project Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| | | | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS |
| 1. Powerline Road/Bayou Way | SSSC | Sac Co | 3 (23) | A (C) | 328 (981) | F (F) | **4 (41)** | **A (E)** | **737 (2294)** | **F (F)** |
| 2. Powerline Road/Del Paso Road | SSSC | Sac Co | 6 (17) | A (C) | 5 (15) | A (B) | 9 (29) | A (D) | 3 (27) | A (D) |
| 3. Powerline Road/Garden Highway | SSSC | Sac Co | 0 (10) | A (B) | 3 (10) | A (B) | 2 (13) | A (B) | 7 (19) | A (C) |
| 4. Garden Highway/San Juan Road | SSSC | Sac Co | 7 (11) | A (B) | 4 (5) | A (A) | 6 (12) | A (B) | 4 (10) | A (A) |
| 5. Garden Highway/Bryte Bend Road | SSSC | Sac Co | 0 (10) | A (A) | 0 (9) | A (A) | 4 (12) | A (B) | 3 (13) | A (B) |
| 6. Orchard Lane/Garden Highway | SSSC | City of Sac | 8 (12) | A (B) | 4 (10) | A (A) | 10 (27) | B (D) | 2 (18) | A (C) |
| 7. Gateway Oaks Drive/Garden Highway | Signal | City of Sac | 32 | C | 97 | F | 69 | E | 175 | F |
| 8. I-5 SB Ramps/Garden Highway | Signal | Caltrans | 85 | F | 157 | F | 123 | F | 132 | F |
| 9. I-5 NB Ramps/Garden Highway | Signal | Caltrans | 91 | F | 145 | F | 114 | F | 111 | F |
| 10. Natomas Park Drive/Garden Highway | Signal | City of Sac | 117 | F | 129 | F | 140 | F | 116 | F |
| 11. Truxel Road/Garden Highway | Signal | City of Sac | 144 | F | 149 | F | 158 | F | 172 | F |
| 12. El Centro Road/Del Paso Road | Signal | City of Sac | 70 | E | 56 | E | 119 | F | 81 | F |
| 13. El Centro Road/Duckhorn Drive | SSSC | City of Sac | 3 (13) | A (B) | 4 (14) | A (B) | 55 (501) | F (F) | 27 (266) | D (F) |
| 14. El Centro Road/Manera Rica Drive | Signal | City of Sac | 10 | A | 13 | B | 10 | A | 13 | B |
| 15. El Centro Road/Arena Boulevard/Natomas Central Dr | Signal | City of Sac | 39 | D | 26 | C | 132 | F | 126 | F |
| 16. El Centro Road/San Juan Road | AWSC / Signal | City of Sac / Sac Co | 230 | F | 222 | F | 46 | D | 30 | C |
| 17. El Centro Road/El Camino Avenue | Signal | Sac Co | 54 | D | 54 | D | **115** | **F** | **131** | **F** |

**Table 16:**
**Intersection Level of Service – Cumulative Conditions**

| Intersection | Traffic Control[1] | Agency | Cumulative No Project Conditions | | | | Cumulative Plus Project Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| | | | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS |
| 18. Hovnanian Drive/Del Paso Road | Signal | City of Sac | 31 | C | 16 | B | 46 | D | 17 | B |
| 19. Natomas Central Drive/Del Paso Road | Signal | City of Sac | 202 | F | 15 | B | 194 | F | 16 | B |
| 20. I-5 SB Ramps/Del Paso Road | Signal | Caltrans | 10 | A | 58 | E | 23 | C | 69 | E |
| 21. I-5 NB Ramps/Del Paso Road | Signal | Caltrans | 12 | B | 108 | F | 14 | B | 110 | F |
| 22. East Commerce Way/Del Paso Road | Signal | City of Sac | 69 | E | 105 | F | 81 | F | 110 | F |
| 23. Truxel Road/Del Paso Road | Signal | City of Sac | 88 | F | 98 | F | 124 | F | 109 | F |
| 24. Stemmler Drive/Arena Boulevard | Signal | City of Sac | 72 | E | 13 | B | 127 | F | 111 | F |
| 25. Duckhorn Drive/Arena Boulevard | Signal | City of Sac | 56 | E | 47 | D | 152 | F | 133 | F |
| 26. I-5 SB Ramps/Arena Boulevard | Signal | Caltrans | 10 | B | 6 | A | 165 | F | 109 | F |
| 27. I-5 NB Ramps/Arena Boulevard | Signal | Caltrans | 24 | C | 73 | E | 237 | F | 226 | F |
| 28. East Commerce Way/Arena Boulevard | Signal | City of Sac | 69 | E | 67 | E | 102 | F | 91 | F |
| 29. South Entrance Rd/Innovator Dr/Arena Blvd | Signal | City of Sac | 23 | C | 22 | C | 24 | C | 22 | C |
| 30. Truxel Road/Arena Boulevard | Signal | City of Sac | 47 | D | 58 | E | 51 | D | 81 | F |
| 31. Duckhorn Drive/San Juan Road | Signal | City of Sac | 17 | B | 15 | B | 20 | B | 16 | B |
| 32. Truxel Road/San Juan Road | Signal | City of Sac | 47 | D | 97 | F | 48 | D | 124 | F |
| 33. I-80 WB Ramps/W. El Camino Avenue | Signal | Caltrans | 12 | B | 9 | A | 165 | F | 148 | F |
| 34. I-80 EB Ramps/W. El Camino Avenue | Signal | Caltrans | 11 | B | 12 | B | 154 | F | 278 | F |
| 35. Orchard Lane/W. El Camino Avenue | Signal | City of Sac | 38 | D | 27 | C | 32 | C | 79 | E |

**Table 16:**
**Intersection Level of Service – Cumulative Conditions**

| Intersection | Traffic Control[1] | Agency | Cumulative No Project Conditions | | | | Cumulative Plus Project Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| | | | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS |
| 36. West River Drive/W. El Camino Avenue | Signal | City of Sac | 21 | C | 14 | B | 25 | C | 56 | E |
| 37. Gateway Oaks Drive/W. El Camino Avenue | Signal | City of Sac | 28 | C | 52 | D | 42 | D | 126 | F |
| 38. I-5 SB Ramps/W. El Camino Avenue | Free | Caltrans | 3 | A | 1 | A | 11 | B | 83 | F |
| 39. I-5 NB Ramps/W. El Camino Avenue | Signal | Caltrans | 14 | B | 7 | A | 23 | C | 148 | F |
| 40. Natomas Park Drive/W. El Camino Avenue | Signal | City of Sac | 28 | C | 43 | D | 24 | C | 34 | C |
| 41. Truxel Road/W. El Camino Avenue | Signal | City of Sac | 83 | F | 66 | E | 87 | F | 68 | E |
| 42. Garden Highway/Radio Road | SSSC | Sac Co | Does Not Exist | | | | 2 (12) | A (B) | 2 (9) | A (A) |
| 43. Street 12 (W)/Radio Road | SSSC | Sac Co | | | | | 4 (10) | A (A) | 4 (10) | A (A) |
| 44. Bryte Bend Road/Radio Road | RAB | Sac Co | | | | | 5 | A | 4 | A |
| 45. Street 12 (E)/Radio Road | SSSC | Sac Co | | | | | **15 (68)** | **B (F)** | 10 (27) | A (D) |
| 46. High School Access/Radio Road | Signal | Sac Co | | | | | 41 | D | 24 | C |
| 47. El Centro Road/Radio Road | Signal | Sac Co | | | | | 40 | D | 35 | C |
| 48. Moscatel Avenue/El Centro Road | SSSC | Sac Co | | | | | 1 (19) | A (C) | 1 (16) | A (C) |
| 49. San Juan Road/Bryte Bend Road | RAB | Sac Co | | | | | 12 | B | 6 | A |
| 50. San Juan Road/Orchard Lane | SSSC | Sac Co | Does Not Exist | | | | **6 (56)** | **A (F)** | 2 (27) | A (D) |
| 51. Street 7/Bryte Bend Road | SSSC | Sac Co | | | | | 0 (15) | A (C) | 0 (15) | A (B) |
| 52. Street 7/Street C | SSSC | Sac Co | | | | | 6 (9) | A (A) | 8 (9) | A (A) |

**Table 16:**
**Intersection Level of Service – Cumulative Conditions**

| Intersection | Traffic Control[1] | Agency | Cumulative No Project Conditions | | | | Cumulative Plus Project Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| | | | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS |
| 53. Street 7/Street B | SSSC | Sac Co | Does Not Exist | | | | 9 (11) | A (B) | 10 (11) | A (B) |
| 54. Street 7/El Cerrito Road | Signal | Sac Co | | | | | 27 | C | 32 | C |
| 55. Street 7/Orchard Lane | AWSC | Sac Co | | | | | 11 | B | 9 | A |
| 56. Farm Road/Bryte Bend Road | RAB | Sac Co | | | | | 8 | A | 7 | A |
| 57. Farm Road/Street D | SSSC | Sac Co | | | | | 3 (17) | A (C) | 2 (16) | A (C) |
| 58. Farm Road/Street C | SSSC | Sac Co | | | | | 3 (23) | A (C) | 3 (23) | A (C) |
| 59. Farm Road/Street B | SSSC | Sac Co | | | | | 9 (75) | A (F) | 7 (40) | A (E) |
| 60. Farm Road/Street A | SSSC | Sac Co | | | | | 4 (49) | A (E) | 6 (55) | A (F) |
| 61. El Centro Road/Farm Road | Signal | Sac Co | | | | | **346** | **F** | **375** | **F** |
| 62. MDR Access/Farm Road | SSSC | Sac Co | | | | | 192 (470) | F (F) | 148 (446) | F (F) |
| 63. Orchard Lane/Farm Road/CMU Driveway | Signal | Sac Co | | | | | **247** | **F** | **242** | **F** |
| 64. Street 6/Street D | SSSC | Sac Co | | | | | 2 (10) | A (A) | 2 (10) | A (A) |
| 65. Street 6/Street C | SSSC | Sac Co | | | | | 4 (10) | A (B) | 4 (10) | A (B) |
| 66. Street 6/Street B | SSSC | Sac Co | | | | | 8 (13) | A (B) | 7 (13) | A (B) |
| 67. Street 6/Street A | SSSC | Sac Co | Does Not Exist | | | | 4 (12) | A (B) | 2 (13) | A (B) |
| 68. El Centro Road/Street 6 | SSSC | Sac Co | | | | | 51 (276) | F (F) | 62 (110) | F (F) |
| 69. El Centro Road/CMU/EHC Driveway | SSSC | Sac Co | | | | | 22 (61) | C (F) | 64 (406) | F (F) |

**Table 16:**
**Intersection Level of Service – Cumulative Conditions**

| Intersection | Traffic Control[1] | Agency | Cumulative No Project Conditions | | | | Cumulative Plus Project Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| | | | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS |
| 70. Street 5/Street D | SSSC | Sac Co | Does Not Exist | | | | 2 (10) | A (B) | 2 (10) | A (B) |
| 71. Street 5/Street C | SSSC | Sac Co | | | | | 3 (9) | A (A) | 4 (10) | A (B) |
| 72. Street 5/Street B | SSSC | Sac Co | | | | | 4 (9) | A (A) | 5 (9) | A (A) |
| 73. Street 5/Street A | SSSC | Sac Co | | | | | 7 (13) | A (B) | 9 (18) | A (C) |
| 74. El Centro Road/Street 5 | SSSC | Sac Co | | | | | 17 (900) | C (F) | 33 (900) | D (F) |
| 75. Street 10/Bryte Bend Road | SSSC | Sac Co | | | | | 1 (10) | A (A) | 1 (11) | A (B) |
| 76. W. El Camino Avenue/Bryte Bend Road | RAB | Sac Co | | | | | 6 | A | 5 | A |
| 77. Street E/W. El Camino Avenue | SSSC | Sac Co | | | | | 4 (7) | A (A) | 3 (6) | A (A) |
| 78. Street D/W. El Camino Avenue | AWSC | Sac Co | | | | | 8 (12) | A (B) | 7 (11) | A (B) |
| 79. Street C/W. El Camino Avenue | AWSC | Sac Co | | | | | 11 | B | 10 | A |
| 80. Street B/W. El Camino Avenue | AWSC | Sac Co | | | | | 10 | B | 12 | B |
| 81. Street A/W. El Camino Avenue | Signal | Sac Co | | | | | 19 | B | 58 | E |
| 82. Parking Garage/W. El Camino Avenue | SSSC | Sac Co | | | | | 6 (7) | A (A) | 15 (29) | B (D) |
| 83. El Centro Road/Tomato Patch Lane N | SSSC | Sac Co | Does Not Exist | | | | 2 (20) | A (C) | 6 (37) | A (E) |
| 84. Street 8/Bryte Bend Road | SSSC | Sac Co | | | | | 0 (9) | A (A) | 1 (10) | A (B) |
| 85. Street 4/Street D | SSSC | Sac Co | | | | | 4 (10) | A (A) | 5 (10) | A (A) |
| 86. Street 4/Street C | SSSC | Sac Co | | | | | 7 (9) | A (A) | 5 (9) | A (A) |

**Table 16:**
**Intersection Level of Service – Cumulative Conditions**

| Intersection | Traffic Control[1] | Agency | Cumulative No Project Conditions | | | | Cumulative Plus Project Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| | | | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS |
| 87. Street 4/Street B | SSSC | Sac Co | Does Not Exist | | | | 2 (9) | A (A) | 1 (9) | A (A) |
| 88. Street 4/Street A | SSSC | Sac Co | | | | | 4 (10) | A (A) | 5 (10) | A (A) |
| 89. El Centro Road/Street 4 | SSSC | Sac Co | | | | | 10 (53) | A (F) | 7 (52) | A (F) |
| 90. MDR/HDR Access/Bryte Bend Road | SSSC | Sac Co | | | | | 2 (9) | A (A) | 1 (10) | A (B) |
| 91. Street 3/Street D | SSSC | Sac Co | | | | | 4 (9) | A (A) | 3 (9) | A (A) |
| 92. Street 3/Street C | SSSC | Sac Co | | | | | 6 (10) | A (A) | 7 (10) | A (A) |
| 93. Street 3/Street B | SSSC | Sac Co | | | | | 2 (12) | A (B) | 3 (11) | A (B) |
| 94. Street 3/Street A | SSSC | Sac Co | | | | | 1 (12) | A (B) | 2 (12) | A (B) |
| 95. El Centro Road/Street 3/Tomato Patch Lane S | Signal | Sac Co | | | | | 15 | B | 13 | B |
| 96. Street 2/Bryte Bend Road | RAB | Sac Co | | | | | 5 | A | 5 | A |
| 97. Street 2/Street D | SSSC | Sac Co | | | | | 2 (10) | A (B) | 2 (11) | A (B) |
| 98. Street 2/Street C | SSSC | Sac Co | | | | | 3 (11) | A (B) | 3 (11) | A (B) |
| 99. Street 2/Street B | SSSC | Sac Co | | | | | 1 (11) | A (B) | 1 (11) | A (B) |
| 100. Street2/Street A | SSSC | Sac Co | Does Not Exist | | | | 2 (11) | A (B) | 2 (11) | A (B) |
| 101. El Centro Road/Street 2 | SSSC | Sac Co | | | | | 5 (6) | A (A) | 4 (5) | A (A) |
| 102. Street 1/Bryte Bend Road | SSSC | Sac Co | | | | | 0 (10) | A (B) | 0 (12) | A (B) |
| 103. Street 1/Street C | SSSC | Sac Co | | | | | 2 (9) | A (A) | 2 (9) | A (A) |

**Table 16:**
**Intersection Level of Service – Cumulative Conditions**

| Intersection | Traffic Control[1] | Agency | Cumulative No Project Conditions | | | | Cumulative Plus Project Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| | | | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS |
| 104. Street 1/Street B | SSSC | Sac Co | Does Not Exist | | | | 0 (9) | A (A) | 1 (9) | A (A) |
| 105. Street 1/El Centro Road | SSSC | Sac Co | | | | | Does Not Exist [3] | | | |
| 106. LDR Access/Bryte Bend Road | SSSC | Sac Co | | | | | 2 (10) | A (A) | 1 (12) | A (B) |
| 107. El Centro Road/Bryte Bend Road | RAB | Sac Co | | | | | Does Not Exist [3] | | | |
| 108. Street 9/Bryte Bend Road | SSSC | Sac Co | | | | | 4 (10) | A (A) | 3 (9) | A (A) |
| 109. Snowy Egret Drive/Duckhorn Drive | AWSC | City of Sac | 11 | 14 | B | 24 | 14 | B | 24 | C |
| 110. Snowy Egret Drive/E Commerce Way | Signal | City of Sac | 32 | 35 | C | 31 | 35 | C | 31 | C |
| 111. San Juan Rd/E Commerce Way | Signal | City of Sac | 22 | 33 | C | 39 | 33 | C | 39 | D |

Notes:
1. AWSC = all-way stop controlled intersection; SSSC = side-street stop controlled intersection. RAB = Roundabout.
2. The overall average intersection control delay is reported in seconds per vehicle for signalized and all-way stop controlled intersections. For side-street stop controlled intersections, the average control delay/for the movement with the greatest delay is shown in parentheses, while the average delay/for the entire intersection is shown not in parentheses.
3. Project roadway modification removed extension of El Centro Road southwesterly from Street 1 to Bryte Bend Road. Hence, these intersections no longer exist.

Bolded cells represent unacceptable operations, based on the County's Level of Service policy. Side-street stop controlled intersections exceeding the Level of Service policy are considered acceptable if signal warrants are not met or signals are not considered feasible. See Table 17.

Source: Fehr & Peers, 2021.

A traffic signal warrant analysis was performed at unsignalized study intersections located in Sacramento County. The list of study locations was further refined (per the Thresholds of Significance) to only include locations whose side-street worst movement would operate at F (if within Urban Service Boundary) or E or F (if outside the urban Service Boundary). Warrants 3A (Peak Hour Delay) and 3B (Peak Hour Volume) were evaluated using the criteria described in the *California Manual of Uniform Traffic Control Devices* (MUTCD) (2014). The results are shown in **Table 17** for the ten study intersections that satisfy the above criteria.

Six of the ten intersections would satisfy either Warrant 3A or 3B during the AM and/or PM peak hours. Of those that satisfy the warrant, Farm Road/Street A (#60), El Centro Road/Street 6 (#68), and El Centro Road/CMU/EHC Driveway (#69) are situated along and adjacent to the segment of El Centro Road near the Town Center in which a detailed access plan has already been developed. Traffic signals are not considered viable solutions at these intersections due to their proximity to other signalized intersections. The Street 12E/Radio Road intersection was further analyzed using micro-simulation under cumulative plus project conditions to determine if eastbound queues from it would spill back into the Bryte Bend Road/Radio Road roundabout, which is spaced 435 feet to the west (measured from centerline to centerline). The analysis concluded that the 95$^{th}$ percentile eastbound approach queue lengths (assuming a signal with an eastbound left-turn lane and through lane) would not spill back to the roundabout. Therefore, a traffic signal is recommended at the Street 12E/Radio Road (#45) intersection.

The other remaining intersections that satisfy the peak hour signal warrants are Powerline Road/Bayou Way South (#1) and San Juan Road/Orchard Lane (#50). Traffic signals are recommended at each location.

At the El Centro Road/MDR Access intersection (#62), the heavy side street delay is being caused by westbound Farm Road queue spillback from the El Centro Road/Farm Road signalized intersection. Side-street movements are therefore recommended to be restricted to right-turns only at the El Centro Road/MDR Access intersection (#62),

Additionally, given the heavy westbound queues on Farm Road described above, the segment of Farm Road east of El Centro Road is recommended to be extended as a six-lane thoroughfare from El Centro Road to the CMU signalized driveway.

**Table 17:**
**Unsignalized Intersection Traffic Signal Warrant Analysis – Cumulative Plus Project Conditions**

| Intersection [1] | Traffic Control[2] | Agency | AM Peak Hour | | | | PM Peak Hour | | | | Signal Recommended? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Delay[3] | LOS | Warrant 3A [4] | Warrant 3B [4] | Delay[3] | LOS | Warrant 3A [4] | Warrant 3B [4] | |
| 1. Powerline Road/Bayou Way South | SSSC | Sac Co | 4 (41) | A (E) | Not Met | Not Met | 737 (2294) | F (F) | Met | Met | Yes |
| 45. Street 12 (E)/Radio Road | SSSC | Sac Co | 15 (68) | B (F) | Met | Met | 10 (27) | A (D) | Not Met | Met | Yes |
| 50. San Juan Road/Orchard Lane | SSSC | Sac Co / City of Sac | 6 (56) | A (F) | Not Met | Met | 2 (27) | A (D) | Not Met | Not Met | Yes |
| 59. Farm Road/Street B | SSSC | Sac Co | 9 (75) | A (F) | Not Met | Not Met | 7 (40) | A (E) | Not Met | Not Met | No |
| 60. Farm Road/Street A | SSSC | Sac Co | 4 (49) | A (E) | Met | Not Met | 6 (55) | A (F) | Not Met | Met | No |
| 62. MDR Access/Farm Road | SSSC | Sac Co | 192 (470) | F (F) | Not Met | Not Met | 148 (446) | F (F) | Not Met | Not Met | No |
| 68. El Centro Road/Street 6 | SSSC | Sac Co | 51 (276) | F (F) | Met | Met | 62 (110) | F (F) | Not Met | Not Met | No |
| 69. El Centro Road/CMU/EHC Dwy | SSSC | Sac Co | 22 (61) | C (F) | Met | Met | 64 (406) | F (F) | Met | Met | No |
| 74. El Centro Road/Street 5 | SSSC | Sac Co | 17 (900) | C (F) | Not Met | Not Met | 33 (900) | D (F) | Not Met | Not Met | No |
| 89. El Centro Road/Street 4 | SSSC | Sac Co | 10 (53) | A (F) | Not Met | Not Met | 7 (52) | A (F) | Not Met | Not Met | No |

Notes:
1. Only a subset of unsignalized study intersections selected for analysis. Refer to prior page for selection criteria, which relates to Sacramento County thresholds of significance for unsignalized intersections.
2. SSSC = side-street stop controlled intersection.
3. For side-street stop controlled intersections, the average control delay for the movement with the greatest delay is shown in parentheses in seconds per vehicle.
4. Warrant 3A is the "Peak Hour Delay" warrant and Warrant 3B is the "Peak Hour Volume" warrant as described in the California MUTCD (2014).

Source: Fehr & Peers, 2021.

# 5. SITE ACCESS CONSIDERATIONS

The prior chapters concluded that highly congested traffic conditions would be expected along portions of El Centro Road and West El Camino Avenue near I-80 and the Town Center. This chapter evaluates the effectiveness of a set of geometric modifications to this area that would better accommodate the heavy vehicular travel demand. Additionally, a concept for improving the bicycle and pedestrian networks is proposed.

## Proposed Geometric Modifications

The proposed modifications to El Centro Road and West El Camino Avenue would maintain the same overall roadway alignments but modify lane configurations and add other important elements. **Figure 20** illustrates the proposed geometric modifications including I-80/West El Camino Avenue interchange improvements. The following specific modifications would be made (relative to the assumed geometrics under existing plus project conditions):

El Centro Road/West El Camino Avenue Intersection

- *Construct two channelized westbound" right-turn lanes (i.e., two approach lanes, triangular corner raised median, and two receiving lanes).*

  Rationale: The need for this configuration is driven by the projected 2,125 vehicles performing this movement under existing plus project conditions during the PM peak hour. These turn lanes would generally flow freely with a green signal indication, as there are no conflicts with motorized traffic However, as described in the next bullet, a signalized crosswalk is required to enable pedestrians and bicyclists to cross between the triangular raised median island and the adjacent Class I multi-use path.

- *Construct at-grade crosswalks on the north, south, and west legs (including a signalized crosswalk in the westbound right-turn lanes). Prohibit pedestrian travel on the east leg.*

  Rationale: Preliminary analysis investigated the benefits and drawbacks of at-grade crosswalks versus pedestrian overcrossings. Through operations analysis and a variety of other considerations, the at-grade crosswalks were ultimately chosen as the preferred means for accommodating non-motorized travel at the intersection. The following considerations informed this decision:

- The pedestrian WALK interval for the lengthy west leg crosswalk would operate concurrently with the lengthy southbound left-turn vehicle phase, meaning the crosswalk phase would not unnecessarily lengthen the overall intersection cycle length during peak periods.
- Similar to the west leg, the pedestrian WALK interval for the north leg crosswalk would operate concurrently with the heavy westbound left-turn vehicle phase followed by the east-west through movement phase. Through operations analysis, it was determined this crosswalk would not adversely affect overall intersection operations.
- The south leg crosswalk would operate concurrently with the moderate levels of east-west through traffic. The crosswalk would cross seven traffic lanes. If accommodated in a single pedestrian WALK interval, this would considerably lengthen overall intersection cycle length and contribute to worsened queuing and delays. Accordingly, this crosswalk is recommended to be a "two-stage crossing", whereby pedestrians cross half the lanes, wait in a median refuge area, and then cross the remaining half of the lanes during the next signal phase. Through operations analysis, it was determined this crosswalk configuration would not adversely affect overall intersection operations.

Refer to next section "Accommodation of Bicyclists and Pedestrians" for how these modes of travel would be accommodated at the intersection.




Source: Wood Rodgers, Feb 2022

Figure 20

Geometric Improvements at West El Camino Avenue and El Centro Road

CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.

CADD FILE: \\Fpsd03.fpdinc.local\Data\2020 Projects\3945.00_Upper_Westside_Specific_Plan_EIR\CAD\VC Concept.dwg
Feb 23, 2022

- *Modify the eastbound approach to consist of a single left-turn lane and the northbound approach to consist of a single through lane.*

  Rationale: These movements (maximum of 80 eastbound left-turns per hour and 280 northbound through vehicles per hour) can each be accommodated by single lanes. Moreover, they would only require one northbound receiving lane, which would be adjacent to the two westbound-to-northbound right-turn receiving lanes.

- *Construct a third westbound left-turn lane.*

  Rationale: This movement would serve 830 vehicles under existing plus project conditions during the PM peak hour, which is substantial for a dual left-turn lane. By adding a third lane, queue spillback on westbound West El Camino Avenue is reduced.

- *Modify the eastbound right-turn lane to become a shared through/right lane.*

  Rationale: This modification would increase the capacity for the eastbound through movement of 730 vehicles, which would otherwise be accommodated in two through lanes. Although this is typically not considered an excessive "per lane" volume, the extremely heavy southbound left-turn would benefit by reducing the amount of green time required for other critical intersection movements, for which this is one. This modification would not adversely affect the modest right-turn movement of 10 vehicles per hour or less.

I-80 WB Ramps/West El Camino Avenue Intersection

- *Construct a third westbound right-turn lane on the off-ramp.*

  Rationale: The reconstructed signal-controlled off-ramp was assumed to have two left-turn lanes and two right-turn lanes. The left-turn demand of 690 AM peak hour vehicles requires two exclusive lanes. The right-turn demand of 1,000 AM peak hour vehicles and 1.070 PM peak hour vehicles under existing plus project conditions would function better with three right-turns.

- When warranted, operate the signal with a phasing plan that would include a signal phase in which the eastbound West El Camino Avenue through movement operates concurrently with the I-80 westbound off-ramp right-turn. Through operations analysis, it was determined that this phasing plan (which is in operation at several intersections along the US 50 corridor) would reduce vehicle queue spillbacks onto westbound I-80.

West El Camino Avenue Between I-80 WB Ramps and El Centro Road

- *In the westbound direction, construct four travel lanes departing the WB Ramps intersection.*

  Rationale: This configuration would allocate two-thirds of the right-turn capacity into the two outside travel lanes, which would become "trap" lanes onto northbound El Centro Road. This configuration is optimal during the critical PM peak hour, as 56 percent of the westbound demand approaching the intersection turns right onto northbound El Centro Road.

- *In the eastbound direction, construct three receiving lanes departing El Centro Road that laterally transition and then widen to four lanes approaching the WB Ramps intersection (see Figure 20).*

  Rationale: This configuration is necessary such that both the outside and middle lanes of the southbound triple left-turn movement can be used to access the I-80 WB diagonal on-ramp without requiring a lane change. This is accomplished via the lateral transition shown on Figure 20 and lane assignments at the WB Ramps intersection. A dedicated right-turn lane and an optional through/right lane would provide needed capacity to accommodate the 1,560 right-turning vehicles during the AM peak hour.

El Centro Road/Farm Road

- *Construct a northbound u-turn only lane.*

  Rationale: During the PM peak hour, approximately 100 vehicles are projected to perform a u-turn at this location. Much of this demand will be exiting traffic from the CMU and E/HC parcels on the east side of El Centro Road. The dual left-turns currently proposed at this location are not sufficient to handle the left-turn demand (650 PM peak hour vehicles) plus the 100-vehicle u-turn demand.

CMU and E/HC Driveways

- *Construct two right-turn only driveways with deceleration lanes on El Centro Road (north of West El Camino Avenue) to serve the CMU and E/HC parcels.*

Rationale: Two driveways are recommended given the expected volume of entering and exiting traffic. The signalized El Centro Road/West El Camino Avenue and El Centro Road/Farm Road intersections are situated about one-quarter mile (1,320 feet) apart. The following driveway placements are recommended:

  - Southerly driveway is situated at least 600 feet north of West El Camino Avenue (to provide adequate distance to accommodate weaving movements from the eastbound left-turn and northbound through movements at the West El Camino Avenue signal.

- Northerly driveway is situated at least 250 feet from the southerly driveway and 400 feet from the Farm Road signal. This spacing will reduce conflicts between turning movements at each driveway, while also providing adequate distance from the northerly driveway to access the u-turn lane.

CMU Driveway/Farm Road Signalized Intersection

- *Construct a third northbound left-turn lane.*

Rationale: During the PM peak hour, 1,535 vehicles are projected to perform this movement. Although east-west travel demand is modest (meaning considerable green time can be provided to this outbound movement), three lanes are nonetheless required for vehicle storage and overall egress considerations.

All Signalized Intersections Serving Transit Vehicles

- *Provide transit signal priority (TSP) equipment.*

Rationale: Low-priority TSP can extend the green phase or provide an early return to green, in order to speed up transit vehicles. This increases person throughput and provides for a higher degree of travel time reliability for transit trips.

It should be noted that grade-separated pedestrian overcrossings at the north and west legs of the West El Camino Avenue/El Centro Road intersection were also considered as potential design solutions. Their effectiveness (in place of the above recommended at-grade crosswalks) was tested using micro-simulation analysis and found to perform similarly to results shown above. However, the at-grade crossing solution is recommended because it reduces pedestrian inconvenience (due to less out of the way travel), is more intuitive, provides improved aesthetics, and reduces costs.

## Average Delay and Percent Demand Served

The effectiveness of the above strategies was tested using the SimTraffic model for existing plus project AM and PM peak hour conditions. The results are shown in **Table 18** (see separately bound **Appendix E** for calculations).

**Table 18:**
**Site Access Intersection Operational Improvements – Existing Plus Project Conditions**

| Intersection | Traffic Control[1] | Agency | Existing Plus Project Conditions | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | With Assumed Lane Configurations [3] | | | | With Geometric Modifications [4] | | | |
| | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| | | | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS |
| 17. El Centro Road/El Camino Avenue | Signal | Sac Co | 113 | F | 126 | F | 89 | F | 86 | F |
| 33. I-80 WB Ramps/W. El Camino Avenue | Signal | Caltrans | 140 | F | 140 | F | 27 | C | 31 | C |
| 34. I-80 EB Ramps/W. El Camino Avenue | Signal | Caltrans | 36 | D | 223 | F | 21 | C | 40 | D |
| 61. El Centro Road/Farm Road | Signal | Sac Co | 388 | F | 310 | F | 249 | F | 131 | F |
| 81. Street A/W. El Camino Avenue | Signal | Sac Co | 19 | B | 28 | C | 19 | B | 33 | C |
| 83. El Centro Road/Tomato Patch Lane N | SSSC | Sac Co | 4 (43) | A (E) | 5 (27) | A (D) | 17 (532) | C (F) | 20 (469) | C (F) |
| 89. El Centro Road/Street 4 | SSSC | Sac Co | 18 (124) | C (F) | 5 (35) | A (D) | 33 (454) | D (F) | 14 (160) | B (F) |
| 95. El Centro Road/Street 3/Tomato Patch Lane S | Signal | Sac Co | 19 | B | 12 | B | 21 | C | 15 | B |

Notes:
1. SSSC = side-street stop controlled intersection.
2. The overall average intersection control delay is reported in seconds per vehicle for signalized intersections. For side-street stop controlled intersections, the average control delay/for the movement with the greatest delay is shown in parentheses, while the average delay/for the entire intersection is shown not in parentheses.
3. Refer to Figure 14 for assumed lane configurations.
4. Refer to Figure 20 for assumed lane configurations.

Source: Fehr & Peers, 2021.

The proposed geometric modifications would reduce the average delay across the El Centro Road/West El Camino Avenue, El Centro Road/Farm Road, and two I-80 ramp intersections from 169 to 97 seconds per vehicle during the AM peak hour. During the PM peak hour, a decrease in average delay for the four intersections from 200 to 72 seconds per vehicle would occur.

A metric known as "percent demand served" is valuable when comparing the capacity provided by alternative geometric treatments for an over-saturated condition. Percent demand served, which is an output from the SimTraffic microsimulation model, represents the percentage of the hourly vehicle demand able to pass through a given intersection in that time period. When percent demand served drops below 80 to 90 percent, it is an indication that the demand for travel exceeds the system's capacity. For large, heavily traveled networks such as the SimTraffic model built for the West El Camino Avenue (i.e., from west of I-80 to I-5) and El Centro Road (i.e., south of the Town Center to north of Farm Road) corridors, 100 percent demand served is rare because of the travel distance required to traverse the entire length of the network (i.e., some vehicles enter but do not pass entirely through within the hour).

Charts 1 and 2 show how the proposed geometric modifications would increase the percent demand served at the El Centro Road/West El Camino Avenue, El Centro Road/Farm Road, and two I-80 ramp intersections. At the El Centro Road/West El Camino Avenue bottleneck location, the percent demand served would increase substantially (from 73 to 87 percent during the AM peak hour and from 66 to 92 percent during the PM peak hour). Much of the increase is due to more capacity being provided for the heavy southbound left-turn and westbound right-turn movements whose percent demand served rises dramatically with the geometric modifications.

**Table 19** and the SimTraffic screen captures on the following two pages display the effectiveness of the proposed geometric modifications under cumulative plus project AM and PM peak hour conditions. Refer to Appendix E for technical calculations. This table indicates that the proposed geometric modifications provide similar operational benefits under cumulative conditions, as under existing plus project conditions. Notably, the El Centro Road/West El Camino Avenue intersection remains at LOS F during both peak hours, but has substantially less delay and greater percent demand served with the geometric modifications in place.

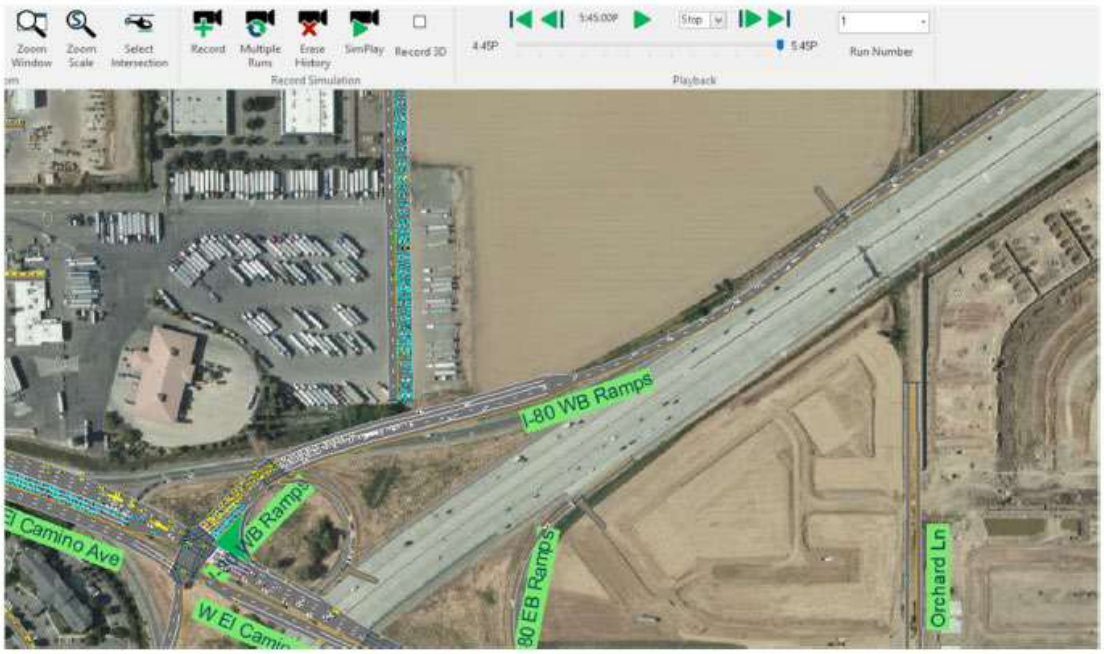
In summary, the proposed geometric modifications were found to substantially benefit traffic operations along the portions of El Centro Road and West El Camino Avenue near the Town Center. While operations would remain at LOS F at the El Centro Road/West El Camino Avenue and El Centro Road/Farm Road intersections, delays are considered more tolerable, and the overall percent demand served is much better with the proposed geometric improvements.



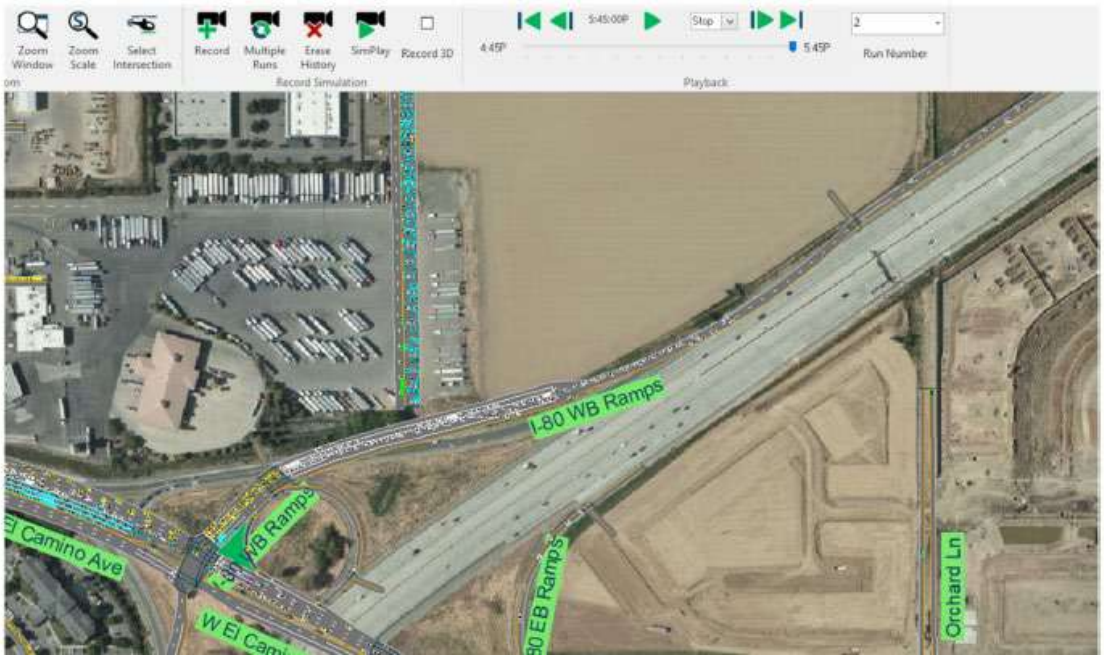
**Image of traffic conditions during the AM peak hour based on SimTraffic modeling with proposed improvements in place. Key observations include:**

- **Southbound queue on El Centro Road continuing to extend back from West El Camino Avenue to beyond Farm Road, though the ultimately length of the queue is shorter with the improvements.**
- **Westbound queue on West El Camino Avenue no longer causes traffic on the freeway off-ramps to spill back onto the freeway.**

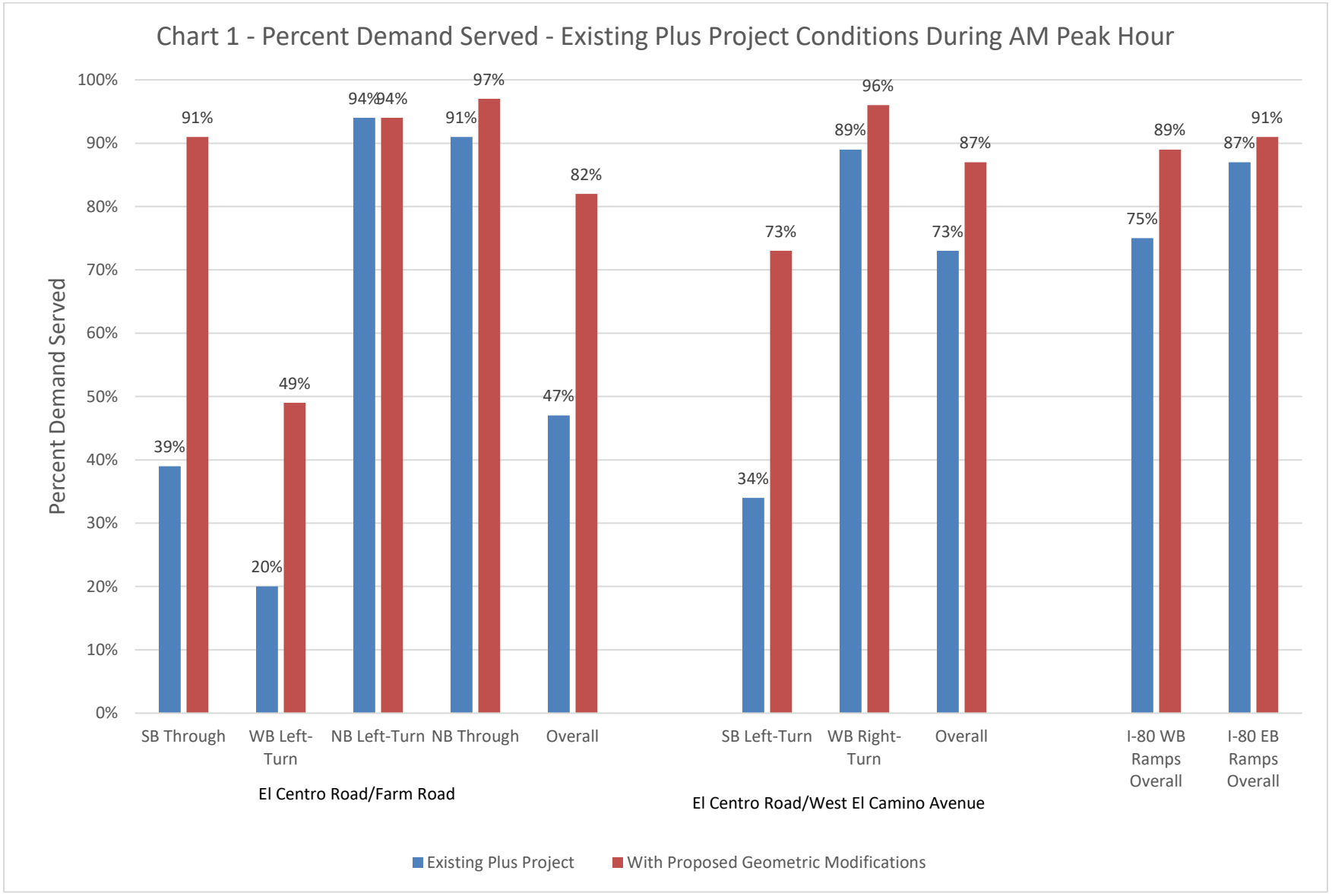
**Run 1**




**Run 2**




**SimTraffic screen capture at end of PM peak hour for two of ten runs (under cumulative plus project with improvements). Results indicate that westbound off-ramp queue does not spill back onto freeway mainline.**


Chart 1 - Percent Demand Served - Existing Plus Project Conditions During AM Peak Hour
Percent Demand Served
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
39%
91%
20%
49%
94%
94%
91%
97%
47%
82%
34%
73%
89%
96%
73%
87%
75%
89%
87%
91%
SB Through
WB Left-Turn
NB Left-Turn
NB Through
Overall
SB Left-Turn
WB Right-Turn
Overall
I-80 WB Ramps Overall
I-80 EB Ramps Overall
El Centro Road/Farm Road
El Centro Road/West El Camino Avenue
Existing Plus Project
With Proposed Geometric Modifications

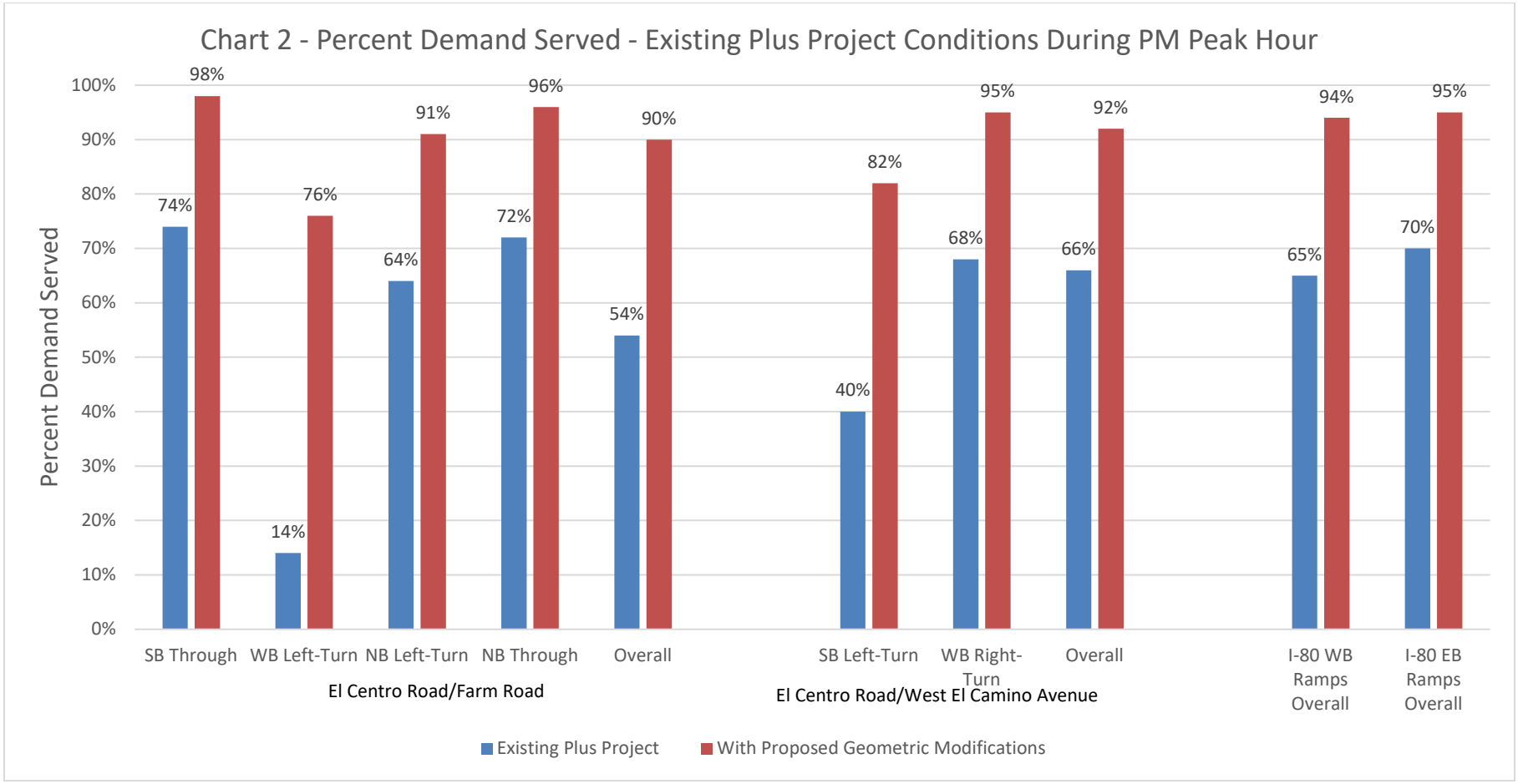

Chart 2 - Percent Demand Served - Existing Plus Project Conditions During PM Peak Hour
Percent Demand Served
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
74%
98%
14%
76%
64%
91%
72%
96%
54%
90%
40%
82%
68%
95%
66%
92%
65%
94%
70%
95%
SB Through
WB Left-Turn
NB Left-Turn
NB Through
Overall
SB Left-Turn
WB Right-Turn
Overall
I-80 WB Ramps Overall
I-80 EB Ramps Overall
El Centro Road/Farm Road
El Centro Road/West El Camino Avenue
Existing Plus Project
With Proposed Geometric Modifications

**Table 19:**
**Site Access Intersection Operational Improvements – Cumulative Plus Project Conditions**

| Intersection | Traffic Control[1] | Agency | Cumulative Plus Project Conditions | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | With Assumed Lane Configurations [3] | | | | With Geometric Modifications [4] | | | |
| | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| | | | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS |
| 17. El Centro Road/El Camino Avenue | Signal | Sac Co | 115 | F | 131 | F | 89 | F | 109 | F |
| 33. I-80 WB Ramps/W. El Camino Avenue | Signal | Caltrans | 165 | F | 148 | F | 23 | C | 38 | D |
| 34. I-80 EB Ramps/W. El Camino Avenue | Signal | Caltrans | 154 | F | 278 | F | 38 | D | 39 | D |
| 61. El Centro Road/Farm Road | Signal | Sac Co | 346 | F | 375 | F | 305 | F | 251 | F |
| 81. Street A/W. El Camino Avenue | Signal | Sac Co | 19 | B | 58 | E | 21 | C | 71 | E |
| 83. El Centro Road/Tomato Patch Lane N | SSSC | Sac Co | 2 (20) | A (C) | 6 (37) | A (E) | 19 (546) | C (F) | 16 (709) | C (F) |
| 89. El Centro Road/Street 4 | SSSC | Sac Co | 10 (53) | A (F) | 7 (52) | A (F) | 36 (411) | E (F) | 28 (413) | D (F) |
| 95. El Centro Road/Street 3/Tomato Patch Lane S | Signal | Sac Co | 15 | B | 13 | B | 19 | B | 14 | B |

Notes:
1. SSSC = side-street stop controlled intersection.
2. The overall average intersection control delay is reported in seconds per vehicle for signalized intersections. For side-street stop controlled intersections, the average control delay/for the movement with the greatest delay is shown in parentheses, while the average delay/for the entire intersection is shown not in parentheses.
3. Refer to Figure 20 for assumed lane configurations.
4. Refer to previous pages for descriptions of geometric modifications.

Source: Fehr & Peers, 2021.

# Accommodation of Bicyclists and Pedestrians

The previous section described how the proposed geometric modifications would benefit vehicular travel (including buses that would otherwise incur substantial delays during peak periods). It is equally important that the improvements also accommodate bicyclists and pedestrians traveling along El Centro Road and West El Camino Avenue.

**Figure 21** displays bicycle and pedestrian facilities that would be part of these proposed improvements. Specific amenities to support biking include:

- Class I multi-use path allowing two-way bicycle travel on the north side of West El Camino Avenue that would extend from El Centro Road to the signalized Orchard Lane intersection (within the City of Sacramento) east of I-80. Additional studies during the interchange design phase will be necessary to determine its exact alignment and how/whether it intersects the three on/off ramps at-grade or not.
- Class I multi-use path on the west side of El Centro Road both north and south of West El Camino Avenue.
- Class II bike lanes in both directions of El Centro Road both north and south of West El Camino Avenue.
- Class II bike lanes in both directions of West El Camino Avenue west of El Centro Road (including an eastbound bike lane that would be located between the left and through lanes at the signal). This bike lane would operate with the eastbound left-turn phase, providing bicyclists with the ability to reach the triangular island to access the Class I multi-use path on the north side of West El Camino Avenue.
- A Class II bike lane is currently shown in the eastbound direction of West El Camino Avenue from El Centro Road extending across the interchange. Bicyclists in this lane need to navigate the merging area with vehicles desiring to travel onto the westbound I-80 diagonal on-ramp. Additional discussion with Caltrans will be necessary during the design phase of the interchange to determine whether this bike lane is desirable or not.

Pedestrian amenities include sidewalks along El Centro Road and West El Camino Avenue west of El Centro Road. It is not known whether a sidewalk would also be provided on the south side of West El Camino Avenue east of El Centro Road across the interchange, as pedestrians using it would encounter three on/off ramps carrying considerable levels of traffic. An alternate route for pedestrians would be the Class I path on the north side. Crosswalks would be provided on three of the four legs at the West El Camino Avenue/El Centro Road intersection. The east leg would not have a crosswalk because it would have adversely affected overall traffic operations in the area.

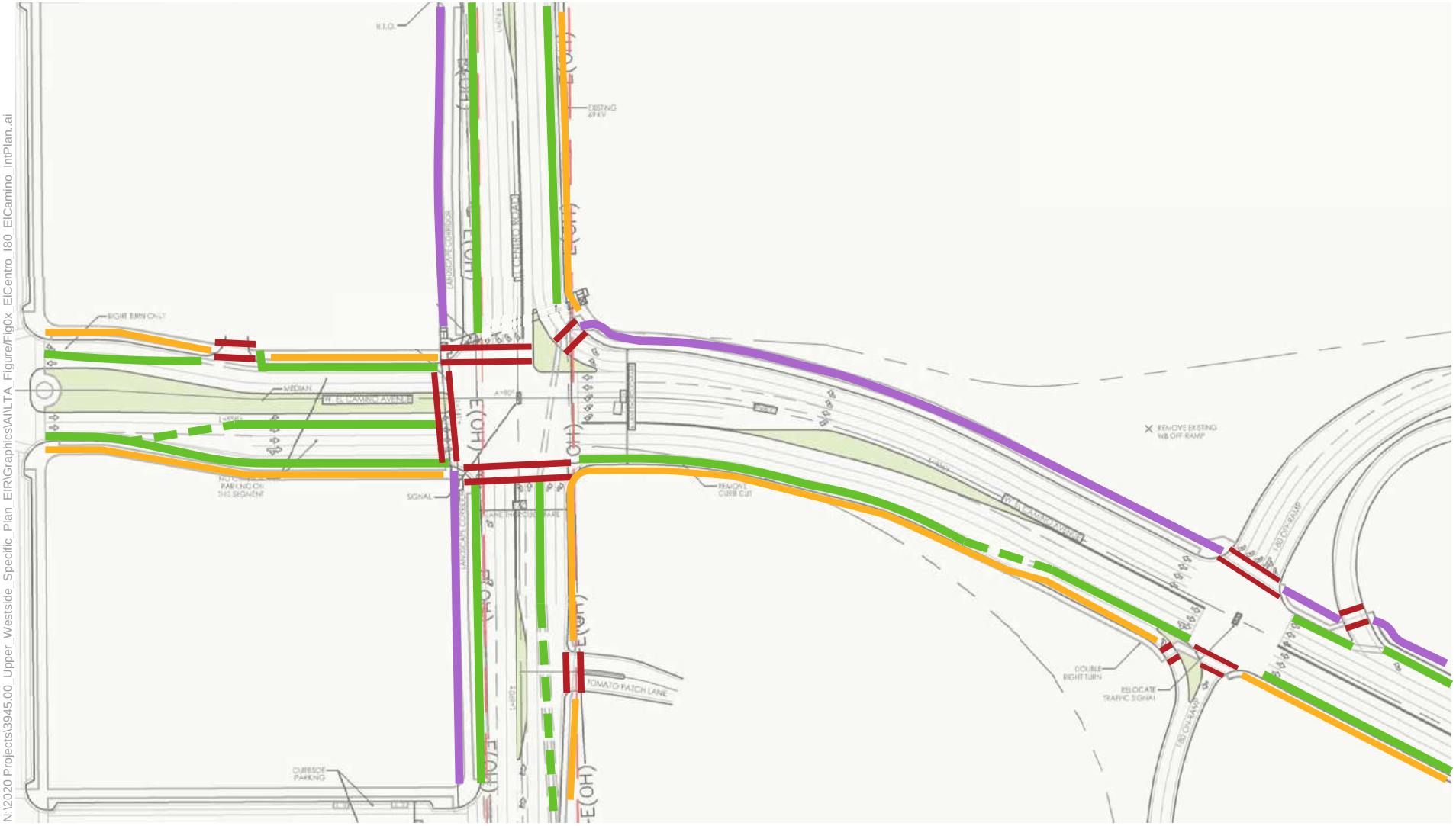



Figure 21

Bicycle and Pedestrian Facilities

El Centro Rd/I-80 WB Ramps/West El Camino Ave Improvements

Below are relevant design standards and guidance from Caltrans related to treatment of bicycle and pedestrian facilities at freeway interchanges is presented. The following passages from the *Highway Design Manual* (HDM) (Caltrans, 2020) are relevant to the proposed bicycle and pedestrian facilities shown on Figure 21 at the I-80/West El Camino Avenue interchange. [7]

**CHAPTER 500 (TRAFFIC INTERCHANGES)**

1. No longer are freeway interchanges designed with only the needs of motorists in mind. Pedestrian and bicycle traffic needs are to be considered along with the motorized traffic.
2. Local road interchanges ramp termini should be perpendicular to the local road. The high speed, shallow angle, ramp termini of the past are problematic for pedestrians and bicyclists to navigate. Vehicle speeds are reduced by the right angle turn, allowing drivers to better respond to bicycle and pedestrian conflicts.
3. Class II bikeways designed through interchanges should be accomplished considering the mobility of bicyclists and should be designed in a manner that will minimize confusion by motorists and bicyclists. Designs which allow high speed merges at on- and off-ramps to local streets and conventional highways have a large impact on bicycle and pedestrian mobility and should not be used.
4. A solution on how to best provide for bicycle travel to connect both sides of the freeway should be developed in consultation with the Local Agency and community as well as with the consideration of the local bicycle plan.

**CHAPTER 1000 (BICYCLE TRANSPORTATION DESIGN)**

1. Another common application of Class I facilities is to close gaps to bicycle travel caused by construction of freeways or because of the existence of natural barriers (rivers, mountains, etc.).
2. Alternating segments of Class I to Class II (or Class III) bikeways along a route are generally incompatible, as street crossings by bicyclists is required when the route changes character.
3. The minimum paved width of travel way for a two-way bike path shall be 8 feet, 10-foot preferred. Where heavy bicycle volumes are anticipated and/or significant pedestrian traffic is expected, the paved width of a two-way bike path should be greater than 10 feet, preferably 12 feet or more.
4. Development of a one-way bike path should be undertaken only in rare situations where there is a need for only one-direction of travel.

[7] Source: Highway Design Manual (HDM) | Caltrans. Accessed June 4, 2021.

5. Class I bikeways, unless adjacent to an adequate pedestrian facility (see Index 1001.3(n)) are for the exclusive use of bicycles and pedestrians; therefore, any facility serving pedestrians must meet accessibility requirements, see DIB 82. However, experience has shown that if regular pedestrian use is anticipated, separate facilities for pedestrians may be beneficial to minimize conflicts.
6. Where motor vehicle cross traffic and bicycle traffic is heavy, grade separations are desirable to eliminate intersection conflicts. Where grade separations are not feasible, assignment of right of way by traffic signals should be considered.

With regard to the applicable guidance in Chapter 500 (Traffic Interchanges), the westbound on- and off-ramps would be realigned to replace the high-speed, free-flow movements with slower-speed, right-angle signal-controlled movements.

With regard to the applicable standards and guidance in Chapter 1000 (Bicycle Transportation Design), the two-way multi-use path is consistent with many of the principles described in this chapter. Design details such as the width of the Class I path, specific treatments at its easterly terminus at Orchard Lane, and means for crossing ramps (i.e., at-grade or grade-separated, like at the US 50/Watt Avenue interchange) have not been finalized. However, it is apparent that a dedicated two-way multi-use path would be constructed to enable bicyclists and pedestrians to travel from the Upper Westside Specific Plan across I-80 via West El Camino Avenue.

# 6. OPERATIONAL DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

This chapter identifies project-specific and cumulative operational deficiencies caused by the project and then recommended improvements to restore operations to acceptable levels.

## Operational Deficiencies – Existing Plus Project Conditions

This section discusses the effects of the proposed project on the roadway system. Recall that as a consequence of SB 743, operational deficiencies (versus significant impacts) are used to describe degraded operations at roadways and intersections. Refer to the *CEQA Transportation Impact Analysis for Upper Westside Specific Plan* (Fehr & Peers, March 2022) for freeway off-ramp queuing and ramp meter storage analysis, as well as impacts to other modes of travel.

### Roadway Segments

The proposed project would not cause deficient operations or contribute to already deficient operations at any Sacramento County study roadway segments. The proposed project would also not cause a substandard Sacramento County rural roadway (i.e., less than 24 feet of pavement width and less than six a foot shoulder) to carry over 6,000 daily vehicles or add 600 or more vehicles to a facility already carrying this level of traffic.

The project would add considerable volumes of traffic (above existing levels) to the following surface streets immediately adjacent to interchanges owned and operated by Caltrans (in descending order of traffic added):

- West El Camino Avenue directly west of I-80: 14,200 to 83,300 ADT (69,100 ADT increase)
- West El Camino Avenue directly east of I-80: 20,900 to 43,800 (22,900 ADT increase)
- West El Camino Avenue directly west of I-5: 21,100 to 40,400 ADT (19,300 ADT increase)
- Arena Boulevard directly west of I-5: 26,900 to 35,600 ADT (8,700 ADT increase)
- Del Paso Road directly west of I-5: 22,800 to 31,100 ADT (8,300 ADT increase)
- Garden Highway directly west of I-5: 16,300 to 19,300 ADT (3,000 ADT increase)

The project would also add considerable volumes of traffic (above existing levels) to the following surface streets within the City of Sacramento (in descending order of traffic added):

- West El Camino Avenue between Orchard Lane and Gateway Oaks Drive: 18,600 to 39,400 ADT (20,800 ADT increase)
- El Centro Road south of Arena Boulevard: 7,900 to 27,000 ADT (19,100 ADT increase)
- Arena Boulevard east of El Centro Road: 7,600 to 17,600 ADT (10,000 ADT increase)
- Del Paso Road east of El Centro Road: 22,800 to 31,100 ADT (8,300 ADT increase)
- San Juan Road east of Orchard Lane: 6,600 to 14,300 ADT (7,700 ADT increase)
- El Centro Road south of Del Paso Road: 11,400 to 18,000 ADT (6,600 ADT increase)
- Del Paso Road west of East Commerce Way: 43,200 to 47,000 ADT (3,800 ADT increase)
- San Juan Road west of Truxel Road: 17,400 to 21,100 (3,700 ADT increase)
- West El Camino Avenue east of I-5: 25,800 to 29,300 ADT (3,500 ADT increase)
- Garden Highway west of I-5: 16,300 to 19,300 ADT (3,000 ADT increase)
- Garden Highway east of I-5: 1,900 to 4,200 ADT (2,300 ADT increase)

Since Caltrans and the City of Sacramento do not utilize roadway segment daily volume thresholds for project-level evaluations, no corresponding LOS is provided for these segments. However, the effect of this added traffic is reflected in intersection operations along these corridors and the need for improvements, which are discussed later.

## Intersections

The project would cause deficient operations or contribute to already deficient operations at the following Sacramento County intersections:

- Powerline Road/Bayou Way (#1): Operations for worst side-street movement degrade from LOS C to F during PM peak hour and traffic signal warrant would be met.
- West El Camino Avenue/El Centro Road (#17): New signalized intersection would operate at LOS F during AM and PM peak hours.
- Farm Road/El Centro Road (#61): New signalized intersection would operate at LOS F during AM and PM peak hours.
- Orchard Lane/Farm Road/CMU Driveway (#63): New signalized intersection would operate at LOS F during AM and PM peak hours.
- El Centro Road/Street 6 (#68): Operations for worst side-street movement would be LOS F during PM peak hour and traffic signal warrant would be met.

- El Centro Road/CMU/EHC Driveway (#69): Operations for worst side-street movement would be LOS F during PM peak hour and traffic signal warrant would be met.
- El Centro Road/Street 4 (#89): Operations for worst side-street movement would be LOS F during AM peak hour and traffic signal warrant would be met.

Based on the results in Table 12, the following corridors within the City of Sacramento would experience considerable increases in traffic flows, queuing, and delays as a result of the proposed project.

- Arena Boulevard Corridor West of I-5 – During the AM and PM peak hours, operations on Arena Boulevard at El Centro Road (#15), Stemmler Drive (#24), and Duckhorn Drive (#25) would degrade from LOS D or better to F. This is due to the introduction of a substantial increase in project-related traffic (between 400 to 540 vehicles per hour added in each direction). In the eastbound direction, the lack of capacity at Arena Boulevard/El Centro Road is an issue along with imbalanced lane utilization approaching I-5. In the westbound direction, the lack of a dual left-turn lane at El Centro Road to accommodate 600 PM peak hour vehicles causes substantial queue spillbacks that adversely affect upstream intersections.
- West El Camino Avenue Between I-80 and I-5 – The project would add approximately 450 vehicles in the eastbound direction during the AM peak hour and 700 vehicles in the westbound direction during the PM peak hour. Operations degrade to LOS F at the West El Camino Avenue/Gateway Oaks Drive intersection (#37) during the PM peak hour. This is caused by vehicle queue spillback from the I-5 southbound diagonal on-ramp ramp meter (see section below for details). Operations on West El Camino Avenue at Orchard Lane (#35) and West River Drive (#36) remain at LOS D or better despite the substantial increases in traffic.

Although the project would add considerable levels of traffic to a number of other corridors within the City of Sacramento (see list above), resulting operations would generally not degrade to a level where operational improvements should be considered.

Review of Table 12 also indicated several Caltrans ramp terminal intersections that would experience LOS F operations with the addition of project trips. These include:

- Arena Boulevard/I-5 NB Ramps – operations would worsen from LOS B to F during the PM peak hour. The project would cause the NB off-ramp left-turn movement to increase from 587 to 960 vehicles.
- Garden Highway/I-5 SB Ramps – operations would worsen to LOS F during the PM peak hour, primarily because of the southbound loop on-ramp ramp meter queue spillback. West El Camino Avenue/I-80 WB and EB Ramps – despite the assumed widening of the existing interchange,

operations would be at LOS F during both peak hours at the WB ramps intersection and at LOS F during the PM peak hour at the EB Ramps intersection. This is caused by queue spillbacks from the El Centro Road/West El Camino Avenue intersection.

**Table 20** displays a set of recommended operational enhancements that would address many of the operational deficiencies identified under existing plus project conditions. Recommended improvements within Sacramento County are described in detail below:

- Powerline Road/Bayou Way (#1) – all approaches currently include a shared left/through/right lane. As part of the signal installation, minor widening would occur to enable all approaches to consist of a dedicated left and a shared through/right lane.
- Radio Road/Street 12 (E) (#47) – installation of a traffic signal with protected eastbound left-turn phasing is recommended. Analysis showed that under cumulative plus project conditions with a traffic signal at this location, the maximum queue in the eastbound direction would not spill back to the roundabout on Radio Road at Bryte Bend Road, which is situated 430 feet to the west.
- Farm Road/Street A (#60) – As part of the improvements, the second westbound travel lane departing El Centro Road would extend beyond this intersection, terminating just to the west. Restricted left-turn movements from Street A are recommended, as those movements could instead use alternate parallel routes including Street B and Street 6.
- Farm Road/MDR Access (#62) – Side-street movements are recommended to be restricted to right-turns only.
- Farm Road/CMU Driveway (#63) – The third left-turn lane, which would serve over 1,530 vehicles during the PM peak hour, is required for vehicle storage and overall egress considerations.

Note that modification to the El Centro Road/Radio Road intersection would also be required at some point as a result of the extension of Natomas Crossing Drive to this location. The geometrics and resulting traffic operations at this intersection with this extension in place are discussed under the cumulative improvements section (along with fair share calculations).

**Table 20:**
**Recommended Improvements to Address Operational Deficiencies – Existing Plus Project Conditions**

| Facility | Lead Agency | Description of Improvement(s) |
|---|---|---|
| Powerline Road/Bayou Way (#1) | Sacramento County | Install traffic signal |
| El Centro Road and West El Camino Avenue Corridors | Sacramento County | Construct Proposed Geometric Modifications (see Figure 20) |
| I-80/West El Camino Avenue Interchange [1] | Caltrans | Install two metered lanes on the I-80 WB diagonal on-ramp |
| Arena Boulevard/El Centro Road (#15) | City of Sacramento | At Arena Boulevard/El Centro Road, construct second westbound left-turn lane, second southbound through lane, restripe eastbound right-turn lane to a shared through/right, and lengthen northbound right-turn lane to 400 feet with right-turn overlap arrow.<br><br>Pay fair share cost for constructing Natomas Crossing Drive as a two-lane street from Duckhorn Drive to El Centro Road. |
| I-5/West El Camino Avenue Interchange [1] | Caltrans | Widen the I-5 SB diagonal on-ramp to consist of two ramp-metered lanes |
| Radio Road/Street 12 (E) (#45) | Sacramento County | Install traffic signal |
| Farm Road/Street A (#60) | Sacramento County | Install raised median on Farm Road at Street A to restrict turn movements on Street A to right-turn only. |
| Farm Road/MDR Access (#62) | Sacramento County | Install raised median on Farm Road at MDR Access to restrict turn movements to right-turn only. |
| Farm Road/Orchard Lane/CMU Driveway (#63) | Sacramento County | Expand northbound approach to consist of two left-turn lanes and a shared left/right lane. |

Notes:
1. Identified improvements derived from the ramp metering analysis whose results are contained in the *CEQA Transportation Impact Analysis for Upper Westside Specific Plan* (Fehr & Peers, March 2022).

Source: Fehr & Peers, 2021.

Table 20 also includes improvements under the jurisdiction of Caltrans and the City of Sacramento. Although ramp meter analysis results were not presented in this report, Table 20 identifies the need for two specific ramp meter modifications in order to address ramp meter queue spillback onto surface streets. Additional studies involving Caltrans are required to further define each of these improvements. Improvements are recommended at the Arena Boulevard/El Centro Road intersection in the City of Sacramento (see separately bound **Appendix E** for geometric drawing). Coordination between staff from the City and County occurred to reach agreement on the improvements shown in that drawing.

**Table 21** illustrates the effectiveness of the above measures at study intersections influenced by each improvement. See separately bound **Appendix E** for calculations.

**Table 21:**
**Intersection Level of Service – Existing Plus Project Conditions with Operational Improvements**

| Intersection | Traffic Control[1] | Agency | Existing Conditions | | | | Existing Plus Project Conditions | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Without Improvements | | | | With Improvements [3] | | | |
| | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| | | | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS |
| 1. Powerline Road/Bayou Way | SSSC | Sac Co | 6 (23) | A (C) | 15 (18) | B (C) | 9 (33) | A (D) | 67 (92) | F (F) | 29 | C | 22 | C |
| 15. El Centro Road/Arena Boulevard/Natomas Central Dr | Signal | City of Sac | 22 | C | 17 | B | 137 | F | 85 | F | 55 | D | 27 | C |
| 17. El Centro Road/El Camino Avenue | SSSC / Signal | Sac Co | 23 (238) | C (F) | 13 (21) | B (C) | 113 | F | 126 | F | 89 | F | 86 | F |
| 24. Stemmler Drive/Arena Boulevard | Signal | City of Sac | 15 | B | 12 | B | 139 | F | 96 | F | 87 | F | 14 | B |
| 25. Duckhorn Drive/Arena Boulevard | Signal | City of Sac | 46 | D | 24 | C | 123 | F | 79 | E | 57 | E | 37 | D |
| 26. I-5 SB Ramps/Arena Boulevard | Signal | Caltrans | 6 | A | 6 | A | 48 | D | 47 | D | 6 | A | 6 | A |
| 27. I-5 NB Ramps/Arena Boulevard | Signal | Caltrans | 11 | B | 17 | B | 43 | D | 147 | F | 11 | B | 18 | B |
| 33. I-80 WB Ramps/W. El Camino Avenue | Signal | Caltrans | 21 | C | 13 | B | 140 | F | 140 | F | 27 | C | 31 | C |
| 34. I-80 EB Ramps/W. El Camino Avenue | Signal | Caltrans | 13 | B | 16 | B | 36 | D | 223 | F | 21 | C | 40 | D |
| 35. Orchard Lane/W. El Camino Avenue | Signal | City of Sac | 15 | B | 18 | B | 42 | D | 15 | B | 39 | D | 16 | B |
| 36. West River Drive/W. El Camino Avenue | Signal | City of Sac | 15 | B | 7 | A | 16 | B | 11 | B | 19 | B | 12 | B |
| 37. Gateway Oaks Drive/W. El Camino Avenue | Signal | City of Sac | 28 | C | 44 | D | 31 | C | 103 | F | 35 | D | 90 | F |
| 38. I-5 SB Ramps/W. El Camino Avenue | Free | Caltrans | 7 | A | 2 | A | 7 | A | 5 | A | 7 | A | 3 | A |
| 39. I-5 NB Ramps/W. El Camino Avenue | Signal | Caltrans | 29 | C | 6 | A | 45 | D | 15 | B | 39 | D | 15 | B |
| 45. Radio Road/Street 12 (E) | SSSC | Sac Co | Does Not Exist | | | | 13 (54) | B (F) | 10 (23) | A (C) | 10 | A | 8 | A |

**Table 21:**
**Intersection Level of Service – Existing Plus Project Conditions with Operational Improvements**

| Intersection | Traffic Control[1] | Agency | Existing Conditions | | | | Existing Plus Project Conditions | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Without Improvements | | | | With Improvements [3] | | | |
| | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| | | | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS |
| 60. Farm Road/Street A | SSSC | Sac Co | Does Not Exist | | | | 4 (29) | A (D) | 4 (41) | A (E) | 1 (12) | A (B) | 3 (16) | A (C) |
| 61. El Centro Road/Farm Road | Signal | Sac Co | Does Not Exist | | | | 388 | F | 310 | F | 249 | F | 131 | F |
| 62. MDR Access/Farm Road | SSSC | Sac Co | | | | | 200 (461) | F (F) | 150 (382) | F (F) | 117 (305) | F (F) | 69 (105) | F (F) |
| 63. Orchard Lane/Farm Road/CMU Dwy | Signal | Sac Co | | | | | 266 | F | 218 | F | 203 | F | 176 | F |
| 68. El Centro Road/Street 6 | SSSC | Sac Co | | | | | 69 (346) | F (F) | 81 (315) | F (F) | 34 (212) | D (F) | 20 (102) | C (F) |
| 74. El Centro Road/Street 5 | SSSC | Sac Co | | | | | 21 (900) | C (F) | 35 (900) | E (F) | 29 (881) | D (F) | 32 (881) | D (F) |
| 81. Street A/W. El Camino Avenue | Signal | Sac Co | | | | | 19 | B | 28 | C | 19 | B | 33 | C |
| 83. El Centro Road/Tomato Patch Lane N | SSSC | Sac Co | Does Not Exist | | | | 4 (43) | A (E) | 5 (27) | A (D) | 17 (532) | C (F) | 20 (469) | C (F) |
| 89. El Centro Road/Street 4 | SSSC | Sac Co | | | | | 18 (124) | C (F) | 5 (35) | A (D) | 33 (454) | D (F) | 14 (160) | B (F) |
| 95. El Centro Road/Street 3/Tomato Patch Lane S | Signal | Sac Co | | | | | 19 | B | 12 | B | 21 | C | 15 | B |

Notes:
1. AWSC = all-way stop controlled intersection; SSSC = side-street stop controlled intersection.
2. The overall average intersection control delay is reported in seconds per vehicle for signalized and all-way stop controlled intersections. For side-street stop controlled intersections, the average control delay/for the movement with the greatest delay is shown in parentheses, while the average delay/for the entire intersection is shown not in parentheses.
3 Operational improvements are listed in Table 20.
Source: Fehr & Peers, 2021.

**Table 22** shows the number of existing study intersections (operating with a traffic signal or all-way stop) that would operate at LOS D or better, LOS E, and LOS F under existing and existing plus project conditions, and existing plus project conditions with recommended improvements. Key findings from this table are:

- During the AM peak hour, the project would cause the number of (existing) study intersections operating at LOS F to increase from two to five. With the proposed improvements, LOS F operations at Arena Boulevard/El Centro Road would be restored to LOS D, and LOS F operations at the I-80 WB Ramps/West El Camino Avenue intersection would be improved to LOS C. Although delays at the West El Camino Avenue/El Centro Road, Arena Boulevard/Stemmler Drive, and Arena Boulevard/Duckhorn Drive intersections would be reduced with the improvements, operations would not be improved to LOS D or better at these locations.

- During the PM peak hour, the project would cause the number of (existing) study intersections operating at LOS F to increase from zero to eight. With the proposed improvements, five of the eight LOS F intersections, would be restored to LOS D or better. These intersections are: Arena Boulevard/El Centro Road, Arena Boulevard/Stemmler Avenue, I-5 NB Ramps/Arena Boulevard, I-80 WB Ramps/West El Camino Avenue, and I-80 EB Ramps/West El Camino Avenue. The three that would remain at LOS F (along with an explanation of their operations) would be:

    - West El Camino Avenue / El Centro Road – Although operations remain at LOS F, conditions are much improved with the proposed geometric modifications described in the previous chapter.

    - Gateway Oaks Drive / West El Camino Avenue – Operations improve slightly by adding a second southbound I-5 on-ramp lane. However, the modeling assumed no change in the number of hourly vehicles entering the freeway (by virtue of decreasing the ramp meter rate). Thus, further decreases in delay could be achieved if the metering rate was increased.

    - I-5 SB Ramps/Garden Highway – Caltrans has indicated that there is not a physical improvement planned at this interchange. The tight spacing of the interchange and its proximity of businesses, Discovery Park, and other constraints would make any improvements difficult to complete. It is noted that the source of the congestion is the southbound loop on-ramp ramp meter. By virtue of the project improving the southbound diagonal on-ramp at West El Camino Avenue, some existing trips at this interchange may be diverted to that on-ramp, thereby this interchange's operations.

| Table 22: Intersection LOS Summary – Existing Plus Project Conditions with Operational Improvements | | | | | | |
|---|---|---|---|---|---|---|
| **Intersection Operations** | **Existing Conditions** | | **Existing Plus Conditions** | | | |
| | | | **Without Improvements** | | **With Improvements** | |
| | **AM Peak Hour** | **PM Peak Hour** | **AM Peak Hour** | **PM Peak Hour** | **AM Peak Hour** | **PM Peak Hour** |
| *Currently Existing Study Intersections (Operated with a Traffic Signal or All-Way Stop)* [1] | | | | | | |
| LOS D or Better | 32 | 34 | 29 | 25 | 31 | 31 |
| LOS E | 0 | 0 | 0 | 1 | 1 | 0 |
| LOS F | 2 | 0 | 5 | 8 | 2 | 3 |
| Total Intersections | 34 | 34 | 34 | 34 | 34 | 34 |

Notes:
1. Side-street stop intersections excluded because LOS F on a side-street is not as meaningful (i.e., volume could be low, downstream queuing effects, etc.). List includes West El Camino Avenue/El Centro Road intersection, which would be signalized with the project.

Source: Fehr & Peers, 2021.

# Operational Deficiencies – Cumulative Plus Project Conditions

This section discusses the cumulative effects of the proposed project on the roadway system.

## Roadway Segments

The proposed project would cause deficient operations at the following Sacramento County study roadway segments:

- Powerline Road: Bayou Way to Del Paso Road – LOS D to E
- Powerline Road: Del Paso Road to Garden Highway – LOS C to E
- Garden Highway: Powerline Road to Radio Road – LOS D to E
- Garden Highway: Radio Road to San Juan Road – LOS C to E
- Radio Road: Street 12 (E) to El Centro Road – new roadway operating at LOS F with project
- San Juan Road: El Centro Road to Orchard Lane – LOS C to F

The first four segments listed above are rural two-lane roads with a LOS D standard. Hence, the degradation to LOS E is considered unacceptable.

The segment of Radio Road between Street 12 (East) and El Centro Road is proposed as a two-lane, low access control arterial. Under cumulative plus project conditions, it would carry 17,100 ADT and have a 1.14 v/c ratio. Under existing plus project conditions, it would carry 14,700 ADT and operate at LOS E. The cumulatively worsened operations are caused by planned land development assumed under the cumulative scenario. The following is recommended to improve operations on this segment to an acceptable level:

- Design Radio Road between Street 12 (East) and El Centro Road as a two-lane moderate access control arterial. Resulting operations would be at LOS E.

The segment of San Juan Road between El Centro Road and Orchard Lane is classified as a two-lane, low access control arterial. It would carry 15,600 ADT under cumulative plus project conditions. The following is recommended to improve operations on this segment to an acceptable level:

- Upgrade San Juan Road between El Centro Road and Orchard Lane to be a two-lane moderate access control arterial. Resulting operations would be at LOS E.

It should be noted that under "plus project" conditions, there are five distinct segments of El Centro Road: between San Juan Road to West El Camino Avenue. Each segment would operate at LOS F as either a four or six lane moderate access control arterial, with v/c ratios ranging from 1.01 to 1.27. Under cumulative no project conditions, this same segment would operate at LOS F (v/c ratio of 1.32) as a two-lane low access control arterial. Since this project would not increase the roadway's v/c ratio, it would not exacerbate projected unacceptable conditions despite the corridor operating at LOS F conditions with the project. This same conclusion holds true for the short segment of West El Camino Avenue between El Centro Road and I-80.

The proposed project would cause the following substandard Sacramento County rural roadways (i.e., less than 24 feet of pavement width and less than a six foot shoulder) to carry over 6,000 daily vehicles:

- Powerline Road: Bayou Way to Del Paso Road
- Powerline Road: Del Paso Road to Garden Highway
- Garden Highway: Powerline Road to Radio Road
- Garden Highway: Radio Road to San Juan Road

Under cumulative no project conditions, they would carry between 3,300 and 4,700 ADT. Under cumulative plus project conditions, they would carry between 7,000 and 9,500 ADT. The project would add considerably more trips to these segments under cumulative conditions versus existing conditions. This is likely due to new employment uses contained within Metro Air Park, which attract home-based work trips from the project. It is also possible that some of these trips are using the new I-5/Metro Air Park interchange to travel to/from the north on I-5.

The County's TAG indicates that when deficient operations (i.e., volume exceeding 6,000 ADT) are identified on substandard roadways, they should be upgraded to the current rural roadway standard, which consists of two 12-foot travel lanes and 6-foot paved shoulders. The following is therefore recommended:

- The project applicant shall pay their fair share cost of improving the following roadways to conform with current County design standards:
    - Powerline Road from Bayou Way to Garden Highway
    - Garden Highway from Powerline Road to San Juan Road

The fair share recommendation reflects the fact that the degraded condition occurs in the cumulative setting and is partially driven by other land development and roadway improvements within the County.

The project would add considerable volumes of traffic (beyond the cumulative no project levels shown) to the following surface streets immediately adjacent to interchanges owned and operated by Caltrans (in descending order of traffic added):

- West El Camino Avenue directly west of I-80: 26,200 to 86,700 ADT (60,500 ADT increase)
- West El Camino Avenue directly east of I-80: 24,200 to 45,400 ADT (21,200 ADT increase)
- West El Camino Avenue directly west of I-5: 24,100 to 41,700 ADT (17,600 ADT increase)
- Arena Boulevard directly west of I-5: 35,700 to 41,700 ADT (6,000 ADT increase)
- Del Paso Road directly west of I-5: 29,200 to 35,000 ADT (5,800 ADT increase)
- Garden Highway directly west of I-5: 17,400 to 21,700 ADT (4,300 ADT increase)

The project would also add considerable volumes of traffic (beyond the cumulative no project levels shown) to the following surface streets within the City of Sacramento (in descending order of traffic added):

- El Centro Road south of Arena Boulevard: 14,000 to 35,900 ADT (21,900 ADT increase)
- West El Camino Avenue between Orchard Lane and Gateway Oaks Drive: 20,800 to 40,400 ADT (19,600 ADT increase)
- El Centro Road south of Del Paso Road: 21,900 to 33,500 ADT (11,600 ADT increase)
- Arena Boulevard east of El Centro Road: 14,200 to 24,000 ADT (9,800 ADT increase)
- San Juan Road east of Orchard Lane: 7,700 to 15,500 ADT (7,800 ADT increase)
- Del Paso Road east of El Centro Road: 29,200 to 35,000 ADT (5,800 ADT increase)
- Del Paso Road west of East Commerce Way: 60,700 to 64,700 ADT (4,000 ADT increase)
- Garden Highway west of Gateway Oaks: 4,000 to 8,100 ADT (4,100 ADT increase)

Since Caltrans and the City of Sacramento do not utilize roadway segment daily volume thresholds, no corresponding LOS is provided for these segments.

## Intersections

The project would cause deficient operations or contribute to anticipated cumulatively deficient operations at the following Sacramento County intersections:

- Powerline Road/Bayou Way (#1): LOS F operations at the worst side-street movement would be exacerbated by more than five seconds during the PM peak hour and traffic signal warrant would be met.
- West El Camino Avenue/El Centro Road (#17): New signalized intersection would operate at LOS F during AM and PM peak hours.
- Street 12 (East)/Radio Road (#45): New unsignalized intersection would have LOS F operations at the worst side-street movement during the AM peak hour and traffic signal warrant would be met.
- San Juan Road/Orchard Lane (#50): New unsignalized intersection would have LOS F operations at the worst side-street movement during the AM peak hour and traffic signal warrant would be met.
- Farm Road/Street A (#60): New unsignalized intersection would have LOS F operations at the worst side-street movement during the PM peak hour and traffic signal warrant would be met.
- Farm Road/El Centro Road (#61): New signalized intersection would operate at LOS F during AM and PM peak hours.
- Orchard Lane/Farm Road/CMU Driveway (#63): New signalized intersection would operate at LOS F during AM and PM peak hours.
- El Centro Road/Street 6 (#68): New unsignalized intersection would have LOS F operations for worst side-street movement during AM peak hour and traffic signal warrant would be met.
- El Centro Road/CMU/EHC Driveway (#69): New unsignalized intersection would have LOS F operations for worst side-street movement during AM and PM peak hours and traffic signal warrant would be met.

According to Table 16, numerous study intersections under the jurisdiction of Caltrans or the City of Sacramento would operate at LOS F during the AM and/or PM peak hours under cumulative no project conditions. The project would exacerbate congested conditions at many of those locations and also cause added delays at many other intersections. Project-related degradations in traffic operations would be particularly pronounced at the following intersections/corridors:

- Arena Boulevard Corridor at I-5 – During the AM and PM peak hours, operations on Arena Boulevard at El Centro Road (#15), Stemmler Drive (#24), and Duckhorn Drive (#25) would degrade from LOS D or better to LOS F. Similar operational issues identified under existing plus project conditions (i.e., heavy project-related increases in the northbound right-turn and westbound left-turn movements) occur under cumulative plus project conditions. As a result of increased congestion located both west and east of the interchange, both interchange ramp intersections (#26 and #27) would worsen to LOS F conditions during both peak hours.

- West El Camino Avenue at I-5 – Similar to existing plus project conditions, the project would degrade conditions at the West El Camino Avenue/Gateway Oaks Drive intersection (#37) from LOS D to F during the PM peak hour. This is caused by vehicle queue spillback from the I-5 southbound diagonal on-ramp ramp meter, as well as heavy project-related increases in westbound through travel (500 vehicles added during the PM peak hour). Queue spillback in the westbound direction from this intersection would extend through the interchange, causing the NB off-ramp intersection (#39) to worsen from LOS A to F during the PM peak hour.

- West El Camino Avenue at I-80 – despite the assumed widening of the existing interchange, operations would be at LOS F during both peak hours at both interchange ramp intersections (#34 and #35). This is caused both by queue spillbacks from the El Centro Road/West El Camino Avenue intersection as well as heavy travel demands at the interchange itself.

**Table 23** displays a set of recommended operational enhancements to address the operational deficiencies identified under cumulative plus project conditions. See **Figure 22** for illustration of recommended improvements.

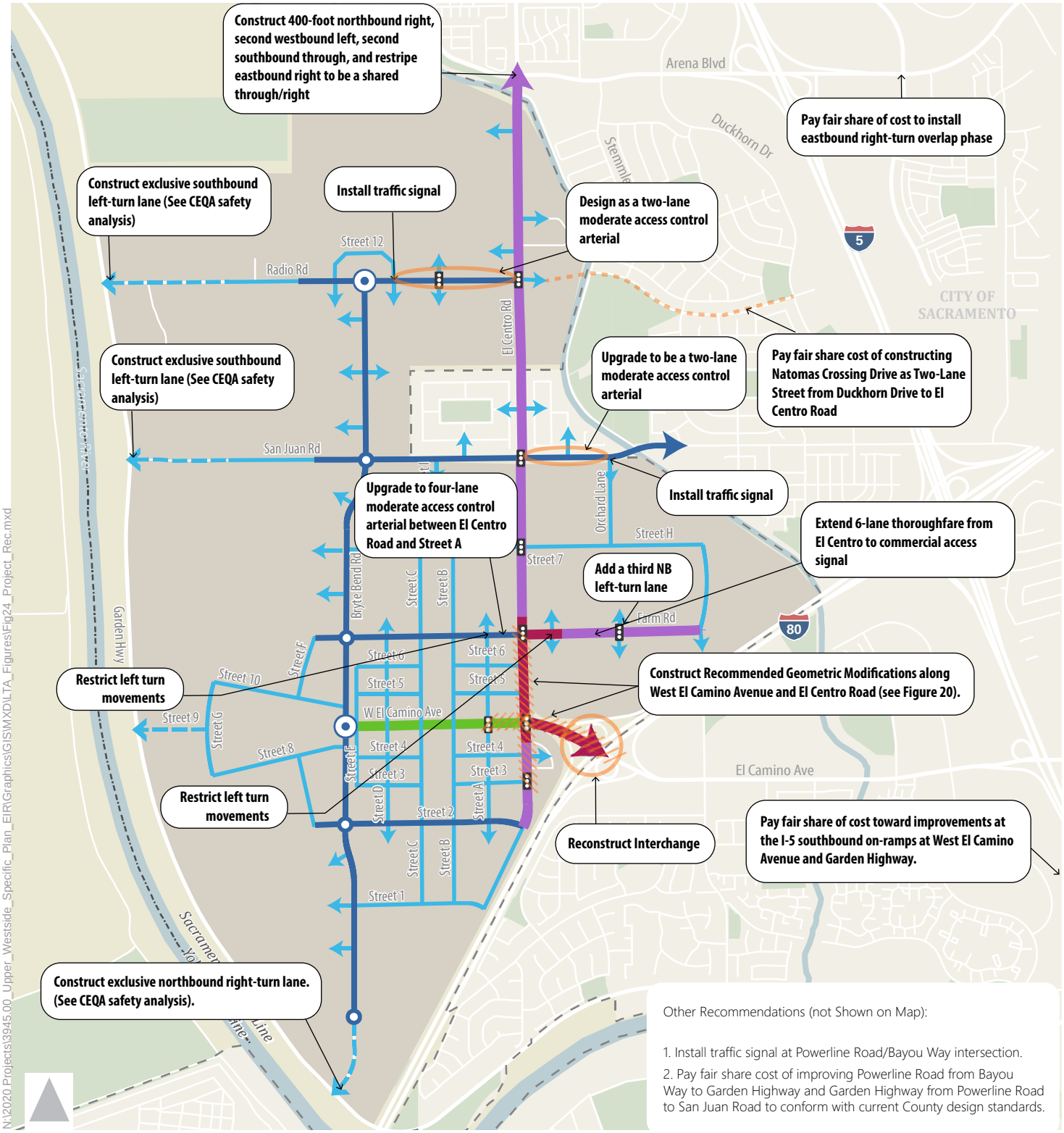
Table 23 recommends that the project make a fair share payment for construction of Natomas Crossing Drive as a two-lane roadway for 0.8 miles between Duckhorn Drive and El Centro Road. This improvement would offset worsening conditions on Arena Boulevard between El Centro Road and I-5. The recommendation for a fair share payment is driven by the fact that the improvement would benefit a number of existing and future land uses, and project benefits would be largely indirect. Secondly, much of the improvement would be situated within the City of Sacramento and therefore under their jurisdiction to approve and oversee construction. As evidenced by aerial imagery, right-of-way has been dedicated within the developed residential area for this improvement. The portion of the improvement within Sacramento County would include a bridge over Witter Slough. Natomas Crossing Drive would form the fourth leg to the El Centro Road/Radio Road intersection, which is planned to be signalized.

**Table 23:**
**Recommended Improvements to Address Operational Deficiencies – Cumulative Plus Project Conditions**

| Facility | Lead Agency | Description of Improvement(s) |
|---|---|---|
| Powerline Road/Bayou Way (#1) | Sacramento County | Install traffic signal |
| El Centro Road and West El Camino Avenue Corridors | Sacramento County | Construct Proposed Geometric Modifications (described in detail in previous chapter) and reoptimize signal timings |
| I-80/West El Camino Avenue Interchange [1] | Caltrans | Install two ramp-metered lanes on the I-80 WB diagonal on-ramp |
| Arena Boulevard/El Centro Road (#15) | City of Sacramento | At Arena Boulevard/El Centro Road (#15), construct second westbound left-turn lane, second southbound through lane, restripe eastbound right-turn lane to a shared through/right, and lengthen northbound right-turn lane to 400 feet with right-turn overlap arrow.<br>Pay fair share cost for constructing Natomas Crossing Drive as a two-lane street from Duckhorn Drive to El Centro Road.<br><br>Increase the ramp metering rate at the I-5 SB loop on-ramp |
| Arena Boulevard/East Commerce Way (#28) | City of Sacramento | Install an eastbound right-turn overlap phase |
| I-5/West El Camino Avenue Interchange [1] | Caltrans | Widen the I-5 SB diagonal on-ramp to consist of two ramp-metered lanes |
| Street 12 (East)/Radio Road (#45) | Sacramento County | Install traffic signal |
| San Juan Road/Orchard Lane (#50) | Sacramento County | Install traffic signal |
| Street A/Farm Road (#60) | Sacramento County | Install raised median on Farm Road at Street A to restrict turn movements on Street A to right-turn only. |
| Farm Road/MDR Access (#62) | Sacramento County | Install raised median on Farm Road at MDR Access to restrict turn movements to right-turn only. |
| Farm Road/Orchard Lane/CMU Driveway (#63) | Sacramento County | Expand northbound approach to consist of two left-turn lanes and a shared left/right lane. |

Notes:
1. Identified improvements derived from the ramp metering analysis whose results are contained in the *CEQA Transportation Impact Analysis for Upper Westside Specific Plan* (Fehr & Peers, March 2022).

Source: Fehr & Peers, 2021.




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Note:
The on-site improvements would be constructed by the project as development occurs. The timing of construction (or fair share payments) for off-site improvements will vary depending on the location and type of improvement.

Figure 22
# Cumulative Plus Project Recommendations

The circulation effects of the Natomas Crossing Drive roadway connection were tested using the cumulative plus project version of the SACSIM travel demand model. Separately bound **Appendix E** includes a plot showing the net change in traffic resulting from the inclusion of the street. This plot indicates the following:

- Traffic levels of Natomas Crossing Drive would gradually increase from 1,700 vehicles per day west of Duckhorn Drive to 3,900 vehicles per day at El Centro Road.
- The new connection would enable more efficient travel routes. This is evidenced by a net decrease of 1,600 daily trips on El Centro Road south of Arena Boulevard, and 1,600 fewer daily trips on Arena Boulevard east of El Centro Road, and 1,300 fewer daily trips on San Juan Road east of El Centro Road.
- Intersections that would benefit from this new connection would be: El Centro Road/San Juan Road, El Centro Road/Arena Boulevard, Arena Boulevard/Stemmler Drive, and Arena Boulevard/Duckhorn Drive. While the El Centro Road/Radio Road/Natomas Crossing Drive intersection would experience more traffic due to a busier east leg, it would operate at an acceptable LOS D during the AM and PM peak hours under cumulative plus project conditions.

The project's fair share is estimated at 51 percent (see separately bound **Appendix E** for detailed calculations). This is based on its proportionate share of growth in traffic on the following roadways between existing and cumulative plus project conditions:

- San Juan Road east of El Centro Road
- San Juan Road east of Duckhorn Drive
- Arena Blvd east of Duckhorn Drive

These roadways were selected because they represent gateway links to various land uses whose trips could benefit (either directly or indirectly) from the roadway connection.

Table 23 includes improvements under the jurisdiction of Caltrans, City of Sacramento, and Sacramento County. Ramp meter analysis was performed as part of this study and is documented in the *CEQA Transportation Impact Analysis for Upper Westside Specific Plan* (Fehr & Peers, March 2022). Mitigation Measure TR-8 of that report requires the project applicant to pay its fair share percentage toward improvements at the I-5 SB diagonal on-ramp at West El Camino Avenue, I-5 on-ramps at Garden Highway, and I-5 SB diagonal on-ramp at Del Paso Road.

**Table 24** illustrates the effectiveness of the measures shown in Table 23 at study intersections influenced by each improvement. See Appendix E for calculations.

**Table 24:**
**Intersection Level of Service – Cumulative Plus Project Conditions with Operational Improvements**

| Intersection | Traffic Control[1] | Agency | Cumulative No Project Conditions | | | | Cumulative Plus Project Conditions | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Without Improvements | | | | With Improvements [3] | | | |
| | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| | | | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS |
| 1. Powerline Road/Bayou Way | SSSC | Sac Co | 3 (23) | A (C) | 328 (981) | F (F) | 4 (41) | A (E) | 737 (2294) | F (F) | 20 | C | 23.4 | C |
| 15. El Centro Road/Arena Boulevard/Natomas Central Dr | Signal | City of Sac | 39 | D | 26 | C | 132 | F | 126 | F | 83 | F | 93 | F |
| 17. El Centro Road/El Camino Avenue | SSSC / Signal | Sac Co | 54 | D | 54 | D | 115 | F | 131 | F | 89 | F | 109 | F |
| 24. Stemmler Drive/Arena Boulevard | Signal | City of Sac | 72 | E | 13 | B | 127 | F | 111 | F | 51 | D | 22 | C |
| 25. Duckhorn Drive/Arena Boulevard | Signal | City of Sac | 56 | E | 47 | D | 152 | F | 133 | F | 60 | E | 66 | E |
| 26. I-5 SB Ramps/Arena Boulevard | Signal | Caltrans | 10 | B | 6 | A | 165 | F | 109 | F | 10 | B | 6 | A |
| 27. I-5 NB Ramps/Arena Boulevard | Signal | Caltrans | 24 | C | 73 | E | 237 | F | 226 | F | 26 | C | 77 | E |
| 28. East Commerce Way/Arena Boulevard | Signal | City of Sac | 69 | E | 67 | E | 102 | F | 91 | F | 35 | C | 86 | F |
| 33. I-80 WB Ramps/W. El Camino Avenue | Signal | Caltrans | 12 | B | 9 | A | 165 | F | 148 | F | 23 | C | 38 | D |
| 34. I-80 EB Ramps/W. El Camino Avenue | Signal | Caltrans | 11 | B | 12 | B | 154 | F | 278 | F | 38 | D | 39 | D |

**Table 24:**
**Intersection Level of Service – Cumulative Plus Project Conditions with Operational Improvements**

| Intersection | Traffic Control[1] | Agency | Cumulative No Project Conditions | | | | Cumulative Plus Project Conditions | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Without Improvements | | | | With Improvements [3] | | | |
| | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| | | | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS |
| 35. Orchard Lane/W. El Camino Avenue | Signal | City of Sac | 38 | D | 27 | C | 32 | C | 79 | E | 43 | D | 39 | D |
| 36. West River Drive/W. El Camino Avenue | Signal | City of Sac | 21 | C | 14 | B | 25 | C | 56 | E | 35 | C | 38 | D |
| 37. Gateway Oaks Drive/W. El Camino Avenue | Signal | City of Sac | 28 | C | 52 | D | 42 | D | 126 | F | 62 | E | 104 | F |
| 38. I-5 SB Ramps/W. El Camino Avenue | Free | Caltrans | 3 | A | 1 | A | 11 | B | 83 | F | 39 | D | 9 | A |
| 39. I-5 NB Ramps/W. El Camino Avenue | Signal | Caltrans | 14 | B | 7 | A | 23 | C | 148 | F | 59 | E | 18 | B |
| 45 Street 12 (E)/Radio Road | SSSC | Sac Co | Does Not Exist | | | | 15 (68) | B (F) | 10 (27) | A (D) | 8 | A | 10 | A |
| 50 San Juan Road/Orchard Lane | SSSC | Sac Co | | | | | 6 (56) | A (F) | 2 (27) | A (D) | 7 | A | 7 | A |
| 60. Farm Road/Street A | SSSC | Sac Co | | | | | 4 (49) | A (E) | 6 (55) | A (F) | 2 (15) | A (B) | 3 (18) | A (C) |
| 61. El Centro Road/Farm Road | Signal | Sac Co | | | | | 346 | F | 375 | F | 305 | F | 251 | F |
| 62. MDR Access/Farm Road | SSSC | Sac Co | | | | | 192 (470) | F (F) | 148 (446) | F (F) | 129 (300) | F (F) | 116 (313) | F (F) |
| 63. Orchard Lane/Farm Road/CMU Dwy | Signal | Sac Co | | | | | 247 | F | 242 | F | 183 | F | 178 | F |
| 68. El Centro Road/Street 6 | SSSC | Sac Co | | | | | 51 (276) | F (F) | 62 (110) | F (F) | 37 (169) | E (F) | 35 (122) | D (F) |
| 74. El Centro Road/Street 5 | SSSC | Sac Co | | | | | 17 (900) | C (F) | 33 (900) | D (F) | 32 (845) | D (F) | 39 (888) | E (F) |

**Table 24:**
**Intersection Level of Service – Cumulative Plus Project Conditions with Operational Improvements**

| Intersection | Traffic Control[1] | Agency | Cumulative No Project Conditions | | | | Cumulative Plus Project Conditions | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Without Improvements | | | | With Improvements [3] | | | |
| | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| | | | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS | Delay[2] | LOS |
| 81. Street A/W. El Camino Avenue | Signal | Sac Co | | | | | 19 | B | 58 | E | 21 | C | 71 | E |
| 83. El Centro Road/Tomato Patch Lane N | SSSC | Sac Co | Does Not Exist | | | | 2 (20) | A (C) | 6 (37) | A (E) | 19 (546) | C (F) | 16 (709) | C (F) |
| 89. El Centro Road/Street 4 | SSSC | Sac Co | | | | | 10 (53) | A (F) | 7 (52) | A (F) | 36 (411) | E (F) | 28 (413) | D (F) |
| 95. El Centro Road/Street 3/Tomato Patch Lane S | Signal | Sac Co | | | | | 15 | B | 13 | B | 19 | B | 14 | BC |

Notes:
1. AWSC = all-way stop controlled intersection; SSSC = side-street stop controlled intersection.
2. The overall average intersection control delay is reported in seconds per vehicle for signalized and all-way stop controlled intersections. For side-street stop controlled intersections, the average control delay/for the movement with the greatest delay is shown in parentheses, while the average delay/for the entire intersection is shown not in parentheses.
3 Operational improvements are listed in Table 23.
Source: Fehr & Peers, 2021.

**Table 25** shows the number of existing study intersections (operating with a traffic signal or all-way stop) that operate at LOS D or better, LOS E, and LOS F under cumulative no project and cumulative plus project conditions (both without and with recommended improvements). Key findings from this table are:

- During the AM peak hour, the project would cause the number of (existing) study intersections operating at LOS F to increase from eight under cumulative no project conditions to 18 under cumulative plus project conditions. The number of intersections operating at LOS F would be reduced to 11 with the proposed improvements in place.
- During the PM peak hour, the project would cause the number of (existing) study intersections operating at LOS F to increase from ten under cumulative no project conditions to 22 under cumulative plus project conditions. The number of intersections operating at LOS F would be reduced to 14 with the proposed improvements in place.

**Table 25:**
**Intersection LOS Summary – Cumulative Plus Project Conditions with Operational Improvements**

| Intersection Operations | Cumulative No Project Conditions | | Cumulative Plus Conditions | | | |
|---|---|---|---|---|---|---|
| | | | Without Improvements | | With Improvements | |
| | AM Peak Hour | PM Peak Hour | AM Peak Hour | PM Peak Hour | AM Peak Hour | PM Peak Hour |
| *Currently Existing Study Intersections (Operated with a Traffic Signal or All-Way Stop)* [1] | | | | | | |
| LOS D or Better | 21 | 18 | 15 | 8 | 19 | 16 |
| LOS E | 5 | 6 | 1 | 4 | 4 | 4 |
| LOS F | 8 | 10 | 18 | 22 | 11 | 14 |
| Total Intersections | 34 | 34 | 34 | 34 | 34 | 34 |

Notes:
1. Side-street stop intersections excluded because LOS F on a side-street is not as meaningful (i.e., volume could be low, downstream queuing effects, etc.). List includes West El Camino Avenue/El Centro Road intersection, which would be signalized with the project.

Source: Fehr & Peers, 2021.

## Potential Limitations to Travel Demand Forecasts (Emerging Technology)

While the SACSIM model represents ranges from state-of-practice to advanced-practice in travel modeling, travel behavior and the transportation systems are changing quickly in response to emerging trends, new technologies, and different preferences. Some of the new travel options and technologies emerging in the SACOG region are discussed below. Additionally, information about how technology is affecting travel is accumulating over time. Some of these emergent changes that could influence future travel forecasts include:

- Substitution of internet shopping and home delivery for some shopping or meal-related travel.
    - The 2018 SACOG Household Travel Survey (SHTS) showed that adults reported receiving a home delivery of a package on 17 percent of the travel days in the survey—and additional 4 percent received packages at work, food deliveries at home, etc. How these percentages compared to earlier years is not known.
    - National Household Travel Survey (NHTS) showed the number of online purchases with home delivery doubling between 2009 and 2017, from about 2.5 to 4.9 per household per month (FHWA 2018).
    - Comparisons of 2017 to 2009 NHTS data show that nationally, non-work trips per household declined by 11 percent. Most of that decline is attributed to lower rates of shopping trips and other family-related errands (FHWA 2018).
- New travel modes and choices
    - Transportation Network Companies (TNCs), car share, bike share, scooter share, and on-demand micro transit have increased the travel options available to travelers in the SACOG region and have contributed to changes in traditional travel demand relationships. The current share of resident trips served by TNCs is less than one-quarter percent, based on the 2018 SACOG Household Travel Survey (SHTS), and future growth depends on TNCs developing a sustainable business model.
- Automation of vehicles
    - Both passenger vehicles and commercial vehicles and trucks are evolving to include more automation. Research, development, and deployment testing is proceeding on fully Autonomous Vehicles (AV), for which no human driver would be required, and the vehicle itself can navigate the roadways to take people or goods where they need to go. Forecasts of how quickly research, development, and deployment testing will transition to full deployment and

marketing of fully AV vary widely both on the pace of the transition, and the market acceptance of fully autonomous operation. More uncertainty exists for the behavioral response to AVs. In terms of impact on the transportation system and the environment, a scenario of concern would be one in which AVs are privately owned, like most are at present, but the automated function of the vehicles would entice users to travel more. Examples of this phenomenon could include:

- Vehicles are repositioned to serve different members of a household (e.g., have a car drop a worker at their workplace, then drive back home empty to serve another trip, such as a student going to school). The repositioning of driverless vehicles could add significantly to traffic volumes and VMT.
- The time spent in a vehicle is reevaluated by travelers, resulting in an increase in the willingness to make longer trips. For example, if a person could read or do work in a vehicle instead of focusing on driving, they might be willing to commute longer to work. Conversely, a worker who prefers to live in a rural area, but is unwilling to drive far enough to act on that preference in a conventional vehicle, may be willing to do so in an AV.
- There may be an increasing willingness to drive more to avoid parking costs or tolls. For example, a person going to a sporting event in an area that charges for parking may use an AV to be dropped off at the venue, with the AV repositioning to an area that does not charge for parking.

SACSIM does not explicitly capture the above-mentioned new modes of travel and emerging trends in travel behavior. Through validation of the model to 2016 conditions, the cumulative effect of the new modes and changes are reflected in the resulting travel demand estimates, but the underlying behavioral impact of the modes are not modeled. Significant uncertainties exist at the present time that prevent explicit modeling of these new modes and emerging trends.

Additionally, future deployment levels for new modes of travel are unknown. For example, Uber and Lyft have both significantly increased trips, but both continue to run large operating losses and are reliant on investors to cover losses. A sustainable business model may require significant changes to services and/or fares, both of which could affect the trajectory of use and impact on travel behavior. Similar issues apply to bike share and other micro-mobility services.

The impact of new modes on individual and household travel behavior also is not fully understood and is the subject of ongoing research. Limitations on accessing utilization data directly from TNC vendors, in particular, constrains the ability to fully understand the impact of those services. Regulatory and legislative efforts to address the limits on access are underway in California and elsewhere, but these efforts will take

time. Only a few household travel surveys, including the 2018 SHTS, have surveyed TNC use in detail, and the e-assist JUMP bikes were introduced partway through the 2018 SHTS. Other major research studies focused on TNC use, and TNC driver behavior, are just being launched in California, and data collection and analysis has not yet started. Until this research is completed, there is no effective way to incorporate even the known new modes into travel demand models.

## Potential Limitations to Travel Demand Model and Forecasts (COVID-19)

Transportation and mobility are being transformed through a number of forces ranging from new technologies, different personal preferences, and the unique effects caused by the COVID-19 pandemic, the combination of which could alter traditional travel demand relationships in the near- and long-term future.

The COVID-19 pandemic and subsequent actions by federal, state, and local governments to curtail mobility and encourage physical distancing (i.e., limit in-person economic and social interactions) profoundly changed travel conditions. While travel activity will likely return to some form of normality after government shelter-in-place orders are lifted and the pandemic has concluded, it is likely that some of these temporary changes will influence people's travel choices into the future, including either accelerating or diminishing some of the emerging trends in transportation that were already underway prior to the pandemic.

The traffic counts collected for the transportation analysis pre-date any response to the pandemic. In addition, the travel demand forecasts developed for the transportation of the proposed project do not account for the potential short-term or long-term behavioral changes that may be instituted to reduce the general public's exposure level to this or other viruses moving forward. Although such measures (e.g. shifting to more telecommuting and virtual meetings) would tend to result in fewer average daily trips for most land uses, the degree that the changes would be implemented and their resilience over time is not known and cannot be predicted with a high degree of confidence.



# APPENDIX UT-1

## WATER SUPPLY ANALYSIS

☐ Press to clear form

**City of Sacramento**
**SB 610/SB 221 Water Supply Assessment and Certification Form**

This form may be used to complete water supply assessments for projects located in an area covered by the City's most recent Urban Water Management Plan.

Note: Please do not use this form if the projected water demand for your project area was not included in the City's latest Urban Water Management Plan. To review the City's Urban Water Management Plan, please visit: https://www.cityofsacramento.org/Utilities/Reports

**Project:** Upper Westside Specific Plan

**Date:** June 21, 2022

**Project Applicant (Name of Company):** Upper Westside, LLC

**Applicant Contact (Name of Individual):** Nick Avdis (Thomas Law Group on behalf of applicant)

**Phone Number:** (916) 287-9292

**E-mail:** navdis@thomaslaw.com

**Address:** 455 Capital Mall, Suite 801, Sacramento, California 95814

---

**Project Applicant to fill in the following:**

1. Does the project include:

| Type of Development | Yes | No |
|---|---|---|
| A proposed residential development of 500 or more dwelling units | ✔ | |
| A shopping Center employing more than 1,000 persons or having more than 500,000 square feet? | | ✔ |
| A Commercial Office building employing more than 1,000 persons or having more than 250,000 square feet? | ✔ | |
| A proposed hotel or motel, or both, having more than 500 rooms | ✔ | |
| A proposed industrial, manufacturing, or processing plant or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area | | ✔ |
| A mixed use project that includes one or more of the projects specified above | ✔ | |
| A project that would demand an amount of water equivalent to, or greater than, the water required by a 500 dwelling unit project | ✔ | |

If the answer is no to all of the above, a water supply assessment is not required for the project.

2. Is the projected water demand for the project location included in the City's 2020 Urban Water Management Plan, adopted June 29, 2021?

Yes: ✔ No: ☐

If the answer is no, you cannot use this form. Please refer to the requirements of SB 610 for preparing a water supply assessment.

3. Please fill in the project demands below:

| **Type of Development** | **Land Use Category** | **Demand Factor** | | **Proposed Development** | | | **Current Zoning** | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Residential Water Use Factor, afy/dwelling unit | Non-Residential Water Use Factor, afy/employee | Number Dwelling Units | Number Employees | Total Demand | Number Dwelling Units | Number Employees | Total Demand |
| Residential - Low | Rural Residential (RR) | .61 | .09 | 197 | | 120 AF | | | |
| | Suburban Neighborhood Low Density (SNLD) | | | 2366 | | 1443 AF | | | |
| | Traditional Neighborhood Low Density (TLDR) | | | 1063 | | 649 AF | | | |
| Residential - Medium | Suburban Neighborhood Medium Density (SMDR) | .39 | .09 | | | | | | |
| | Urban Neighborhood Low Density (ULDR) | | | 749 | | 292 AF | | | |
| Residential - High | Suburban Neighborhood High Density (SHDR) | .12 | .04 | | | | | | |
| | Traditional Neighborhood Medium Density (TMDR) | | | 911 | | 109 AF | | | |
| | Urban Neighborhood Medium Density (UMDR) | | | | | | | | |
| | Traditional Neighborhood High Density (THDR) | | | | | | | | |
| Mixed Use | Employment Center Mid Rise (ECMR) | .19 | .09 | | | | | | |
| | Suburban Center (SCnt) | | | | | | | | |
| | Suburban Corridor (Scor) | | | | | | | | |
| | Traditional Center (TCnt) | | | 791 | | 151 AF | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Mixed Use - Higher Density | Urban Center High (UCntHigh) | .15 | .04 | 3279 | | 492 AF | | | |
| | Urban Center Low (UcntLow) | | | | | | | | |
| | Urban Corridor High (UCorHigh) | | | | | | | | |
| | Urban Corridor Low (UCorLow) | | | | | | | | |
| Central Business District | Central Business District (CBD) | .15 | .02 | | | | | | |
| | Urban Neighborhood High Density (UHDR) | | | | | | | | |
| Commercial | Regional Commercial (RC) | .15 | .09 | | | | 47.1 ac | @1.5 AF/ac | 70.7 AF |
| | Employment Center Low Rise (ECLR) | | | | | | | | |
| Industrial | Industrial (IND) | | .14 | | | | | | |
| Public | Public/Quasi-Public (PUB) | .37 | .17 | 141.1 ac | @2.0 AF/ac | 282 AF | | | |
| Park | Parks and Recreation (PRK) | .37 | .17 | 120.5 ac | @3.0 AF/ac | 362 AF | | | |
| Open Space | Open Space (OS) | 0 | 0 | 154.2 ac | | 0 AF | | | |
| Other | Agricultural (AR, AG) | 0 | 0 | | | | 2018.9 ac | | 0 AF |
| Other | | | | | | | | | |
| Other | Add'l demand per project's WMP | | | | | 342 AF | | | |
| **Total Demand (AFY)** | | | | | | 4,242 AF | | | 71 AF |

4. Required Elements of Water Supply Assessment (Water Code § 10910)

A. Water supply entitlements, water rights or water service contracts (Water Code § 10910(d)):

The City's water supply entitlements, water rights and water service contract are identified and discussed in the Urban Water Management Plan, Chapters 3, 6, and 7.

All infrastructure necessary to deliver a water supply to the project is in place, excepting any distribution facilities required to be constructed and financed by the project applicant: Yes: ✔ No: ☐

B. Identification of other sources of water supply if no water has been received under City's existing entitlements, water rights or water service contracts (Water Code § 10910(e)):

Not applicable.

C. Information and analysis pertaining to groundwater supply (Water Code § 10910(f)):

Addressed by Urban Water Management Plan, Chapters 3, 6, and 7.

**Verification of Water Supply**
**(for residential development of more than 500 dwelling units)**

Based on the City's most recent Urban Water Management Plan, are there sufficient water supplies for the project during normal, single dry and multiple dry years over a 20 year period?

Yes: ✔ No: ☐

By: Brett Ewart

Title: Supervising Engineer

Date: November 11, 2022

**This box to be filled in by the City**

Distribution:

Applicant
Development Services Department (Org: 4913) – Assigned Planner:_____
Utilities Department (Org: 3334) - Development Review (Tony Bertrand)
Utilities Department (Org: 3332) - Capital Improvements (Brett Ewart)

# APPENDIX UD-1

## URBAN DECAY ANALYSIS

May 13, 2024

Todd Smith
Planning Director
County of Sacramento

Todd:

The County of Sacramento (County) is the lead agency preparing an Environmental Impact Report (EIR) for the proposed Upper Westside Specific Plan (UWSP), located just north of the City of Sacramento, in the unincorporated portion of the County. The plan area is envisioned to accommodate a range of land uses, including single-family and multifamily housing units; employment-generating uses, including retail, office, and hotel uses; educational uses; and recreation, open space, and other public/quasi-public land uses.

As part of the EIR, Economic & Planning Systems, Inc. (EPS) evaluated the potential for urban decay resulting from proposed retail development in the UWSP. The Urban Decay Analysis (UDA) report was completed in September 2022 and defined a Market Area for the purpose of evaluating the potential impacts of new retail in the UWSP and the cumulative impacts of UWSP and other new retail outlets in the Market Area. The defined Market Area includes portions of the Cities of Sacramento and West Sacramento and the County and is a thriving submarket in the Sacramento Region. The Market Area is estimated to accommodate substantial growth through 2052, and the analysis indicated support for new retail and retenanting of existing vacant space.

The UDA concluded that the projected impact of new retail development in the UWSP is unlikely to result in conditions conducive to urban decay. Further, the cumulative impacts of new retail development in the UWSP and other planned and proposed projects in the Market Area are unlikely to result in conditions conducive to urban decay. In the unlikely event existing retail establishments close, related to the cumulative impacts of new retail planned in the Market Area, conditions related to urban decay are not estimated to occur as retail market dynamics will continue to function to keep the new retail supply in line with the evolving nature of retail market demand. In addition, the Market Area exhibits strong market fundamentals, and property owners and tenants will have an economic incentive to maintain their properties and businesses.

*The Economics of Land Use*

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*Los Angeles*

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Recently, the County inquired about the potential changes to the UDA findings, given the time that has passed and the development that has occurred since completion of the study.

The UDA projects population, household, and employment growth in the Market Area from 2022 to the estimated buildout at the time of the report of 2052. In response to the County's inquiry regarding the 2 years that have passed, EPS estimates that updating the study period from 2024 to 2054 would not significantly change the UDA's key findings.

EPS's cumulative retail analysis projected an addition of about 849,400 square feet of retail by 2052, reflecting an annual average of 28,300 square feet of new retail space added to the Market Area, excluding the UWSP. Since 2022, the Market Area experienced net new absorption of 197,272 square feet of retail, reflecting an average of 84,545 square feet per year. However, more than 80 percent of this new retail space comprises a new Costco, a unique community-serving bulk-retail establishment that will not compete with most of the existing or new neighborhood- and community-serving retail establishments in the Market Area, and the remainder includes small retail stand-alone strip-center developments with a median square footage of 2,700 square feet. Further, there has been significant residential growth in the Market Area, bolstering continued demand for retail space in the Market Area.

In the previous decade (including the most recent development in the last 2 years), the Market Area added an average of about 26,000 net new square feet of retail space. EPS estimates it is reasonable to assume over the long-term, 30-year study period, average annual retail absorption will likely follow historical trends as residential development absorbs similar to historical trends. In response to the County's inquiry regarding new retail space constructed in the Market Area between 2022 and 2024, although the specific tenants in the retail space recently constructed in the Market Area were not identified in the UDA, EPS concludes it is reasonable to assume the recent retail space constructed in the Market Area is accounted for in the cumulative portion of the analysis.

Sincerely,

ECONOMIC & PLANNING SYSTEMS, INC. (EPS)

Amy Lapin
Principal

**Final Report**

# Upper Westside Specific Plan
# Urban Decay Analysis

*The Economics of Land Use*

Prepared for:

Upper Westside, LLC

Prepared by:

Economic & Planning Systems, Inc. (EPS)

September 2022

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EPS #202053

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# 1. EXECUTIVE SUMMARY

## Introduction

The County of Sacramento (County) is the lead agency preparing an Environmental Impact Report (EIR) for the proposed Upper Westside Specific Plan (hereafter, referred to as Upper Westside, UWSP, or the Project), located just north of the City of Sacramento in the unincorporated portion of the County. The plan is envisioned to accommodate a range of land uses, including single-family and multifamily housing units; employment-generating uses, including retail, office, and hotel uses; educational uses; and recreation, open space, and other public/quasi-public land uses. As part of the EIR, the Landowners, Upper Westside, LLC (Landowners), retained Economic & Planning Systems, Inc. (EPS) to evaluate the potential for urban decay resulting from proposed retail development in Upper Westside.

Based on State of California (State) case law and precedent established in previous urban decay analyses, urban decay relates to the impact of new retail development on existing retail development and is defined as the substantial and prolonged physical deterioration of properties or structures, resulting in discontinued use and investment, and adversely affecting the health, safety, and welfare of the surrounding community. It is important to note that case law establishes that urban decay is not defined as the closing of one specific or even multiple stores, and new development does not trigger an automatic presumption of urban decay.[1] However, courts have found that lead agencies have an obligation to consider whether land use decisions may cause a chain reaction of store closures, long-term vacancies, and physical manifestations of urban decay, which has the potential to destroy existing neighborhoods.[2] Manifestations of urban decay may include various signs of physical blight such as abandoned buildings, boarded storefronts, litter, uncontrolled vegetation, vandalism, and graffiti.

This Urban Decay Analysis (Study) estimates the extent to which new retail development in Upper Westside would have competitive impacts on existing retail outlets in the defined Market Area and consequently cause or contribute to urban decay (Project-Specific Impacts).

In addition, in accordance with California Environmental Quality Act (CEQA) Guidelines Section 15130, this Study examines the effects of retail development in Upper Westside *and* other proposed projects in the defined Market Area on existing retail outlets and estimates the likelihood this cumulative development will cause or contribute to urban decay (Cumulative Impacts).[3] The Cumulative Impacts analysis is based on the assumption that a portion of planned retail space in the defined Market Area will develop within the defined Study period.

---

[1] Bakersfield Citizens for Local Control v. City of Bakersfield (2004), 124 Cal. App. 4th 1184.

[2] Ibid.

[3] Title 14 of the California Code of Regulations, Chapter 3, Guidelines for the CEQA Article 9, Section 15130, clarifies that, "cumulative impacts are created as a result of the combination of the project being evaluated in the [EIR] together with other projects causing related impacts."

However, new retail space requires adequate market support and, depending on continued changes in the retail market, may not actually develop to the extent estimated in this Study.

## Project Overview

Upper Westside is a new mixed-use community covering nearly 2,000 acres located in the County west of the City of Sacramento (City), north of Interstate 80, southwest of Interstate 5, east of the Sacramento River, and south of the Sacramento International Airport. See **Map 1-1**.

The Project is intended as a sustainable self-contained suburban community with the feel of an urban location provided by a dense, vertical, mixed-use town center, including a one-mile-long recreational canal as the focal point connecting the town center with surrounding suburban-like development including single-family residential uses, park space, and educational facilities. Development is anticipated to occupy about 1,500 acres with about 500 acres allocated as open space/agricultural buffer zone between development and the Sacramento River. Planning for the Project has been underway since 2019 and requires General Plan amendments to move the Urban Services Boundary (USB) and Urban Policy Area (UPA). The most recent iteration of the Project Land Use Plan was prepared in January 2022, as described in more detail below.

### Project Land Uses and Study Period

Upper Westside is estimated to comprise approximately 9,356 residential units. About 47 percent of these units will comprise single-family dwelling units, including Very Low, Low, Low/Medium, and Medium Density housing units. The remaining 53 percent of the residential portion of the Project comprises 4,981 multifamily units (including High and Very High density and Mixed-Use housing units).

Upper Westside is also being planned to include about 3.1 million gross building square feet of nonresidential space, including approximately 575,800 square feet of retail, 1.9 million square feet of office, 464,400 square feet of hotel space, and 154,800 square feet of institutional space. Refer to **Figure 1-1** below for a summary of proposed Project land uses, which are used to estimate supply and demand characteristics in this Study.

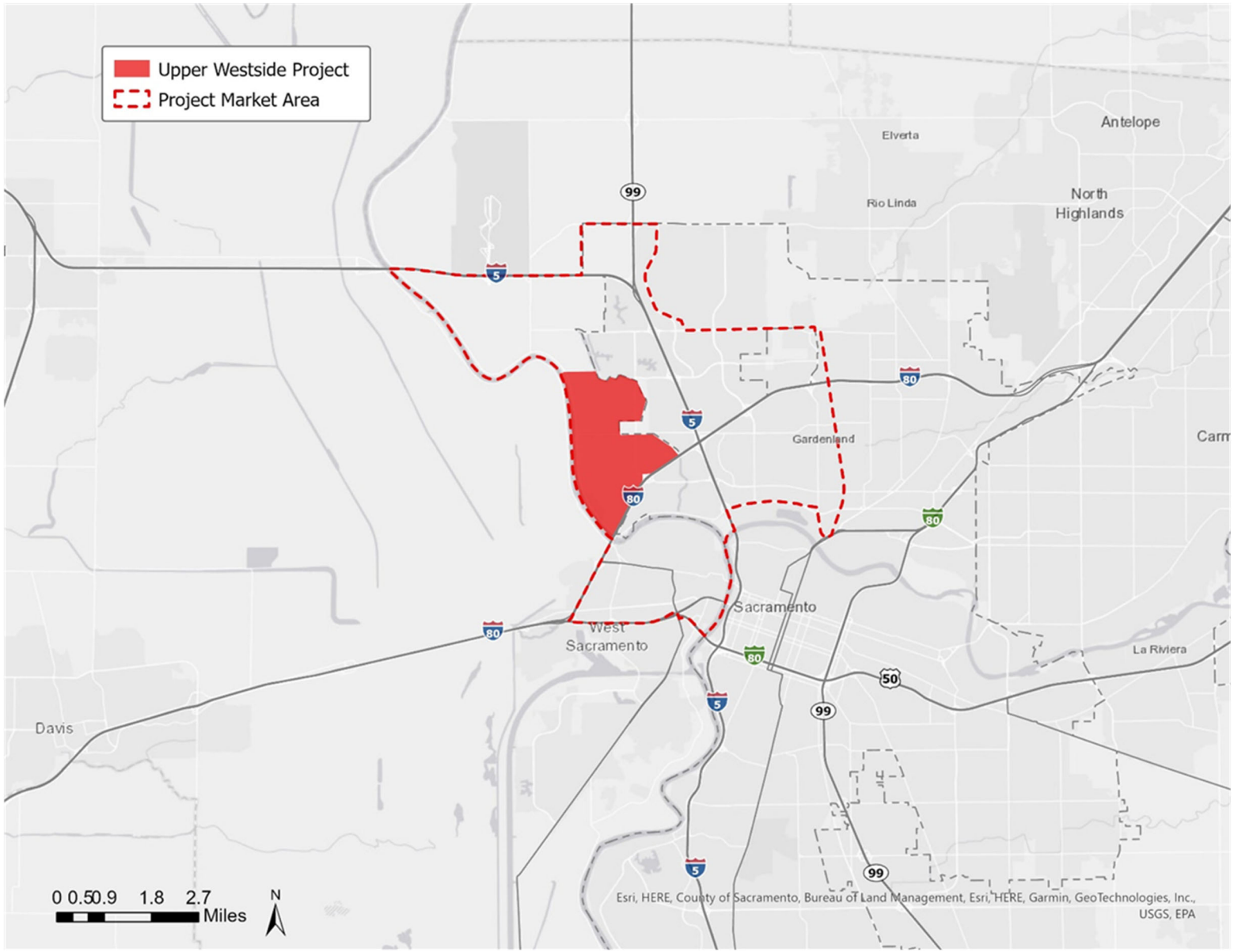
**Figure 1-1. Gross Land Use Summary**

| Land Use | Total | % of Total |
|---|---|---|
| **Residential Units** | | |
| Single Family | 4,375 | 47% |
| Multifamily | 4,981 | 53% |
| **Total Units** | **9,356** | **100%** |
| **Nonresidential Sq. Ft. [1]** | | |
| Office | 1,901,200 | 61% |
| Retail | 575,800 | 19% |
| Hotel | 464,400 | 15% |
| Institutional | 154,800 | 5% |
| **Total Sq. Ft.** | **3,096,200** | **100%** |

Source: Table 2-1.

[1] Figures rounded.

**Map 1-1. Upper Westside Specific Plan Regional Context**



Development of Upper Westside is assumed to occur over an extended period. This Study evaluates the impacts of development for an estimated buildout period from 2022 to 2052.

## Study Overview

The sections below concisely describe this Study's methodology and key resources used in the analysis.

### Study Methodology

The following tasks were involved in evaluating the potential for urban decay from the development of Upper Westside (Project-Specific Impacts), and Upper Westside in combination with other planned projects in the Market Area (Cumulative Impacts):

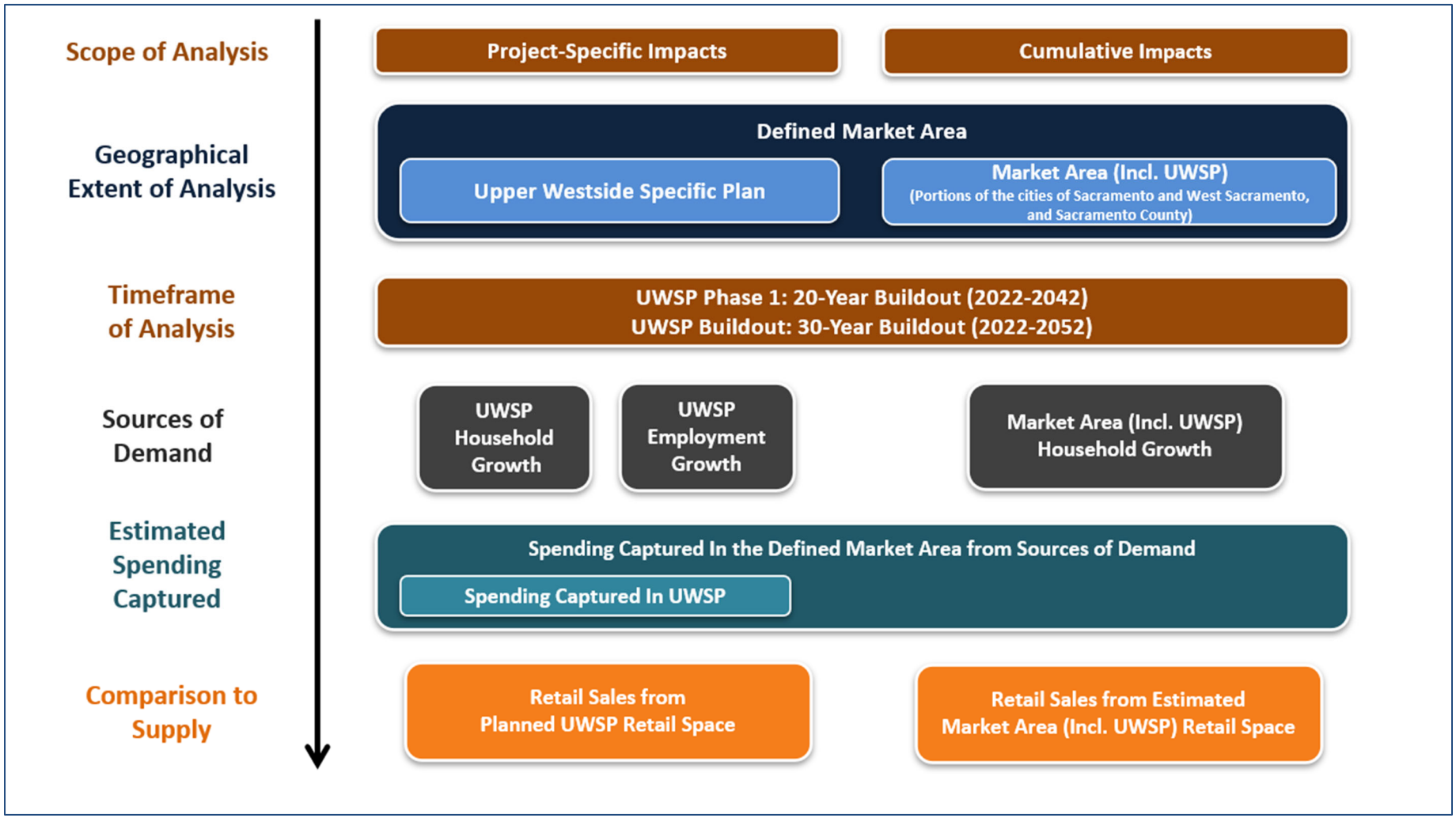
- Estimated gross and occupied land uses and demographic characteristics for the Project.
- Defined a retail market area (Market Area), which encompasses portions of the cities of Sacramento and West Sacramento, and Sacramento County.
- Identified the analytical timeframe of the Study, which extends through the buildout of the Project (2022 to 2052).
- Assessed the existing retail market conditions in the cities of Sacramento and West Sacramento, Sacramento County, and the Market Area.
- Estimated existing and projected Market Area retail demand from sources outside and inside the Project.
- Estimated the potential impact of proposed retail in the Project on existing retail outlets in the Market Area (Project-Specific Impacts).
- Identified planned and proposed retail projects in the Market Area greater than 20,000 square feet (in addition to retail in the Project) and estimated total sales.
- Estimated the potential impact of cumulative retail projects, including the Project, estimated to be absorbed within the Study period, on existing retail outlets in the Market Area (Cumulative Impacts).
- Assessed market supportability and identified the potential for urban decay associated with retail development in the Project and other projects in the Market Area.

The technical analyses for the above tasks are exhibited in the report tables and appendices in this report. Refer to **Figure 1-2** for a graphical representation of the retail analysis methodology.

### Study Resources

EPS used many resources for urban decay analysis; these resources are documented in the technical analysis tables and the report and summarized below.

**Figure 1-2. Analysis Methodology Flow Chart**



***Government Resources***

EPS used information provided by the cities of Sacramento and West Sacramento; Sacramento County; the California Department of Finance; the Sacramento Area Council of Governments; the California Department of Tax and Fee Administration; the 2020 U.S. Economic Census; the U.S. Census; the U.S. Bureau of Labor Statistics; and the U.S. Census of Retail Trade.

***Other Technical Analyses***

Additional technical analyses referenced include Wood Rodger's Upper Westside Land Use Summary, received January 14, 2022; Title V: Special Planning Areas and Neighborhood Preservation Areas Chapter 5 Article 3—Metro Air Park Special Planning Area (Amended November 16, 2018); Sutter Pointe Specific Plan Chapter 3: Land Use; and North Natomas Infill Redevelopment Planned Unit Development, dated November 8, 2018.

***Third-Party Resources***

Other third-party resources used include data from CoStar; The Gregory Group; shopping center broker Web sites; the Sacramento Business Journal; the Sacramento Bee; Esri Business Analyst Online; International Council of Shopping Centers, "U.S. Shopping Center Classification and Typical Characteristics," April 2017; BizMiner 2016; eMarketer 2017; various retail corporation annual 10-K reports; and the Urban Land Institute.

# Summary of Findings

## Market-Based Findings

- **The national retail market has continued to adapt to a high degree of volatility.** Since 2009 and with the onset of the COVID-19 Pandemic in 2019/2020, the national retail market has continued to experience turbulence and a high degree of uncertainty regarding tenanting and absorption forecasting. It is widely acknowledged that an oversupply of retail space exists nationally and with an increasing market share of online shopping (e-commerce) and changing consumer preferences, the amount of retail building square footage supportable by the market may decline in the future. The digital shift fast-forwarded by the Pandemic set off a "retail reset" causing retailers to rethink their shopping models. Retailers that survived the Pandemic did so by bolstering their digital presence, providing increased e-commerce options such as "click and collect," reducing the amount of in-store inventory, and decreasing the number of physical stores.[4]

  Since the earliest days of retail trade, the retail sector has adapted, with new retail tenants, concepts, and formats continuing to emerge and establish their presence. The large volume of store bankruptcies, closures, and consolidations from the economic downturn and the effects of the Pandemic paved the way for retail-sector adaptations, as well as provided opportunities for replacing retail space with other land uses, including residential, medical office, self-storage, religious institutions, public uses, and experiential uses.

[4] "Click and collect" is defined as an e-commerce model in which people purchase or select items online and pick them up in-store or at a centralized collection point.

- **Despite changing dynamics in the national retail market, Market Area retail exhibits strong market fundamentals.** The cities of Sacramento and West Sacramento and Sacramento County, portions of which are contained in the Market Area defined in this Study, have maintained a healthy equilibrium since the last economic downturn and during the Pandemic. Supported by population growth and rising household incomes, the retail market has remained stable, in particular for retail development in well-located centers near growing neighborhoods. Retail vacancy in the surrounding jurisdictions has not surpassed 10 percent since emerging from the Great Recession. Vacancy rates in the Market Area have been below or at 5 percent since 2013. A healthy vacancy rate is considered to fall between 5 percent and 10 percent to allow for natural ebbs and flows of the market. A vacancy rate below 5 percent reveals a tight market and indicates the potential for additional supply. Despite the disruptions in the national retail market environment, with continued retail store closures and consolidations, increasing e-commerce market share, and changing consumer preferences, the retail in the three jurisdictions continues to strengthen, showing positive net absorption over the past 5 years.

### Market Area Findings

- **The Market Area, composed of portions of the cities of Sacramento and West Sacramento, and Sacramento County, is a thriving submarket in the Sacramento Region.** As of 2022, the Market Area contains an estimated total of 37,700 households, a population of about 100,000 residents, and almost 55,300 jobs. The Market Area contains a total of 5.2 million square feet of neighborhood-, community-, and regional-serving retail predominantly dispersed to the east of Interstate 5 in North and South Natomas and near Interstate 80 in the City of West Sacramento. The Market Area has a retail benchmark of about 52 square feet per capita, consistent with the retail benchmark for the Sacramento Region (Region), which includes Sacramento, El Dorado, Placer, Sutter, Yuba, and Yolo Counties, as a whole.[5] In comparison, the Project contains a benchmark of 22 retail square feet per capita, aligned with the neighborhood- and community-serving retail benchmark (excluding regional-serving retail space) in the Region.

- **The Market Area and adjacent areas are estimated to accommodate substantial growth through 2052.** In addition to the Project, other major projects in the Market Area include Northlake, Innovation Park & CNU Medical Campus, NorthPointe, and other smaller projects in the City of West Sacramento. Adjacent to the Market Area, other major projects include Metro Air Park, Sutter Pointe, Grandpark, and the buildout of the North Natomas CPA. These projects are estimated to accommodate significant residential and employment growth; by 2052, the Market Area alone is estimated to add about 31,500 households, with 28 percent of these households in the Project and 72 percent in the remainder of the Market Area. This level of growth represents an increase in households of about 84 percent over the current number of households in the Market Area.

[5] The benchmark survey includes data as of 2020 from the California Department of Finance and CoStar.

The Market Area is also anticipated to add nearly 32,500 new jobs, with about 27 percent of those jobs contained in Upper Westside, and the remaining 73 percent located in the balance of the Market Area. This level of growth equates to an increase in jobs of about 60 percent over existing employment in the Market Area.

The Project is envisioned to contain 575,800 gross square feet of community- and highway-serving retail development. Development of the gross square footage of the planned and proposed projects, including both the Project (**Table 2-1**) and all proposed commercial retail supply in the Market Area (**Table 5-3**), would equate to 1.5 million square feet of new retail development in the Market Area, which represents a 29 percent increase over current retail inventory. Total existing and new retail inventory (about 6.6 million square feet) would result in a benchmark of 53 square feet per capita in the Market Area, an increase of 1 square foot per capita over the current retail benchmark. At the time of this Study, planned and proposed projects elsewhere in the Market Area, excluding the Project, are estimated to contain an additional 912,000 gross square feet of retail development. Because of the significant amount of retail development, EPS has discounted the amount that could be absorbed in the Study period and potentially supported by Market Area residents for the Cumulative Impact analysis, estimating 639,000 square feet will be absorbed through the Study period (though 2052) as described in more detail later in this report (**Table 5-4**).

- **The Market Area retail market fundamentals indicate support for additional retail and the ability to fill existing vacant space.** Current vacancy in the Market Area is estimated at 3.4 percent, indicating a tight market with limited available space. The available space comprises only two spaces larger than 20,000 square feet. One space comprises a former 34,860-square-foot Safeway, vacant since 2018, in the West Capitol Plaza, a 125,700-square-foot community-oriented shopping center built in 2002 located in the central business district adjacent to the City of West Sacramento City Hall in West Sacramento. This area is slowly revitalizing with a recently built hotel, multifamily housing project, and roadway and streetscape infrastructure improvements. The other space is a 28,7200-square-foot former Big Lots, vacant since 2014, in the older, but well-maintained Northgate Shopping Center, a 119,700-square-foot community-oriented shopping center build in 1979 in South Natomas on the outskirts of an established residential area adjacent to other retail centers built in the 2000s.[6] The outlook for re-tenanting these vacant spaces looks favorable as these centers and areas have very little vacancy, the centers are in good condition and the vacant space is actively being marketed, and the Market Area has demonstrated positive net absorption over the past 3 years as area retail continues to evolve with the changing market and a history of re-tenanting activity as described later in this section.[7] A 4-mile radius containing the Market Area saw over 70 lease transactions since the beginning of 2019, with 7 transactions greater than 12,000 square feet, as North Natomas continues to grow.[8]

[6] Data obtained from CoStar, accessed in February 2022.

[7] Ibid.

[8] Ibid.

## Project-Specific Urban Decay Impacts

- **New retail development in Upper Westside is unlikely to result in conditions conducive to urban decay.** As described in this Study, captured spending from new Project households and Project employees are anticipated to fully support Project retail space planned in Phase I. Spending captured at Project buildout is estimated to require additional sources of demand beyond the Project's estimated capture of internal sources of demand from households and employees. This Study estimates approximately $65.8 million would be required from external sources to support the Project at buildout, representing approximately 4.6 percent of existing retail sales in the Market Area.

  The Project-specific analysis excludes other new sources of demand that will certainly offset the estimated Project sales not captured by new households and employees in the Project. Notably, the project-specific analysis excludes estimates of sales from pass-by traffic for the Project's highway-oriented retail along Interstate 5 and Interstate 80. In addition, the analysis excludes market support from the incremental growth in households and employees in the Market Area, outside of the Project, which will patronize existing and new retail establishments in the Market Area, including the mixed-use retail uses in the Project town center.

  In EPS's professional opinion, new retail outlets in the Project are not likely to lead to conditions conducive to urban decay (substantial and prolonged physical deterioration of properties or structures resulting in discontinued use and investment). Although there is no absolute rule, most establishments usually can withstand a short-term sales shift of 5 percent to 7 percent over a 3- to 5-year timeframe, as this typically represents a business cycle downturn.[9] The percentage shift away from existing retail establishments at buildout is well below the threshold at which an otherwise healthy retail sector could recover and is expected to be offset with other sources of demand conservatively excluded from this Study. The percentage shift of sales from existing retail outlets is estimated to decline as population and employment growth continue in the Market Area.

  With the Market Area exhibiting strong market fundamentals, property owners and tenants will have an economic incentive to maintain their properties and businesses as demonstrated by the existing physical conditions of retail centers in and adjacent to the Market Area, which appear clean and well-maintained as shown in **Appendix B**.

[9] This metric is based on decades of retail market research conducted by EPS, including an evaluation of retail sales and total establishment data collected from the California State Board of Equalization and Department of Tax and Fee Administration.

## Cumulative Urban Decay Impacts

- **All new planned and proposed retail development in the Market Area is unlikely to absorb within this Study's period of analysis (2022-2052) and may not ever develop.** EPS estimates that all of the cumulative projects will absorb by 2052, except for the NorthPointe project, which is in its early planning stages but is still assumed to be 50 percent developed by 2052. Using the same method of Market Area capture estimated for the Project, EPS estimates that 80 percent of planned retail sales will be captured by households in the Market Area, with the remaining 20 percent drawn from consumers outside of the defined Market Area. All that considered, the amount of future cumulative planned retail assumed in this Study may represent a conservatively high estimate of supportable retail space in the Market Area, given trends occurring in the retail sector.

  It is also important to note that some of the other projects in the Market Area included in the Cumulative Impacts analysis have not yet achieved full project entitlement, have speculative development timelines, or may be in the process of submitting applications to change land uses. Planned and proposed retail space may not ever develop or may develop at a lower density and intensity than currently planned. Therefore, conclusions regarding the Cumulative Impacts analysis should be considered conservative.

- **The Cumulative Impacts of new retail development in Upper Westside and other planned and proposed projects in the Market Area are unlikely to result in conditions conducive to urban decay.** The Cumulative Impact analysis examines the estimated impact of retail development in Upper Westside and other planned and proposed projects in the Market Area, through the buildout of the Project, on existing retail outlets. Identification of the retail supply pipeline indicates there is a large amount of retail planned in the Market Area (about 912,000 square feet), although approximately 70 percent of this potential supply is anticipated to be absorbed through 2052 (about 639,000 square feet). This estimated amount of retail absorption is commensurate with estimated residential absorption in planned and proposed projects in the Market Area. This Study also applies an adjustment factor to the amount of estimated retail space absorbed through 2052 to account for the estimated proportion of supportable retail space from Market Area households and Project employment. That is, other sources of demand are not estimated in this analysis that will support new community- and highway-serving retail development (e.g., new employees in the Market Area outside the Project, residents outside the Market Area).

  With these adjustments and an average retail market vacancy rate, the Cumulative Impacts of retail development in the Project and other planned and proposed projects in the Market Area are estimated to provide an estimated 4.1 percent increase in demand to support existing Market Area retailers in Phase 1 and essentially break even at buildout, with an estimated 0.3 percent increase in demand for existing Market Area retailers. Thus, it is EPS's professional opinion that the estimated increase in available demand is unlikely to lead to conditions conducive to urban decay. With the Market Area exhibiting strong market fundamentals, property owners and tenants will have an economic incentive to maintain their properties and businesses. Furthermore, retail market dynamics will continue to function to keep the new retail supply in line with the evolving nature of retail market demand.

- **Conditions conducive to urban decay are not estimated to occur in the unlikely event existing retail establishments close related to the cumulative impacts of new retail planned in the Market Area.** Property owners and tenants have an economic incentive to maintain their businesses and properties if long-term market conditions are expected to be favorable. Even during the lengthy economic downturn, when vacancy rates rose higher than 13 percent over 3 years in the Market Area, the retail sector did not experience conditions related to urban decay because of the expectation that market conditions would improve. The retail sector is inherently very competitive and dynamic with tenants adapting formats to meet changing consumer preferences or other market trends. In the event vacancies occur, either as a result of new retail space or other changing market dynamics, vacated spaces have the potential to be re-tenanted or repositioned with another retail or nonretail specialization or use, such as the former 25,000-square-foot Borders (North Natomas) and the 20,740-square-foot Big Lots (West Sacramento), both of which were re-tenanted by a Planet Fitness, the 19,991-square-foot OfficeMax (North Natomas) filled by Boot Barn, and the former 155,000-square-foot Fry's (North Natomas), which is being redeveloped as industrial space. Furthermore, jurisdictions in the Market Area have ordinances and code enforcement tools to address blight and signs of deferred property maintenance that assist in mitigating conditions that lead to urban decay.

## Report Organization

This report contains 6 chapters. Following this initial introductory chapter and summary of findings, **Chapter 2** provides an overview of the Project. **Chapter 3** assesses the existing retail market conditions and socio-economic characteristics in the Market Area. **Chapter 4** estimates projected new retail demand. **Chapter 5** identifies the cumulative retail supply in the Market Area and the estimated sales. **Chapter 6** evaluates the potential impacts of the Project on the existing retail market, as well as the potential impacts of the cumulative retail projects, including the Project, on existing retail and the potential for urban decay.

# 2. *Introduction and Project Description*

The County is the lead agency preparing an EIR for the proposed Project, located in the northwest unincorporated County area. The approximately 1,530-acre Project is envisioned to accommodate a range of land uses, including single-family and multifamily housing; employment-generating uses including retail, office, and hotel uses; educational uses; and recreation, open space, and other public/quasi-public land uses. As part of the EIR, the Landowners retained EPS to evaluate the potential for urban decay resulting from the retail component of Upper Westside.

This Study estimates the extent to which new retail development in Upper Westside would have competitive impacts on existing retail outlets in the defined Market Area and consequently cause or contribute to urban decay (Project-Specific Impacts). This Study also examines the effects of other proposed retail projects in the defined Market Area, in conjunction with Upper Westside, on existing retail outlets and estimates the likelihood this cumulative development will cause or contribute to urban decay (Cumulative Impacts).[10]

Following an overview of the definition of urban decay, the remainder of this chapter provides an overview of the Project, including proposed land uses and estimated demographic characteristics of the Project. Subsequent chapters assess existing retail market conditions and evaluate Project-Specific Impacts and Cumulative Impacts.

## Overview of Urban Decay

Based on State case law and precedent established in previous urban decay analyses, urban decay is defined as the substantial and prolonged physical deterioration of properties or structures, resulting in discontinued utilization and investment, and adversely affecting the health, safety, and welfare of the surrounding community. It is important to note that case law establishes that urban decay is not defined as the closing of one specific or even multiple stores, and new development does not trigger an automatic presumption of urban decay.[11] However, courts have found that lead agencies have an obligation to consider whether land use decisions may cause or contribute to a chain reaction of store closures, long-term vacancies, and physical manifestations of urban decay, which has the potential to destroy existing neighborhoods.[12] Manifestations of urban decay may include various signs of physical blight such as abandoned buildings, boarded storefronts, litter, uncontrolled vegetation, vandalism, and graffiti. Additional information regarding the case law underpinning urban decay is described in **Chapter 6**.

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[10] Title 14 of the California Code of Regulations, Chapter 3, Guidelines for the California Environmental Quality Act (CEQA) Article 9, Section 15130, clarifies that, "cumulative impacts are created as a result of the combination of the project being evaluated in the [Environmental Impact Report] together with other projects causing related impacts."

[11] Bakersfield Citizens for Local Control v. City of Bakersfield (2004), 124 Cal. App. 4th 1184.

[12] Ibid.

# Project Overview

## Upper Westside Specific Plan

Planning for development in the northwest County, in which the Project is located, has been underway for more than 20 years. In the late 1990s, the City and the County endeavored to urbanize a substantial portion of the Natomas Basin, which spans from the American River to the south, the Sacramento River to the west, Steelhead Creek to the east, and the Cross Canal to the north, extending into Sutter County.

In 2001, the City and the County coordinated efforts and initiated the Joint Vision for Natomas (now called the Natomas Vision Plan), which focused on the unincorporated County portion of the Natomas Basin. The Natomas Vision Plan was a comprehensive planning process that integrated urban planning and design, open space and habitat preservation, agricultural preservation, municipal service delivery, and environmental sustainability considerations.

## Project Description

The Project Administrative Draft Specific Plan, prepared in February 2021, proposes a new mixed-use community in the Natomas Vision Plan area. The Project encompasses a little over 1,530 acres west of Highway 99, south of Interstate 5, and is bordered by Interstate 80 to the south, and the Sacramento River to the west. There is existing freestanding retail within the Project located near the Interstate 80 interchange at W. El Camino Avenue comprising highway-oriented retail with a couple of gas stations, fast food, diners, a truck stop, and a hotel.[13] The Project is connected directly to the regional transportation network along Interstate 80 as well as indirect access to Interstate 5, providing direct access to key proximate employment, service, and retail centers along Interstate 5 and Interstate 80 such as the Sacramento International Airport, North and South Natomas, West Sacramento, and Downtown Sacramento. Further, the Project is located near major development projects—both proposed and in progress—including the Grandpark Specific Plan to the north; Metro Air Park and the Northlake development project, both about 3 miles to the north above Interstate 5; the Northpointe development project located less than 3 miles north from the Project below Interstate 5; The Innovation Park and CNU development located east of the Project; the Highway 99-Interstate 5 Interchange; the dense Railyards development north of Downtown Sacramento; and West Sacramento's Bridge District. **Map 1-1** displays the Upper Westside area within the context of the greater Sacramento Region.

The Project is intended to develop as a sustainable self-contained suburban community with the feel of an urban location provided by a dense, vertical, mixed-use town center, including a one-mile-long recreational canal as the focal point connecting the town center with surrounding suburban-like development including single-family residential uses, park space, and educational facilities. Overall, the Project will provide a range of housing choices, employment opportunities, schools, parks, shopping, and services. The Project is expected to provide residential and retail

[13] The retail sales for the existing development are assumed to be accounted for in the analysis within existing Market Area sales and is therefore excluded from the retail square footage of the Project and corresponding sales estimates.

land uses to accommodate growth in a location adjacent to existing and planned infrastructure, urban services, transportation corridors, and regional job centers. The Project is planned to maintain flexibility to adapt and adjust to changing economic and market conditions, given the Project's long-term buildout period.

#### *Study Period*

This Study is based on an estimated 30-year Project buildout period, commencing in 2022 and ending in 2052. The analysis includes an examination of Phase 1 of the Project, which comprises a 20-year buildout. These timeframes are generally consistent with buildout assumptions used in the EIR. Note that demand from future development outside the Project within the defined Market Area commences from the time of this Study (2022) and ends in the same year as the proposed Project buildout, 2052.

## Land Use Summary

The full urban uses in the Specific Plan include housing units with a range of types and densities, retail and general commercial uses, mixed-use, and substantial open space and recreational uses. Based on the Specific Plan land use summary, prepared by Upper Westside LLC in October 2021, the Project is planned for approximately 9,356 residential units and 3.1 million square feet of nonresidential uses, including 575,760 square feet of retail space. The proposed land uses are summarized in **Table 2-1**. **Table 2-2** provides the estimated residential and employee populations for the Project. Additional information regarding residential and nonresidential development in the Project is provided below.

### Upper Westside Residential Uses

#### *Total and Occupied Residential Units*

The Project is envisioned to include about 9,356 residential units, comprising about 4,375 single-family homes (including Very Low, Low, Low/Medium, and Medium Density housing units) and 4,981 multifamily units (including High and Very High density and Mixed-Use housing units). Overall, planned housing in the Project reflects a proportion of 47 percent single-family units and 53 percent multifamily units, as reflected in **Table 2-1**.

To account for normal fluctuations in the market, this Study applies a 3 percent vacancy rate to total single-family residential units and an 8 percent vacancy rate to total multifamily residential units. Based on these vacancy rates, the Project is estimated to contain a total of 8,830 occupied residential units.

## Table 2-1. Proposed Land Use Summary

| Land Use | Nonres. Acreage Allocation [2] | Land Use Density | Gross Development: Phase 1 20-Year Buildout Acreage | Phase 1 20-Year Buildout Dwelling Units | Phase 1 20-Year Buildout Nonres. Sq. Ft. | Phase 2 Remaining Development Acreage | Phase 2 Remaining Development Dwelling Units | Phase 2 Remaining Development Nonres. Sq. Ft. | Cumulative Total 30-Year Buildout Acreage | Cumulative Total 30-Year Buildout Dwelling Units | Cumulative Total 30-Year Buildout Nonres. Sq. Ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Developable Uses** | | | | | | | | | | | |
| **Residential Uses** | | *DU/acre* | | | | | | | | | |
| Very Low Density Residential (VLDR) | | 1.2 | 164.4 | 197 | - | - | - | - | 164.4 | 197 | - |
| Low Density Residential (LDR) | | 5.5 | 429.2 | 2,366 | - | - | - | - | 429.2 | 2,366 | - |
| Low / Medium Density Residential (LMDR) | | 8.0 | 133.0 | 1,063 | - | - | - | - | 133.0 | 1,063 | - |
| Medium Density Residential (MDR) | | 12.0 | 62.5 | 749 | - | - | - | - | 62.5 | 749 | - |
| High Density Residential (HDR) | | 25.0 | 36.4 | 911 | - | - | - | - | 36.4 | 911 | - |
| Very High Density Residential (VHDR) | | 35.0 | 22.6 | 791 | - | - | - | - | 22.6 | 791 | - |
| Commercial Mixed-Use (CMU) [1] | | 40.0 | 83.6 | 3,279 | - | - | - | - | 83.6 | 3,279 | - |
| **Subtotal Residential Uses** | | | **931.6** | **9,356** | **-** | **-** | **-** | **-** | **931.6** | **9,356** | **-** |
| **Nonresidential Uses** | | | | | | | | | | | |
| ***Commercial Mixed-Use*** | | *FAR [3]* | | | | | | | | | |
| Office | 62.0% | 0.6 | 36.3 | - | 946,435 | 15.5 | - | 401,765 | 51.8 | - | 1,348,199 |
| Retail | 18.0% | 0.6 | 10.5 | - | 274,771 | 4.5 | - | 116,641 | 15.0 | - | 391,413 |
| Hotel | 15.0% | 0.6 | 8.8 | - | 228,976 | 3.7 | - | 97,201 | 12.5 | - | 326,177 |
| Institutional | 5.0% | 0.6 | 2.9 | - | 76,325 | 1.2 | - | 32,400 | 4.2 | - | 108,726 |
| ***Subtotal Commercial Mixed-Use*** | **100.0%** | | ***58.6*** | ***-*** | ***1,526,508*** | ***25.0*** | ***-*** | ***648,008*** | ***83.6*** | ***-*** | ***2,174,515*** |
| ***Employment / Highway Commercial*** | | *FAR [3]* | | | | | | | | | |
| Office | 60.0% | 0.4 | 17.5 | - | 305,349 | 14.2 | - | 247,689 | 31.8 | - | 553,038 |
| Retail | 20.0% | 0.4 | 5.8 | - | 101,783 | 4.7 | - | 82,563 | 10.6 | - | 184,346 |
| Hotel | 15.0% | 0.4 | 4.4 | - | 76,337 | 3.6 | - | 61,922 | 7.9 | - | 138,260 |
| Institutional | 5.0% | 0.4 | 1.5 | - | 25,446 | 1.2 | - | 20,641 | 2.6 | - | 46,087 |
| ***Subtotal Employment / Highway Commercial*** | **100.0%** | | ***29.2*** | ***-*** | ***508,915*** | ***23.7*** | ***-*** | ***412,815*** | ***52.9*** | ***-*** | ***921,730*** |
| **Subtotal Nonresidential Uses** | | | **87.8** | **-** | **2,035,423** | **48.7** | **-** | **1,060,823** | **136.5** | **-** | **3,096,245** |
| **Total Developable Uses** | | | **1,019.5** | **9,356** | **2,035,423** | **48.7** | **-** | **1,060,823** | **1,068.2** | **9,356** | **3,096,245** |
| **Non-Developable Uses** | | | | | | | | | | | |
| Public/Quasi-Public | | - | 8.1 | - | - | 138.0 | - | - | 146.1 | - | - |
| Open Space | | - | 25.8 | - | - | 116.0 | - | - | 141.8 | - | - |
| Ag - Cropland | | - | 0.0 | - | - | 410.2 | - | - | 410.2 | - | - |
| Ag - Residential | | - | 0.0 | - | - | 84.1 | - | - | 84.1 | - | - |
| Urban Farm / Green Belt | | - | 7.9 | - | - | 37.0 | - | - | 44.9 | - | - |
| Park | | - | 20.5 | - | - | 53.0 | - | - | 73.5 | - | - |
| Water (Canal) | | - | 3.6 | - | - | 11.4 | - | - | 15.0 | - | - |
| Landscape Corridor | | - | 6.6 | - | - | 29.0 | - | - | 35.6 | - | - |
| Major Roads | | - | 25.0 | - | - | 101.6 | - | - | 126.6 | - | - |
| **Subtotal Non-Developable Uses** | | - | **97.6** | **-** | **-** | **980.3** | **-** | **-** | **1,077.9** | **-** | **-** |
| **Total All Land Uses** | | | **1,117.0** | **9,356** | **2,035,423** | **1,029.0** | **-** | **1,060,823** | **2,146.1** | **9,356** | **3,096,245** |

*land use*

Source: Wood Rodgers Phase Unit Summary, January 14, 2022; The Gregory Group; EPS.

[1] Residential Commercial Mixed-Use acreage and Commercial Square Footage included in the nonresidential portion.
[2] Nonresidential land use percentage allocations per the County and Wood Rodgers as of January 14, 2022.
[3] Floor Area Ratio (FAR).

## Table 2-2. Estimated Residential and Employee Population

| Item | Vacancy Rate [1] | Population / Employment Density [2] | Occupied Development: Phase 1 20-Year Buildout — Gross Development | Phase 1 — Occupied Development | Phase 1 — Population/ Employees | Phase 2 Remaining Development — Gross Development | Phase 2 — Occupied Development | Phase 2 — Population/ Employees | Total Occupied Development | Total Population/ Employees |
|---|---|---|---|---|---|---|---|---|---|---|
| **Residential Uses** | | *Persons/Unit* | *Units* | *Units* | *Residents* | *Units* | *Units* | *Residents* | *Units* | *Residents* |
| Very Low Density Residential (VLDR) | 3.0% | 3.00 | 197 | 191 | 573 | - | - | - | 191 | 573 |
| Low Density Residential (LDR) | 3.0% | 3.00 | 2,366 | 2,295 | 6,885 | - | - | - | 2,295 | 6,885 |
| Low / Medium Density Residential (LMDR) | 3.0% | 3.00 | 1,063 | 1,031 | 3,093 | - | - | - | 1,031 | 3,093 |
| Medium Density Residential (MDR) | 3.0% | 3.00 | 749 | 727 | 2,180 | - | - | - | 727 | 2,180 |
| High Density Residential (HDR) | 8.0% | 2.50 | 911 | 838 | 2,095 | - | - | - | 838 | 2,095 |
| Very High Density Residential (VHDR) | 8.0% | 2.50 | 791 | 728 | 1,819 | - | - | - | 728 | 1,819 |
| Commercial Mixed-Use (CMU) [3] | 8.0% | 2.50 | 3,279 | 3,017 | 7,542 | - | - | - | 3,017 | 7,542 |
| **Subtotal Residential Uses** | | | **9,356** | **8,826** | **24,187** | **0** | **0** | **0** | **8,826** | **24,187** |
| **NONRESIDENTIAL USES [3]** | | | | | | | | | | |
| | | *Sq. Ft/Employee* | *Bldg. Sq. Ft.* | *Bldg. Sq. Ft.* | *Employees* | *Bldg. Sq. Ft.* | *Bldg. Sq. Ft.* | *Employees* | *Bldg. Sq. Ft.* | *Employees* |
| **Commercial-Mixed Use** | | | | | | | | | | |
| Office | 6.0% | 250 | 946,435 | 889,649 | 3,559 | 401,765 | 377,659 | 1,511 | 1,267,307 | 5,069 |
| Retail | 6.0% | 450 | 274,771 | 258,285 | 574 | 116,641 | 109,643 | 244 | 367,928 | 818 |
| Hotel | - | 600 | 228,976 | 228,976 | 382 | 97,201 | 97,201 | 162 | 326,177 | 544 |
| Institutional | - | 900 | 76,325 | 76,325 | 85 | 32,400 | 32,400 | 36 | 108,726 | 121 |
| **Subtotal Commercial Mixed-Use** | - | - | **1,526,508** | **1,453,235** | **4,599** | **648,008** | **616,903** | **1,952** | **2,070,138** | **6,551** |
| **Employment / Highway Commercial** | | | | | | | | | | |
| Office | 6.0% | 300 | 305,349 | 287,028 | 957 | 247,689 | 232,828 | 776 | 519,856 | 1,733 |
| Retail | 6.0% | 500 | 101,783 | 95,676 | 191 | 82,563 | 77,609 | 155 | 173,285 | 347 |
| Hotel | - | 600 | 76,337 | 76,337 | 127 | 61,922 | 61,922 | 103 | 138,260 | 230 |
| Institutional | - | 900 | 25,446 | 25,446 | 28 | 20,641 | 20,641 | 23 | 46,087 | 51 |
| **Subtotal Employment / Highway Commercial** | - | - | **508,915** | **484,487** | **1,304** | **412,815** | **393,000** | **1,057** | **877,487** | **2,361** |
| **Total Nonresidential** | | | | | | | | | | |
| Office | - | - | 1,251,784 | 1,176,677 | 4,515 | 649,454 | 610,486 | 2,287 | 1,787,163 | 6,802 |
| ***Retail*** | - | - | ***376,554*** | ***353,961*** | ***765*** | ***199,204*** | ***187,252*** | ***399*** | ***541,213*** | ***1,164*** |
| Hotel | - | - | 305,313 | 305,313 | 509 | 159,123 | 159,123 | 265 | 464,437 | 774 |
| Institutional | - | - | 101,771 | 101,771 | 113 | 53,041 | 53,041 | 59 | 154,812 | 172 |
| **Total Nonresidential Uses** | - | - | **2,035,423** | **1,937,722** | **5,903** | **1,060,823** | **1,009,903** | **3,010** | **2,947,625** | **8,912** |

*pop emp*

Source: Wood Rodgers; EPS.

[1] EPS applied standard frictional vacancy rate assumptions to gross development totals.
[2] Population density assumptions provided by the UWSP, employment density assumptions per EPS based industry standards. The UWSP estimated population figures do not match EPS's estimates due to an updated mix of residential units by type.
[3] Residential Commercial Mixed-Use acreage and Commercial Square Footage included in the nonresidential portion.

### *Residential Households and Population*

Project residential population is included for informational purposes but is not used; this Study estimates demand for retail space based on households and household spending on retail goods and services. In this analysis, EPS assumes that housing units serve as a proxy for households. Based on population density assumptions for each residential land use type, this analysis estimates that the Project's 8,830 occupied housing units will house approximately 24,200 residents.[14] Refer to **Table 2-2** for details regarding total and occupied housing units and the estimated residential population in the Project.

## Upper Westside Nonresidential Uses

### *Total and Occupied Nonresidential*

Upper Westside includes 3.1 million gross building square feet of nonresidential land uses on approximately 137 gross developable acres, as shown in **Table 2-1**. Nonresidential development includes retail, office, hotel, and institutional land uses.

Total retail development is estimated to comprise 575,760 gross square feet while the remaining nonresidential development (office, hotel, and institutional) is planned for 2.5 million square feet. This Study applies a 6 percent frictional vacancy rate to account for normal fluctuations of occupied space in the real estate market.[15] As such, total occupied nonresidential development is estimated to equal about 2.9 million building square feet, with about 541,200 square feet of occupied retail development. **Table 2-2** details both total and occupied nonresidential building square feet proposed in the Project.

The estimate of 541,200 square feet of occupied retail in the Project is composed of the following assumed types of occupied space:

- Approximately 367,900 square feet of Commercial Mixed-Use Retail.
- Approximately 173,300 square feet of Employment/Highway Commercial Retail.

The Mixed-use retail development is estimated to include a combination of neighborhood- and community-serving retail comprising restaurants, shops, services, entertainment uses, and a small grocery store to provide convenience goods and personal services for the daily needs of the immediate neighborhood. The Employment/Highway Commercial-serving retail development services the immediate neighborhood as well as pass-by freeway traffic with envisioned tenants comprising a conventional grocery store, drive-thru fast food restaurants, fast-casual restaurants, specialty stores, movie theater, and/or fitness. The Project is not envisioned to

[14] Total residential population differs from the UWSP dated February 2021 because EPS used an updated land use plan from Wood Rodgers with a different mix of residential units by type, however the density remains the same as the SP.

[15] Frictional vacancy is the amount of vacant space needed in a market for its orderly operation. In a stabilized market, where supply and demand are in balance, frictional vacancy allows for short-term changes in occupancy, the 6 percent vacancy is also the average vacancy rate for the Market Area from 2010 through 2021.

contain any Regional-Serving retail development, which contains a greater amount of building square footage and comprises multiple general merchandise stores, home furnishings, and apparel anchors. Refer to **Table A-1** in **Appendix A** for more details regarding general retail centers type.

***Nonresidential Employee Population***

The Project's nonresidential land uses are assumed to have varying employee density assumptions (occupied building square feet per employee). Based on these assumptions, the total employee population for Upper Westside at buildout is estimated to be approximately 8,900. About 13 percent of these employees will be employed at the Project's retail development, while the remainder will be employed in the Project's office, hotel, and institutional uses. **Table 2-2** exhibits the employee density assumptions, as well as the estimated Project employee population, based on occupied nonresidential land uses.[16]

[16] EPS's employment density assumptions are based on average industry standards and differ from the employment density assumptions provided in Fehr & Peer's traffic analysis. The square feet per employee assumptions in the traffic analysis are generally lower than EPS's assumptions and therefore provide a higher estimate of 11,857 total employees generated by the Project compared to EPS's estimate of 8,912 employees. EPS's employment density assumptions provide a more conservative analysis as the traffic study's higher employment count would increase estimated demand from new Project employees reducing the overall impacts of the Project.

# 3. EXISTING RETAIL CONDITIONS

This chapter provides a detailed overview of the defined Upper Westside Market Area used to examine current and proposed estimates of supply and consumer demand.

## Market Area Description

A retail market area represents the area surrounding proposed retail uses from *which the majority of* customer patronage is expected to be drawn. A retail market area is influenced by a variety of factors, including the location and density of the targeted residential population, the location of key competitors, the relative distance or travel time for each of the above, geographic and psychological barriers, and existing commute and shopping patterns. Retail establishments outside a given retail market area are not considered to be at risk of urban decay from development in the retail market area based on a nominal set of overlapping supply and demand dynamics.[17] The defined Market Area, the boundaries of which are shown in **Map 3-1**, corresponds with Sacramento Area Council of Government (SACOG) Traffic Analysis Zones (TAZ), located in the following subareas:[18]

- North Natomas (County).
- NW Vision Area.
- South Natomas
- West Sacramento (Yolo County).

The boundaries of the Market Area were defined based on an evaluation of existing population density within TAZ boundaries surrounding the Project, a maximum of 10-minute drive times to and from the center of the Project during high traffic times to the boundaries, existing retail centers as provided in **Table 3-1** and **Map 3-2**, the physical barrier of the Sacramento River, and perceived barriers of major highways including Interstate 5 and Interstate 80 as shown in **Map 3-1**.[19] [20]

A complete list of TAZs and their associated subarea in the defined Market Area can be found in **Appendix A**, **Table A-2**.

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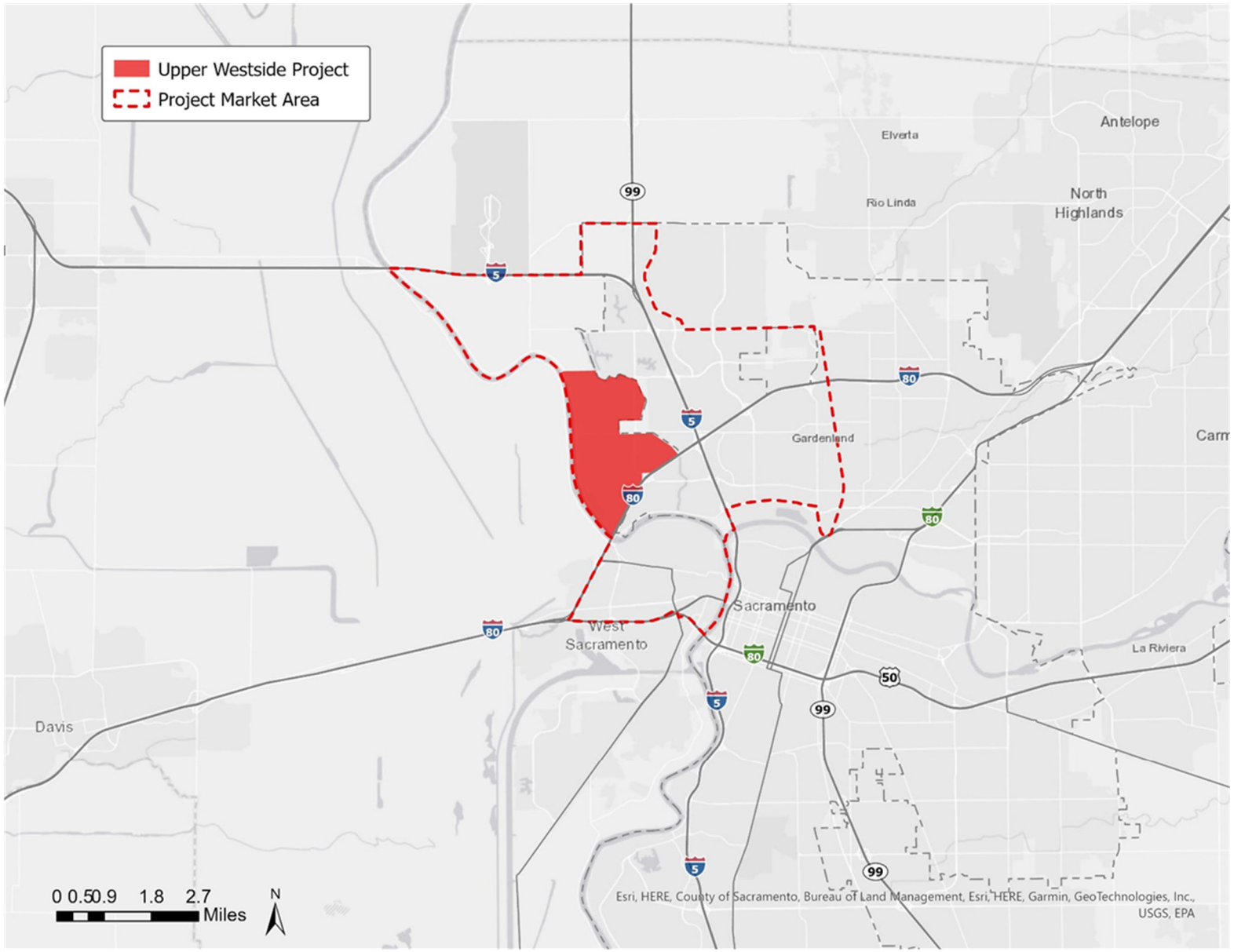
[17] More information regarding the rationale for excluding the impacts to retail outlets adjacent but outside of the Market Area defined for this Study is provided later in this chapter under the section entitled "Retail Market Performance Indicators."

[18] A TAZ is a unit of geography used in transportation planning models.

[19] The EPS analysis generally concurs with the traffic study data prepared by Fehr & Peers.

[20] A 10-minute drive time is reflective of the estimated time it would take to drive within the typical trade area mileage size defined by the International Council of Shopping Centers specific to the type of retail within the Project. Neighborhood-serving retail space has a typical trade area boundary of about 3 miles and the community commercial has a typical trade area of approximately 3 to 6 miles.

**Map 3-1. Upper Westside Specific Plan Defined Retail Market Area**



## Table 3-1. Existing Retail Supply Located In and Near the Market Area (2 pages)

| Map Ref. | Project Name | Gross Retail Sq. Ft. | Year Built | Description [1] | Location | City |
|---|---|---|---|---|---|---|
| | **MARKET AREA [2]** | | | | | |
| | **Neighborhood Commercial** | | | | | |
| 1 | Northgate Shopping Center | 125,555 | 1980 | 99 Cents Store, furniture store, hardware store, small restaurants | 2301-2439 Northgate Blvd | Sacramento |
| 2 | San Juan Village | 118,414 | 1980 | FoodMaxx, restaurants, dental office | 3291 Truxel Rd | Sacramento |
| 3 | Country West Shopping Center | 113,358 | 1975 | Goodwill, Dollar Tree, supermarket, urgent care, small restaurants | 2901-3071 W Capitol Ave | West Sacramento |
| 4 | Natomas Gardens | 97,559 | 2003 | Foods Co., Dollar Tree, dental offices, small commercial | 3615-3645 Northgate Blvd | Sacramento |
| 5 | Riverbend Shopping Plaza | 92,604 | 1958 | Supermarket, U.S. Postal Service, small retail | 900-974 Sacramento Ave | West Sacramento |
| 6 | Discovery Plaza | 90,235 | 1986 | Small restaurants, small commercial | 1500-1590 W El Camino Ave | Sacramento |
| 7 | Fitness Evolution Plaza | 63,500 | 2004 | Elements Health Club, restaurants, local retail | 4571 Gateway Park Blvd | Sacramento |
| 8 | Farmco Shopping Center | 60,000 | unknown | Raley's, Wells Fargo, small commercial | 1601 W Capitol Ave | West Sacramento |
| 9 | Del Paso Marketplace | 59,787 | 2006 | Sprouts, medical offices, restaurants, small commercial offices | 2800-2860 Del Paso Rd | Sacramento |
| 10 | Truxel Station | 51,043 | 2006 | Restaurants, local retail | 2051-2087 Arena Blvd | Sacramento |
| 11 | Park Plaza | 49,783 | 1986 | Grocery Outlet, Mezcal Grill | 1600 W El Camino Ave | Sacramento |
| 12 | Natomas Village Center | 49,756 | 2005 | Chili's, Chase Bank, restaurants | 3810-3890 Truxel Rd | Sacramento |
| 13 | Stone Creek Center | 43,686 | 1992 | CVS, Chase Bank, spa/salon, restaurants | 1583-1589 W El Camino Ave | Sacramento |
| 14 | Westlake Village Shopping Center | 41,540 | 2007 | Walgreens, Chase Bank | 3501-3521 Del Paso Rd | Sacramento |
| 15 | City Central Shopping Center | 36,718 | 1991 | Walgreens, La Bou, Little Caesars | 817-849 Jefferson Blvd | West Sacramento |
| 16 | North Natomas Place | 29,630 | 2003 | Oshima Sushi, spa, dental office | 2051-2121 Natomas Crossing Dr | Sacramento |
| 17 | My Mart Shopping Center | 25,000 | unknown | Bank of America | 1511 W Capitol Ave | West Sacramento |
| 18 | Harbor Central | 24,973 | 1992 | UPS Store, restaurants, local retail | 805 Harbor Blvd | West Sacramento |
| 19 | Gateway Plaza | 23,590 | 1988 | Jack-n-the-box, Golden 1 Credit Union, local retail | 2550 W El Camino Ave | Sacramento |
| 20 | Arena Marketplace II | 20,709 | 2004 | Signature Dental, Custom Fitness, restaurants, local retail | 4301-4331 Truxel Rd | Sacramento |
| 21 | Goldenland Business Park | 19,915 | 2005 | Auto shop, small retail | 4381-4391 Gateway Park Blvd | Sacramento |
| 22 | Natomas Landing | 16,945 | unknown | Natomas Food & Liquor, local retail, restaurants | 4000 E Commerce Way | Sacramento |
| 23 | 2300-2330 Northgate Blvd | 16,720 | 2010 | Local retail | 2300-2330 Northgate Blvd | Sacramento |
| 24 | Garden Plaza | 16,225 | 1987 | Zen Garden, local retail | 2201 Northgate Blvd | Sacramento |
| 25 | River's End Plaza | 14,750 | 2008 | Starbucks, Mountain Mikes, gas station, Jamba Juice, Carl's Jr. | 2606-2610 Gateway Oaks Dr | Sacramento |
| 26 | 3270-3290 Northgate Blvd | 12,260 | 1988 | Fiji Mart, Long John Silver's, local retail | 3270-3290 Northgate Blvd | Sacramento |
| 27 | Natomas Plaza | 10,852 | 2004 | Local retail | 2850 Northgate | Sacramento |
| 28 | 4000 Truxel | 10,000 | 2002 | Local retail | 4000 Truxel Rd | Sacramento |
| 29 | Northgate Plaza | 9,800 | 1983 | Local retail | 2251 Northgate Blvd | Sacramento |
| 30 | Gateway Central | 9,687 | 2003 | Local retail | 2600 Gateway Oaks Dr | Sacramento |
| 31 | Northgate Retail Center | 7,844 | unknown | Wendy's, restaurants, hair salon | 4160 Northgate Blvd | Sacramento |
| 32 | 2700-2706 Northgate Blvd | 6,500 | unknown | Local retail | 2700-2706 Northgate Blvd | Sacramento |
| 33 | 2868 Northgate Blvd | 6,000 | 2007 | Local retail | 2868 Northgate Blvd | Sacramento |
| 34 | 2261-2267 Northgate Blvd | 4,784 | unknown | Local retail | 2261-2267 Northgate Blvd | Sacramento |
| 35 | 2690-2694 Northgate Blvd | 4,678 | unknown | Local retail | 2690-2694 Northgate Blvd | Sacramento |
| | **Subtotal Neighborhood Commercial** | **1,384,400** | | | | |
| | **Community Commercial** | | | | | |
| 36 | Market West Shopping Center | 133,373 | 2005 | Bel-Air Markets, banks/credit unions, restaurants | 3200-3290 Arena Blvd | Sacramento |
| 37 | Natomas Town Center | 129,751 | 2004 | Safeway, Rite Aid, AAA, restaurants, insurance offices | 2701-2851 Del Paso Rd | Sacramento |
| 38 | West Capitol Plaza | 125,727 | 2002 | Planet Fitness, Rite Aid, small retail | 1250-1298 W Capitol Ave | West Sacramento |
| 39 | Park Place I [2] | 122,350 | 2002 | Raley's, Wells Fargo, restaurants | 4640-4726 Natomas Blvd | Sacramento |
| 40 | Northgate Shopping Center | 119,669 | 1979 | DD's Discounts, Smart & Final, small retail | 3305-3315 Northgate Blvd | Sacramento |
| | **Subtotal Community Commercial** | **630,870** | | | | |

## Table 3-1. Existing Retail Supply Located In and Near the Market Area (page 2)

| Map Ref. | Project Name | Gross Retail Sq. Ft. | Year Built | Description [1] | Location | City |
|---|---|---|---|---|---|---|
| | **MARKET AREA [2]** | | | | | |
| | **Regional Commercial** | | | | | |
| 41 | Riverpoint Marketplace | 813,851 | 2001 | IKEA, Walmart, Home Depot, Ross Dress for Less | 700-780 Ikea Ct | West Sacramento |
| 42 | Promenade at Sacramento Gateway | 702,760 | 2005 | Target, Burlington Stores, Best Buy, Bed, Bath & Beyond, Old Navy | 3511-3698 N Freeway Blvd | Sacramento |
| 43 | Natomas Marketplace | 499,392 | 1997 | Walmart, Home Depot, Ross, Michaels, Staples | 3501-3711 Truxel Rd | Sacramento |
| 44 | Park Place II [3] | 247,740 | 2004 | Kohl's, Marshalls, Planet Fitness, restaurants | 4700-4790 Natomas Blvd | Sacramento |
| | **Subtotal Regional Commercial** | **2,016,003** | | | | |
| NA | **Freestanding Retail [4]** | **915,144** | **NA** | **California Family Fitness, Pep Boys, El Rancho** | **Various locations** | |
| | **TOTAL MARKET AREA RETAIL [5]** | **5,068,602** | | | | |
| | ***UWSP RETAIL AS % OF MA RETAIL*** | ***9.6%*** | | | | |
| | **OTHER RETAIL NEAR THE MARKET AREA [6]** | | | | | |
| | **Neighborhood Commercial** | | | | | |
| 45 | R Street Market | 114,872 | 2008 | Safeway, Wells Fargo, small restaurants | 1800-1900 R St | Sacramento |
| 46 | Norwood Center | 87,882 | 1990 | Family Dollar, Rite Aid, restaurants and small retail | 4201-4221 Norwood Ave | Sacramento |
| 47 | The Hardin | 72,000 | 2019 | Restaurants | 700-730 K St | Sacramento |
| 48 | Del Paso | 55,146 | 1988 | O'Reilly Auto Parts, Little Caesars | 2419-2456 Del Paso Blvd | Sacramento |
| 49 | 1025 Alhambra | 47,043 | 1980 | Safeway, local retail | 1001-1025 Alhambra Blvd | Sacramento |
| 50 | 400-480 El Camino Ave | 41,603 | 1991 | King's Supermarket, Thrift Town | 400-480 El Camino Ave | Sacramento |
| 51 | Natomas Park Retail Center | 40,726 | 2007 | CVS, Dollar Tree, daycare, small commercial | 2010-2060 Club Center Dr | Sacramento |
| 52 | The Building | 33,588 | 1928 | Fox & Goose, local retail | 1015-1021 R St | Sacramento |
| 53 | Ice Blocks | 29,555 | 2016 | West Elm, Mendocino Farms, restaurants | 1812 17th St | Sacramento |
| 54 | Crown Market Center | 26,880 | 1965 | T&Y Market, hair salon | 2815-2885 Norwood Ave | Sacramento |
| 55 | 1022 K St | 24,000 | 1920 | Restaurants | 1022 K St | Sacramento |
| 56 | 2711 Fairfield St | 22,611 | unknown | Super X Market, restaurants | 2711 Fairfield St | Sacramento |
| | **Subtotal Neighborhood Commercial** | **595,906** | | | | |
| | **Community Commercial** | | | | | |
| 57 | Southport Town Center | 252,756 | 2005 | Target, Nugget Markets, Dollar Tree, restaurants | 2000-2155 Town Center Plaza | West Sacramento |
| 58 | Westbridge Plaza | 199,593 | unknown | Lowe's, small restaurants and retail | 2250 Lake Washington Blvd | Sacramento |
| 59 | Expo 160 Center | 172,405 | 2006 | Costco, REI, Starbucks | 1790 Expo Pky | Sacramento |
| | **Subtotal Community Commercial** | **624,754** | | | | |
| | **Regional Commercial** | | | | | |
| 60 | Downtown Commons | 587,601 | 2022 | Macys, Century Theatres, Urban Outfitters, 24 Hr Fitness, restaurants | 577 L St | Sacramento |
| | **TOTAL OTHER RETAIL NEAR THE MARKET AREA** | **1,808,261** | | | | |

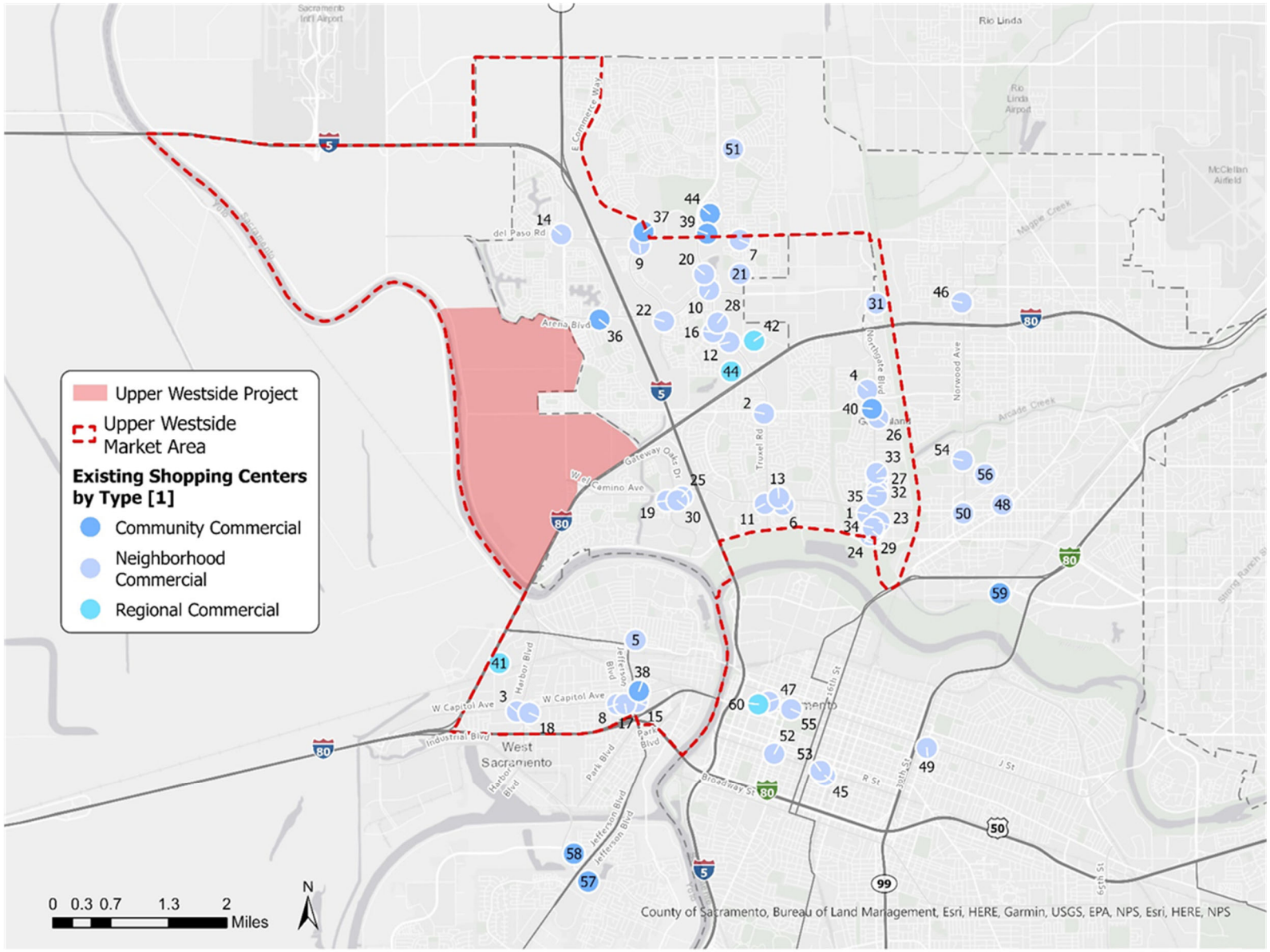
*existing supply*

Source: CoStar; EPS.

NOTE: This list reflects data available through a subscription-based resource, CoStar as of March 2022. All shopping center and freestanding retail space within the Market Area may not be depicted.

[1] The list of tenants is not exhaustive, it is given to provide insight into center type.
[2] The Market Area is depicted in Map 3-2. This area follows a radius ranging from about 3 to 4 miles from the center of the UWSP area.
[3] Park Place I and II are not geographically in the Market Area; however they are included because they are located along the Market Area boundary. Park Place II is categorized as a Regional Shopping Center because of the tenant types.
[4] Includes freestanding retail locations including existing retail within the Project Specific Plan. Freestanding retail is not included in Map 3-2.
[5] The list of Market Area shopping centers is not exhaustive as it excludes many small retail types less than 4,500 square feet.
[6] This list of other retail near the Market Area includes retail outside of the Market Area boundaries, but within an approximate 6-mile radius from the center of the UWSP. This list excludes retail with less than 20,000-square-feet and freestanding retail.

**Map 3-2. Market Area Existing Shopping Center Retail Supply**




[1] See Table 3-1 for detail on each shopping center based on the corresponding number.

# Retail Market Conditions

## National Retail Market Conditions

The retail market has been continuously adapting to change over the past 10 to 15 years, adjusting to shifts in economic, social, and environmental conditions, first with the effects of the 2009 economic downturn, consistent advancements in online and omnichannel shopping, also known as e-commerce, and most recently the global effects of the COVID-19 Pandemic.

The economic downturn, which spread across national and global markets beginning in 2009, had a significant effect on the retail sector. At the national level, the combination of increased unemployment rates, reduced consumer credit, and an oversupply of retail space resulted in bankruptcies, store closures, and consolidations among a wide range of formerly successful retail chains, including Mervyn's, Sharper Image, and KB Toys (bankruptcy); Linens 'N Things, Circuit City, Office Depot, Home Expo, and Starbucks (closures); and CVS's acquisition of Long's Drugs (consolidation). Almost 6,700 stores announced closures in 2017, including national retailers such as JCPenney, Sears, Kmart, Gap, RadioShack, Macy's, and Staples.[21] Thousands more closures occurred in 2018, vacating a record 145 million square feet of retail space nationwide, and the trend continued in 2019 and 2020 with the closure of an estimated 17,600 stores.[22] [23]

At the beginning of 2020, the COVID-19 Pandemic caused abrupt and severe economic impacts, including mass unemployment and major disruptions to retail and office markets with many state and local governments instilling stay-at-home orders, and companies allowing non-essential employees to work remotely from home. The switch to remote work during the Pandemic drove many households in expensive urban areas to search for housing in the more affordable suburbs of these same regions, which was a factor in the shuttering of many urban amenities, such as restaurants, theaters, and museums. With much of the population stuck at home, the Pandemic caused a surge in e-commerce sales, with a corresponding positive shift for brick-and-mortar retailers with store openings finally outpacing closures in 2021.[24]

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[21] CNNMoney, "Bankruptcies continue to pile up in the retail industry," dated June 13, 2017, http://money.cnn.com/2017/06/13/news/companies/retail-bankruptcies/index.html (accessed December 2017).

[22] Whiteman, Doug, "These Chains are Closing Tons More Stores in 2019." MoneyWise, February 19, 2019, https://moneywise.com/a/retailers-closing-stores-in-2019 (accessed February 2019).

[23] Meisenzahl, Mary, "Nearly 3,000 stores are closing in 2021 as the retail apocalypse drags on. Here's the full list." Business Insider, March 17, 2021, https://www.businessinsider.com/stores-closing-in-2021-list-2021-3#:~:text=In%202020%2C%20more%20than%208%2C300,on%20brick%20and%20mortar%20retailers. (accessed April 2022).

[24] Miranda, Leticia, "2021 was a turning point for retailers, with store openings outpacing store closures." NBC News, December 29, 2021, https://www.nbcnews.com/business/business-news/2021-was-turning-point-retailers-store-openings-outpacing-store-closur-rcna10051 (accessed April 2022).

Businesses that survived the Pandemic shifted their model with online options, delivery, and curbside pickup models.[25] With a switch to more online ordering, the Pandemic accelerated e-commerce growth by a few years, but also led to a deviation in spending patterns. The trend that was occurring pre-Pandemic according to retail research group, Cowen and Company, as well as the Urban Land Institute (ULI), reflected buyers purchasing less material items and spending more on experiential retail, such as restaurants, grooming services, and health and wellness services.[26] After the Pandemic hit and the stay-at-home orders were put into place, the opportunity for experiential retail was no longer an option and consumers converted their expenditures to improve and occupy their time at home, including spending money to fix up their homes, increasing sales in Building Materials and Garden Equipment and Supplies and Home Furnishings and Appliances Stores, as well as Food and Beverage Stores with more consumers eating at home.[27]

According to the Bureau of Labor Services, nationwide e-commerce sales surpassed 10 percent of total retail sales in 2019 increasing to 14 percent in 2020 with an estimate of 13 percent for 2021.[28] "One-stop-shops" such as online retail giants, Amazon, Target, and Walmart were experiencing growth pre-Pandemic with consumers already increasingly opting for online purchases and in-store pickup options, only to see sales skyrocket during the Pandemic with Target reporting a 195 percent increase in online sales from 2019 to 2021, Walmart reported a 90 percent increase in online sales for the same period, and Amazon reported a 95 percent increase in their North American sales, also for the same period. [29],[30],[31]

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[25] Thomas, Lauren, "5 ways the coronavirus pandemic is reshaping the future of retail stores," CNBC, December 17,2020, https://www.cnbc.com/2020/12/17/coronavirus-is-reshaping-retail-stores-for-good.html (accessed May 2022).

[26] Cowen and Company, "Retail's Disruption Yields Opportunities—Store Wars!" dated April 6, 2017, https://distressions.com/wp-content/uploads/2017/04/Retail_s_Disruption_Yields_Opportunities_-_Ahead_of_the_Curve_Series__Video_-_Cowen_and_Company.pdf (accessed December 2017).

[27] Berthene, April, "Coronavirus pandemic adds $219 billion to US e-commerce sales in 2020-2121." Digitalcommerce360.com, March 15, 2022, https://www.digitalcommerce360.com/article/coronavirus-impact-online-retail/ (accessed April 2022).

[28] Bureau of Labor Services, "Estimated Quarterly U.S. Retail Sales (Adjusted): Total and E-Commerce," https://www.census.gov/retail/index.html (accessed April 2022).

[29] Melton, James, "Target's online sales grow $13 billion over 2 years." Digitalcommerce360.com, March 1, 2022, https://www.digitalcommerce360 .com/article/target-online-sales/) (accessed April 2022).

[30] Melton, James, "Walmart's online sales grow 11% in fiscal 2022." Digitalcommerce360.com, February 17, 2022, https://www.digitalcommerce360.com/article/walmart-online-sales/ (accessed April 2022).

[31] Davis, Don, "Amazon's North America revenue ticks up 18.4% in 2021." Digitalcommerce360.com, February 3, 2022, https://www.digitalcommerce360.com/article/amazon-sales/ (accessed April 2022).

Despite a changing retail market landscape and the effects of a recession, the number of shopping centers in the United States grew by more than 20 percent and gross leasable area (GLA) grew by almost 30 percent from pre-recession 1995 to post-recession 2015, while the population increased by less than 14 percent.[32] This is primarily a result of investor expectations and demands of shareholders outpacing the growth of the real economy.[33] Despite initial concern, the Pandemic is helping to rectify the retail market by causing retailers to consolidate their merchandise and store inventory, reducing the number of stores and associated debt from money-losing locations.[34] As of 2019, there was close to 25 square feet of retail space per capita in the United States (about 50 square feet per capita, if small shopping centers and independent retailers are added). In contrast, Canada has about 16 retail square feet per capita, Australia has about 11 square feet per capita, and Europe has about 2.5 retail square feet per capita.[35] [36] The retail reset may help the United States reduce the overcapacity of retail space, including obsolete buildings such as Class B and Class C space, which have the potential to be repurposed now or in the near future with nonretail uses.

The national retail market continues to experience turbulence and a high degree of uncertainty regarding tenanting and absorption forecasting. Although, it should be noted that retail has adapted and persisted since the earliest days of commerce. Artisans were disrupted by merchants, who were disrupted by open-air bazaars. The Sears Roebuck catalog of 1893 disrupted the first era of brick-and-mortar retail. Malls disrupted the town square; superstores and category-killers disrupted the local five-and-dime. And now, off-price, dollar stores, fast-fashion, and online players are shaking up the industry.[37] As new retail tenants, concepts, and formats continue to emerge and establish their presence, it remains to be seen how future demand for retail space will evolve.

## Retail Market Conditions in Market Area

### *Retail Market Inventory*

As of the end of 2021, the Market Area had an estimated 5.1 million square feet of retail space. **Table 3-1** details retail supply in the Market Area. See **Map 3-2** for the location of existing retail centers in the Market Area. Refer to **Appendix B** for documentation of physical conditions of existing retail centers in the Market Area.

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[32] Forbes, "Retail in 2015: A Reality Check," dated March 17, 2015, Forbes Web Site (accessed December 2017).

[33] Ibid.

[34] Kapner, Suzanne, "The Great Shopping Reset: How the Pandemic Helped Fix the Retail Industry," The Wall Street Journal, dated November 19, 2021, https://www.wsj.com/articles/retail-industry-shopping-change-pandemic-11637331502 (accessed May 2022).

[35] The New York Times, "Why We Should Be Optimistic About Retail," dated April 13, 2018, New York Times Web Site (accessed February 2019).

[36] Forbes, "Retail in 2015: A Reality Check," dated March 17, 2015, Forbes Web Site (accessed December 2017).

[37] The New York Times, "Why We Should Be Optimistic About Retail," dated April 13, 2018, New York Times Web Site (accessed February 2019).

The northern portion of the Project Market Area is located in the North Natomas area of the County and contains the largest concentration of retail space. This segment of the Market Area boasts a sizable mixture of neighborhood-, community-, and regional-serving retail shopping centers with major shopping destinations such as the Promenade at Sacramento Gateway, Natomas Marketplace, Park Place II regional centers, Park Place I, Natomas Town Center, and Market West Shopping Center community centers. Most of these centers are concentrated along Del Paso Road, Truxel Boulevard, and Arena Boulevard and were built between 14 and 19 years ago, except for Natomas Marketplace, which was built in 1997, about 22 years ago. Many of the neighborhood-oriented shopping centers are located along Northgate Boulevard, W. El Camino Avenue, and tend to be older, built in the 1980s.

The southern portion of the Market Area, comprising the northern portion of the City of West Sacramento in southeast Yolo County, also contains a smaller mixture of neighborhood-, community-, and regional-serving retail shopping centers with major shopping destinations such as the Riverpoint Marketplace and West Capitol Plaza. There are several neighborhood-serving shopping centers concentrated on W. Capitol Avenue, Jefferson Boulevard, and Harbor Boulevard on the southern edge of the defined Market Area.

In addition to shopping center retail, the Market Area includes approximately 1.1 million square feet of freestanding retail buildings. The majority of this square footage comprises food and beverage tenants, gas stations, and service retail such as daycare centers and car rental businesses. Two of the larger spaces include a former Fry's Electronics, which is in the process of being converted into an industrial park, and a California Family Fitness.

Note that total estimated retail sales used to estimate Project-specific and cumulative urban decay impacts in this Study comprise all reported sales from both shopping centers and freestanding retail tenants in the Market Area (discussed further in **Chapter 4** and **Appendix A**).

***Retail Market Performance Indicators***

The Market Area's current estimated retail supply of about 5.1 million leasable square feet is dominated by existing inventory located in Sacramento County (70 percent), with the remaining 30 percent located in the West Sacramento portion of the Market Area. The Market Area contains about 1.4 million square feet of neighborhood-serving retail, 630,900 square feet of community-serving retail, 2.0 million square feet of regional-serving retail, and 1.1 million square feet of freestanding retail as shown in **Table 3-1** and **Map 3-2**. While the Park Place I and II shopping centers are not physically in the Market Area, they are included as part of the Market Area since they land just outside of the boundary. **Table 3-1** and **Map 3-2** also show other retail outlets outside the periphery of the defined Market Area for informational purposes only. EPS determined that the retail centers located outside the defined Market Area within downtown Sacramento, North Sacramento, and the southern portion of West Sacramento below Interstate 5 are not likely directly competitive with the Project. The neighborhood—serving retail space in these areas is located beyond the typical neighborhood/community trade area boundary of 3 to 6 miles. In addition, the community commercial and regional commercial shopping centers in these areas are dissimilar to the type of retail estimated to locate within the Project and are separated by both physical and psychological barriers that may prevent consumers from

shopping at both locations. These retail outlets are located approximately 4 to 6 miles from the Project and serve residents to the east in the Del Paso Heights, Robla, downtown Sacramento, and south City of West Sacramento areas.

**Table 3-2** presents current and historical retail trends for the Market Area, the cities of Sacramento and West Sacramento, and Sacramento County. The bulk of the Market Area is located in the City of Sacramento. The Market Area comprises almost 13 percent of the City of Sacramento's retail inventory and less than 1 percent of the County's total retail supply and has increased by only about 91,400 square feet over the past 11 years, an average addition of about 8,300 square feet per year. Vacancy rates have experienced declines since 2010 in the Market Area, the City, and County with a sharp decline in the Market Area between 2012 to 2013 from 9.2 percent down to 5.5 percent, and current rates reflect very little vacancy around 3.4 percent compared to 7 percent within the City and 6.5 percent within the County. A vacancy rate of 3.4 percent reveals a tight market with very little room for movement for existing and new businesses indicating the potential for additional supply. The retail market in the Market Area is relatively healthy as evidenced by market performance indicators noted above, corroborated by information obtained from real estate broker reports, and examples of re-tenanting as shown below in **Table 3-3**.[38]

In the County, more than 4.8 million square feet of new retail has come to market over the past 11 years, and the City contributed to almost a quarter of the new supply. The County has shown strong positive net absorption since 2010 in conjunction with the market rebounding from the Great Recession with a total of almost 7.5 million square feet; the Market Area has had positive net absorption over the past 3 years and a total positive net absorption of more than 337,000 square feet since 2010 with only 3 years of negative net absorption, all under 65,000 square feet. Average annual lease rates for the Market Area have fluctuated from a low of $17.00 per square foot up to $21.88 per square foot (over the past 11 years) and fell to around $19.89 per square foot for 2021. Lease rates for the City and County have fluctuated as well and fall a little more than $2.00 less per square foot than in the Market Area, achieving rates around $17.90 and $17.40 in 2021.[39]

Overall the Market Area also appears to maintain a healthy, but tight retail market with only 2 available spaces comprising more than 20,000 square feet, including a former 34,860-square-foot Safeway in West Capitol Plaza (vacant since 2018) and a 28,700-square-foot former Big Lots (vacant since 2014) in the Northgate Shopping Center.[40] The re-tenanting outlook for these vacant spaces looks favorable as the Market Area has demonstrated positive net absorption over the past 3 years, as area retail continues to evolve with the changing market.[41]

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[38] CoStar Retail Submarket Report, Natomas and West Sacramento reports pulled April 2022; and CBRE Marketview, Sacramento Retail, Q4 2021.

[39] Data obtained from CoStar, accessed in February 2022.

[40] Ibid.

[41] Ibid.

## Table 3-2. Commercial Real Estate Trends: Retail

| Item [1] | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | Difference (2010-2021) | Average Annual % Change (2010-2021) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Inventory (Sq. Ft.)** | | | | | | | | | | | | | | |
| Market Area | 4,887,676 | 4,887,676 | 4,909,684 | 4,927,239 | 4,927,239 | 4,927,239 | 4,927,239 | 4,942,258 | 4,971,554 | 4,971,554 | 4,975,149 | 4,979,067 | 91,391 | 0.2% |
| City of Sacramento | 38,144,189 | 38,198,831 | 38,250,155 | 38,194,244 | 38,106,922 | 37,465,962 | 37,656,838 | 38,390,512 | 38,950,538 | 39,011,561 | 39,119,938 | 39,264,581 | 1,120,392 | 0.3% |
| *Market Area as % of City* | *12.8%* | *12.8%* | *12.8%* | *12.9%* | *12.9%* | *13.2%* | *13.1%* | *12.9%* | *12.8%* | *12.7%* | *12.7%* | *12.7%* | *8.2%* | -- |
| Sacramento County | 66,385,198 | 66,817,334 | 67,143,783 | 67,516,556 | 67,935,835 | 68,304,013 | 68,668,562 | 69,736,004 | 70,506,595 | 70,675,645 | 70,904,099 | 71,195,824 | 4,810,626 | 0.6% |
| City of West Sacramento | 2,403,754 | 2,399,653 | 2,420,817 | 2,438,372 | 2,391,872 | 2,391,872 | 2,391,872 | 2,391,872 | 2,391,872 | 2,391,872 | 2,391,872 | 2,391,872 | (11,882) | 0.0% |
| **Inventory (Buildings)** | | | | | | | | | | | | | | |
| Market Area | 339 | 339 | 343 | 344 | 344 | 344 | 344 | 345 | 346 | 346 | 347 | 349 | 10 | 0.3% |
| City of Sacramento | 3,598 | 3,602 | 3,592 | 3,577 | 3,585 | 3,569 | 3,576 | 3,600 | 3,624 | 3,623 | 3,628 | 3,633 | 35 | 0.1% |
| *Market Area as % of City* | *9.4%* | *9.4%* | *9.5%* | *9.6%* | *9.6%* | *9.6%* | *9.6%* | *9.6%* | *9.5%* | *9.6%* | *9.6%* | *9.6%* | -- | -- |
| Sacramento County | 5,685 | 5,711 | 5,729 | 5,743 | 5,773 | 5,786 | 5,815 | 5,862 | 5,902 | 5,921 | 5,938 | 5,956 | 271 | 0.4% |
| City of West Sacramento | 185 | 181 | 184 | 185 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | (1) | 0.0% |
| **Vacancy Rate (Percent)** | | | | | | | | | | | | | | |
| Market Area | 9.8% | 9.2% | 9.2% | 5.5% | 4.6% | 5.2% | 4.6% | 4.2% | 5.0% | 4.4% | 3.5% | 3.4% | (6.4%) | (9.2%) |
| City of Sacramento | 10.3% | 10.2% | 10.3% | 10.5% | 10.0% | 8.7% | 9.0% | 7.5% | 6.4% | 6.6% | 7.3% | 7.0% | (3.3%) | (3.5%) |
| Sacramento County | 10.8% | 10.5% | 10.8% | 10.3% | 9.1% | 8.3% | 8.5% | 7.2% | 6.7% | 6.6% | 6.8% | 6.5% | (4.3%) | (4.5%) |
| City of West Sacramento | 6.8% | 6.2% | 5.4% | 4.7% | 4.1% | 3.8% | 3.7% | 3.1% | 4.9% | 4.3% | 4.4% | 4.4% | (2.4%) | (3.9%) |
| **Vacant Space (Sq. Ft.)** | | | | | | | | | | | | | | |
| Market Area | 481,142 | 449,917 | 450,668 | 269,342 | 226,438 | 254,132 | 225,271 | 207,328 | 249,215 | 218,053 | 175,137 | 171,042 | (310,100) | (9.0%) |
| City of Sacramento | 3,939,861 | 3,900,335 | 3,955,526 | 4,020,179 | 3,821,549 | 3,272,363 | 3,375,778 | 2,895,013 | 2,498,006 | 2,559,537 | 2,858,881 | 2,734,282 | (1,205,579) | (3.3%) |
| *Market Area as % of City* | *12.2%* | *11.5%* | *11.4%* | *6.7%* | *5.9%* | *7.8%* | *6.7%* | *7.2%* | *10.0%* | *8.5%* | *6.1%* | *6.3%* | -- | -- |
| Sacramento County | 7,161,889 | 7,020,771 | 7,267,694 | 6,946,230 | 6,154,583 | 5,664,471 | 5,856,347 | 5,014,823 | 4,691,967 | 4,644,045 | 4,808,629 | 4,623,099 | (2,538,790) | (3.9%) |
| City of West Sacramento | 162,856 | 149,912 | 131,355 | 114,273 | 98,459 | 90,068 | 88,403 | 73,743 | 117,365 | 103,903 | 92,589 | 104,629 | (58,227) | (3.9%) |
| **Net Absorption [2]** | | | | | | | | | | | | | | |
| Market Area | (64,304) | 31,225 | 21,257 | 198,881 | 42,904 | (27,694) | 28,861 | 32,962 | (12,591) | 31,162 | 46,511 | 8,013 | -- | -- |
| City of Sacramento | (107,169) | 94,168 | (8,867) | (115,564) | 112,959 | (91,774) | 87,461 | 1,214,439 | 957,033 | (508) | (190,967) | 269,242 | -- | -- |
| Sacramento County | 116,862 | 573,254 | 79,525 | 694,237 | 1,212,577 | 858,290 | 172,673 | 1,897,966 | 1,093,447 | 216,972 | 63,870 | 477,255 | -- | -- |
| City of West Sacramento | 47,435 | 8,843 | 39,721 | 34,637 | (30,686) | 8,391 | 1,665 | 14,660 | (43,622) | 13,462 | 11,314 | (12,040) | -- | -- |
| **Lease Rate NNN/Sq. Ft./Year** | | | | | | | | | | | | | | |
| Market Area | $21.88 | $21.02 | $20.23 | $19.48 | $19.49 | $20.41 | $19.66 | $18.81 | $17.00 | $19.49 | $20.13 | $19.89 | ($1.99) | (0.9%) |
| City of Sacramento | $17.67 | $16.00 | $15.77 | $15.31 | $16.06 | $15.71 | $17.49 | $15.37 | $15.45 | $16.30 | $17.26 | $17.90 | $0.23 | 0.1% |
| Sacramento County | $17.33 | $15.72 | $15.42 | $15.23 | $15.84 | $15.76 | $16.51 | $15.53 | $16.18 | $16.49 | $17.39 | $17.38 | $0.05 | 0.0% |
| City of West Sacramento | $20.57 | $20.53 | $16.42 | $17.53 | $17.30 | $14.02 | $14.92 | $14.13 | $15.09 | $11.88 | $12.41 | $12.57 | ($8.00) | (4.4%) |

*retail trends*

Source: CoStar data retrieved February 2022; EPS.

[1] Unless otherwise noted, data reflects Q4 of each year.
[2] Net absorption is for the entire calendar year.

**Table 3-3. Market Area (4-Mile Radius) Retail Lease Transactions**

| Item | Number of Transactions [1] | Total Square Feet | Average Size | Largest Transactions | |
|---|---|---|---|---|---|
| | | | | Sq. Ft. | Tenant |
| **Market Area Jurisdiction** | | | | | |
| Sacramento | 52 | 202,135 | 3,887 | 25,000 | Planet Fitness |
| West Sacramento | 19 | 94,955 | 4,998 | 27,384 | Ross |
| **Total** | **71** | **297,090** | **4,184** | **-** | **-** |
| *Annual Average* | *22* | *92,841* | **-** | **-** | **-** |

*retail lease*

Source: CoStar; EPS.

[1] Data reflect lease transactions that occurred between 01/01/2019 and 03/08/2022 for a 4-mile radius that generally follows the Market Area boundary around the Project site.

A survey of retail lease transactions within a 4-mile radius from the Project found about 70 lease transactions from the beginning of 2019 through March 2022. The 70 lease transactions reflect an equivalent to about 22 transactions per year, with a cumulative total of more than 297,000 square feet, or about 92,840 square feet per year.[42] The majority of the transactions occurred in the Natomas area; however, the largest transactions were a 27,400-square-foot Ross occupying a space in the City of West Sacramento and a 25,000-square-foot Planet Fitness in Natomas. The average-size transaction was approximately 4,200 square feet. See **Table 3-3**.

The consistent low vacancy rates, positive net absorption, and steady lease rates in the Market Area indicate a healthy retail market with the ability to sustain new retail growth commensurate with new household growth and additional sources of demand, such as new employees.

## Socioeconomic Conditions in the Market Area

The following section provides background information on the estimated existing (as of 2022) and projected demographic conditions for the subareas based on TAZ in the Market Area. The demographic projections discussed below encompass future development in the Market Area, excluding the proposed Project.

### Demographic Trends and Projections

Population and household characteristics play a vital role in determining the type and amount of retail demand in a particular area. Assuming average household incomes remain constant or improve over time, a growing population base generally will result in increased retail demand, providing additional market support for existing and new establishments.

Historical population, household, and employment trends are shown in **Appendix A Table A-2** with estimated existing conditions and projections shown in **Table 3-4** using estimates and projections from SACOG.[43] As previously discussed, the Market Area is made up of 4 Market Subareas: North Natomas, NW Vision Area, South Natomas, and West Sacramento. Projected development in each of these Market Subareas is described below. Additional information regarding projected retail development in the Market Area (outside of the Project) will be discussed in detail in **Chapter 5**.

[42] This period includes the onset of the Pandemic.

[43] SACOG "ZIP Code Tabulation Areas (ZCTA) and Traffic Analysis Zone (TAZ) level Summary 2016 Estimate and 2040 Projections." SACOG provides population, household, and employment data for years 2016 and 2040; SACOG data are not available beyond 2040. However, buildout of the Project is anticipated to be completed in 2052. Thus, EPS used the average annual growth rate between 2016 and 2040 to interpolate the base year of 2022. EPS estimated growth through Project buildout (2052), using the average annual growth rate from 2016 to 2040 from SACOG's projections, with adjustments, as necessary, based on the land use programs of approved and planned development projects in the Market Area.

## Table 3-4. Population, Household, and Employment Estimates and Projections—Defined Market Area

| Item | Estimated Existing Conditions [1] | Estimated Demographic Projections [1] | | Incremental New Housing Units, Households, Population, and Jobs | |
|---|---|---|---|---|---|
| | 2022 | 2042 | 2052 | Phase 1 2022-2042 | Total Buildout 2022-2052 |
| **Households [2]** | | | | | |
| North Natomas [3] | 10,353 | 22,198 | 23,138 | 11,844 | 12,785 |
| South Natomas | 17,226 | 19,418 | 19,644 | 2,191 | 2,417 |
| West Sacramento | 10,090 | 16,929 | 17,586 | 6,839 | 7,496 |
| **Total Market Area Households** | **37,670** | **58,545** | **60,368** | **20,875** | **22,698** |
| *UWSP as % of MA HH* | - | *13.1%* | *12.8%* | *29.7%* | *28.0%* |
| **Population** | | | | | |
| North Natomas | 27,367 | 54,824 | 57,134 | 27,456 | 29,767 |
| South Natomas | 47,017 | 53,040 | 53,441 | 6,023 | 6,424 |
| West Sacramento | 25,631 | 39,145 | 40,577 | 13,514 | 14,946 |
| **Total Market Area Population** | **100,016** | **147,009** | **151,152** | **46,993** | **51,136** |
| *Persons per Household* | *2.66* | *2.51* | *2.50* | *2.25* | *2.25* |
| *UWSP as % of MA Pop.* | - | *14.1%* | *13.8%* | *34.0%* | *32.1%* |
| **Jobs** | | | | | |
| North Natomas | 25,210 | 38,527 | 39,614 | 13,317 | 14,405 |
| South Natomas | 17,239 | 19,380 | 19,935 | 2,140 | 2,695 |
| West Sacramento | 12,844 | 18,713 | 19,319 | 5,869 | 6,475 |
| **Total Market Area Jobs** | **55,293** | **76,619** | **78,868** | **21,327** | **23,575** |
| *UWSP as % of MA HH* | - | *7.2%* | *10.2%* | *21.7%* | *27.4%* |

Source: Sacramento Area Council of Governments (SACOG) MTP/SCS, "ZIP Code Tabulation Areas (ZCTA) and Traffic Analysis Zone (TAZ) level Summary 2016 Estimate and 2040 Projections"; State of California Department of Finance (DOF), Table E-5 2021; EPS.

[1] Based on SACOG projections at the Traffic Analysis Zone (TAZ)-level geography between 2022-2040 and extrapolated growth between 2040-2052, estimated by EPS. See Table A-2 for more details.
[2] Households are determined by applying an estimated vacancy rate to the housing units based on the 2021 rate for Sacramento County per DOF (5.4%). See Table A-2 for housing unit totals.
[3] The NW Vision Area estimates and projections are minimal and thus have been combined into the totals for North Natomas, see Table A-2 for details.

### *Demographic Methodology and Projections*

As shown in **Table 3-4**, the Market Area as a whole currently contains about 100,000 residents, almost 37,700 households, and 55,300 jobs (as of 2022). SACOG provides residential and employment projection data through 2040. EPS used SACOG's TAZ-level growth rates between 2016 and 2040 to extrapolate projections through 2042. To remain conservative while extrapolating growth between 2040 and 2042, EPS adjusted development totals to align with the projected and historical average for the TAZs projected by SACOG to have significant amount of growth. In addition, EPS applied a conservative 0.5 percent average annual growth rate to

project growth in population, household, and employment between 2042 and 2052, excluding TAZs that are mostly built out.[44]

With these adjustments, the Market Area is estimated to add more than 51,100 new residents, 22,700 new households, and 23,600 new jobs by 2052. This level of growth is estimated to increase the Market Area population by almost 51 percent, households by about 60 percent, and jobs by about 43 percent. The majority of the projected residential and employment growth is in the North Natomas area and occurs over a 30-year span between 2022 and 2052. See below for more detailed information on major growth areas within the Market Area. These growth projections do not account for any growth from the Project. Projected household and employment growth in the Project is estimated separately (refer to **Chapter 2** for Project population and household estimates).

***North Natomas***

The North Natomas portion located north of Interstate 80 in the Market Area contains about 27 percent of the estimated 2022 households. This portion of the Market Area includes future growth areas in the City, including the Northlake Specific Plan, NorthPointe Specific Plan (formerly Greenbriar), and the Innovation Park and CNU project. There are also many projects adjacent including the Panhandle Planned Unit Development (PUD), Metro Air Park Specific Plan, Grandpark Specific Plan, and continued buildout of the North Natomas CPA, which includes North Natomas Town Square and Town Center East. All development outlined below is assumed to be absorbed in the Market Area through the period of this analysis (2052).

Northlake is a master-planned community with an estimated 2,275 single-family residential units, 500 multifamily units, a 295,119-square-foot regional commercial center, a 16,335-square-foot neighborhood commercial center, community center, light rail station, and an elementary school.[45] Because portions of the Northlake project are under construction this project is estimated to be fully absorbed by 2052.

The Innovation Park & California Northstate University (CNU) Medical Center Campus comprises a hospital campus with a 14-story, 730,000-square-foot teaching hospital, 2,017 residential units, and 1.2 million square feet of gross commercial space. EPS assumes full absorption of the project by 2052.

NorthPointe south of the Sacramento International Airport is proposed to annex into the City of Sacramento and will comprise up to 6.6 million square feet of industrial and 250,470 square feet of commercial space. EPS assumes 50 percent absorption of the project's commercial space by 2052.

[44] EPS assumes the TAZ with less than 1.0 percent of growth projected between 2016 and 2040 are mostly built out and therefore projected no additional growth in order to remain conservative.

[45] Per the Greenbriar Development Project Environmental Checklist dated January 6, 2017. Project is now known as Northlake.

***South Natomas***

The South Natomas portion in the Market Area includes the largest share of the current 2022 Market Area population, containing almost half of the 2022 households. This area is already mostly built out and contains only about 10 percent of projected household growth in the Market Area.

***NW Vision Area***

The NW Vision Area portion of the Market Area falls in the northwest corner of the Market Area boundary below the airport. There is very little existing development and no proposed future growth projects within this area. As shown in **Appendix A Table A-2**, SACOG projects that housing units will remain static between 2016 to 2040 and that there will be a decrease in population. Because of the minimal amount of Market Area housing units, population, and jobs within this area, the demographics have been combined with the North Natomas figures in **Table 3-4**.

***West Sacramento***

The West Sacramento portion of the Market Area comprises 27 percent of current 2022 Market Area households. The waterfront of this Market Area portion has been experiencing growth and contains two major projects. All development outlined below is assumed to be absorbed in the Market Area through the period of this analysis (2052).

Raley's Landing is a partially built project that at buildout is anticipated to include approximately 900 multifamily residential units, 845,000 gross square feet of office space, 102,000 square feet of commercial/retail uses, and possibly 100–300 hotel rooms with a 7,000- to 15,000-square-foot conference center; it would provide between 4,351 and 4,651 on-site parking spaces, including surface and multilevel parking spaces.

The 681 West Capitol project is located in the Bridge District of West Sacramento and as proposed comprises a 6-story, 27,000-square-foot building with office and retail.

# 4. MARKET ANALYSIS

This chapter reviews retail sales trends in the Market Area, including an examination of retail supply and demand conditions, to estimate supportable retail in the Market Area. The Study estimates that the Project has the ability to capture demand from the following demographic elements:

- Projected Market Area household growth (excluding Project households).
- Estimated Project-generated demand, including demand from households and employees.

The Market Area is projected to capture a certain percentage of each of the above elements of demand. This Study applies a uniform assumption of 80 percent of spending captured in the defined Market Area to each element of demand. This capture rate is based on the existing relationship between household spending and retail sales (i.e., current household spending on retail goods and services is about 80 percent of total retail sales in the Market Area). This relation serves as a proxy for a reasonable capture of future spending for each element of demand.

Of the captured Market Area demand, Upper Westside is estimated to capture a certain percentage of retail spending. Upper Westside capture-rate assumptions are intended to be conservative but reasonable and are based on the type of retail that may locate in the Project, as well as the relative proportion of Project retail to total Market Area retail space. The capture rates also take into account the retail options located directly adjacent to the Market Area, as well as the greater Sacramento Region. The actual capture rate will be based on numerous factors including the specific tenant mix, local and broader economic conditions, and continued trends in the retail sector.

## Projected Incremental New Retail Demand

The Project is estimated to capture newly created demand from residential growth in the Market Area.[46] Two components of residential growth in the Market Area are estimated separately: Project households and households outside of the Project. In addition, the Project will generate new retail demand from Project employees. These components of net new demand are described in further detail below.

[46] To remain conservative, this Study does not estimate demand from the growth of Market Area employees (outside of the Project) with the assumption that demand for retail space already may be accounted for in household demand projections.

## Project-Generated Demand

### *Demand from Occupied Households*

An estimated 8,830 new occupied Project households will generate demand for retail development in the Project itself, as well as in and outside the Market Area. In this analysis, occupied housing units are assumed to be a proxy for households. To estimate retail spending from new Project households, EPS estimated average household income by unit type based on the estimated assessed value of the unit. See **Table 4-1**. EPS applied an estimated percentage of income spent on retail based on income levels to each of the different household/income types and then multiplied that by the estimated occupied households. This resulted in total estimated annual spending by occupied Project households of $204.4 million.

**Table 4-2** estimates how much Project household spending will be captured in the Market Area and by the Project itself. This Study is based on estimates that 80 percent of Project household expenditures will occur inside the Market Area ($163.5 million). Of the $163.5 million spent in the Market Area, a portion of Project household spending is estimated to be captured by retail outlets in Upper Westside, which is estimated by applying capture rates based on each retail category to estimate how much will be spent at retail establishments located in Upper Westside. EPS estimates that Project households will spend $104.6 million within retail outlets in the Project, representing 64 percent of spending in the Market Area and 51 percent of total Project household spending on all retail goods and services (e.g. spending at any retail outlet in or outside of the Market Area including e-commerce outlets). See **Table 4-2**.

### *Demand from Project Employees*

The Project is estimated to generate demand from new Project employees who work in the proposed nonresidential uses. Upper Westside is anticipated to generate jobs for approximately 6,802 office employees and 2,110 employees at the other nonresidential uses at buildout. To avoid overcounting employees who also may reside in the Project, this Study assumes nonresident employees comprise 85 percent of the Upper Westside employee population.[47] See **Table 4-3**. Based on a 48-week per year work schedule and average weekly spending of $153 per office employee, derived from data on office-worker retail spending from the International Council of Shopping Centers (ICSC), Project office employees will generate an estimated $34.0 million in demand for retail space at buildout. Total estimated spending by Project employees is then broken down by retail category, also based on office-worker spending data from the ICSC.[48]

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[47] This assumption is based on Census-based research through OnTheMap, a web-based mapping and reporting application that shows where workers are employed and where they live. EPS examined the percentage of employees that live in the North Natomas and northern portion of West Sacramento areas. This area offers a reasonable proxy for the Project based on similarities in land uses and based on its location relative to the Project and other employment centers in the Sacramento Region. OnTheMap data revealed that about 13 percent of workers both lived and worked in the above areas in 2019, the most recent data available. As a conservative approach, this study rounds up the potential for Project employees who also reside in the Project.

[48] Refer to **Appendix A**, **Table A-3** for worker spending calculations.

## Table 4-1. Total Retail Demand Generated from Occupied Project Households (2022$)

| Item | PROJECT RESIDENT RETAIL DEMAND<br>Per Household Spending<br>Single-Family Units<br>Very Low Density Residential (VLDR) | Low Density Residential (LDR) | Low / Medium Density Residential (LMDR) | Medium Density Residential (MDR) | Multifamily Units<br>High Density Residential (HDR) | Very High Density Residential (VHDR) | Commercial Mixed Use (CMU) | Total Estimated Annual Spending by Occupied Project HH [1] |
|---|---|---|---|---|---|---|---|---|
| Estimated Assessed Valuation (rounded) [2] | $850,000 | $740,000 | $660,000 | $570,000 | $435,000 | $400,000 | $400,000 | - |
| Estimated Average Annual Household Income [3] | $191,000 | $172,000 | $145,000 | $131,000 | $87,000 | $80,000 | $80,000 | - |
| Estimated Percent of Income Spent on Retail [4] | 15% | 15% | 20% | 20% | 24% | 24% | 24% | - |
| Total Occupied Households [5] | 191 | 2,295 | 1,031 | 727 | 838 | 728 | 3,017 | 8,826 |
| **Retail and Food Services [6]** | | | | | | | | |
| Motor Vehicle and Parts Dealers | $1,259 | $1,134 | $1,272 | $1,149 | $909 | $909 | $836 | $8,934,611 |
| Home Furnishings and Appliance Stores | $2,364 | $2,129 | $2,388 | $2,158 | $1,707 | $1,707 | $1,570 | $16,777,869 |
| Bldg. Matrl. and Garden Equip. and Supplies | $1,556 | $1,401 | $1,572 | $1,420 | $1,124 | $1,124 | $1,033 | $11,043,899 |
| Food and Beverage Stores | $7,142 | $6,432 | $7,216 | $6,519 | $5,158 | $5,158 | $4,743 | $50,688,296 |
| Gasoline Stations | $2,329 | $2,098 | $2,353 | $2,126 | $1,682 | $1,682 | $1,547 | $16,532,017 |
| Clothing and Clothing Accessories Stores | $2,502 | $2,254 | $2,528 | $2,284 | $1,807 | $1,807 | $1,662 | $17,760,318 |
| General Merchandise Stores | $4,531 | $4,080 | $4,578 | $4,136 | $3,273 | $3,273 | $3,009 | $32,157,073 |
| Food Services and Drinking Places | $4,238 | $3,817 | $4,282 | $3,869 | $3,061 | $3,061 | $2,815 | $30,080,258 |
| Other Retail | $2,873 | $2,587 | $2,903 | $2,622 | $2,075 | $2,075 | $1,908 | $20,390,894 |
| **Total Project Household Spending [6]** | **$28,795** | **$25,931** | **$29,091** | **$26,283** | **$20,798** | **$19,125** | **$19,125** | **$204,365,235** |

*demand from project hh*

Source: The Gregory Group; EPS.

[1] Totals equal the sum of spending per household for each housing type and retail category.
[2] Average assessed values are based on research obtained from the Gregory Group and Costar as of February 2022.
[3] Market Rate household income assumptions:
Assumes that annual mortgage payments, plus property taxes and insurance are 30% of income. Mortgage payments assume a 20% down payment, 30-year term, 4% fixed interest. Taxes and insurance are assumed to equal 2% of home value. Includes a $150/month estimate for HOA dues. Estimated household income for the market rate high density units is based on a third of income being spent on rent.
[4] Estimated percentage of income spent on retail based on data from the Bureau of Labor Statistics for the U.S, see Table A-4. Excludes spending on e-commerce retail goods and services.
[5] See Table 2-2 for occupied Project households.
[6] The estimated percentage of income spent per retail category is based on average retail spending by category for the State of California, see Table A-5.

**Table 4-2. Project Household-Generated Demand for Market Area and UWSP Retail (2022$)**

| Item | Project Household Total Estimated Spending [1] | Estimated Project HH Spending Captured in the Market Area [2] | UWSP as % of Market Area | | |
|---|---|---|---|---|---|
| | | | Capture Rate [3] | Total Captured in UWSP | % of Total Spending |
| *Formula* | *a* | *b = a * 80%* | *c* | *d = b * c* | *e = d / a* |
| | | Capture Rate 80% | | | |
| **Retail and Food Services** | | | | | |
| Motor Vehicle and Parts Dealers | $8,934,611 | $7,147,689 | 50% | $3,573,844 | 40% |
| Home Furnishings and Appliance Stores | $16,777,869 | $13,422,295 | 25% | $3,355,574 | 20% |
| Bldg. Matrl. and Garden Equip. and Supplies | $11,043,899 | $8,835,119 | 25% | $2,208,780 | 20% |
| Food and Beverage Stores | $50,688,296 | $40,550,637 | 90% | $36,495,573 | 72% |
| Gasoline Stations | $16,532,017 | $13,225,614 | 90% | $11,903,052 | 72% |
| Clothing and Clothing Accessories Stores | $17,760,318 | $14,208,254 | 25% | $3,552,064 | 20% |
| General Merchandise Stores | $32,157,073 | $25,725,659 | 75% | $19,294,244 | 60% |
| Food Services and Drinking Places | $30,080,258 | $24,064,207 | 50% | $12,032,103 | 40% |
| Other Retail | $20,390,894 | $16,312,715 | 75% | $12,234,536 | 60% |
| **Total Resident Demand for Project Retail** | **$204,365,235** | **$163,492,188** | **64%** | **$104,649,770** | **51%** |

Source: EPS.

[1] See Table 4-1. All Project households are estimated to develop in Phase 1.
[2] This analysis assumes 80% of Market Area household spending will be captured by retail within the Market Area. Conversely 20% will be captured by retail outside of the Market Area.
[3] Capture rate assumptions reflect the portion of retail spending leakage the Market Area and Upper Westside retail may be able to capture and are based on the type of retail that may locate in the Market Area and Project as well as the relative proportion of Project retail to total Market Area retail space.

## Table 4-3. Project New Office Employee-Generated Demand for Market Area and UWSP Retail (2022$)

| Item | TOTAL PROJECT NEW OFFICE EMPLOYEE DEMAND | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Phase 1: 20-Year Buildout | | | | | Total Buildout | | | | |
| | | Total Spending | UWSP as % of Market Area | | | | Total Spending | UWSP as % of Market Area | | |
| | Assumption | Captured in the MA | Capture Rate | Total in UWSP | % of Total Spending | Assumption | Captured in the MA | Capture Rate | Total in UWSP | % of Total Spending |
| **Estimated New Office Employee Spending** | | | | | | | | | | |
| Estimated Project Office Employees [1] | 4,515 | | | | | 6,802 | | | | |
| Average Weekly Spending per New Employee [2] | $153 | | | | | $153 | | | | |
| Work Weeks per Year | 48 | | | | | 48 | | | | |
| Average Annual Spending per Employee [3] | $7,337 | | | | | $7,337 | | | | |
| Percentage of Nonresident Employees [4] | 85% | | | | | 85.0% | | | | |
| **Total New Employee Spending** | $28,161,341 | | | | | **$42,423,191** | | | | |
| **Market Area Capture [5]** | | | | | | | | | | |
| Percentage | 80% | | | | | 80.0% | | | | |
| **Total New Employee Spending Captured in the Market Area** | **$22,529,073** | a | | | | **$33,938,553** | g | | | |
| *Formula* | *b* | *c = a * b* | *d* | *e = c * d* | *f = e / a* | *h* | *i = g * h* | *j* | *k = i * j* | *l = k / g* |
| **Estimated New Employee Market Area Sales** | *% of spending [4]* | | | | | *% of spending [4]* | | | | |
| Motor Vehicle and Parts Dealers | 2.2% | $501,252 | 90.0% | $451,127 | 1.6% | 2.2% | $755,103 | 90.0% | $679,593 | 1.6% |
| Home Furnishings and Appliance Stores | 5.3% | $1,188,262 | 90.0% | $1,069,436 | 3.8% | 5.3% | $1,790,038 | 90.0% | $1,611,034 | 3.8% |
| Bldg. Matrl. and Garden Equip. and Supplies | 0.0% | $0 | 90.0% | $0 | 0.0% | 0.0% | $0 | 90.0% | $0 | 0.0% |
| Food and Beverage Stores | 12.7% | $2,871,522 | 90.0% | $2,584,370 | 9.2% | 12.7% | $4,325,757 | 90.0% | $3,893,182 | 9.2% |
| Gasoline Stations | 20.0% | $4,511,270 | 90.0% | $4,060,143 | 14.4% | 20.0% | $6,795,929 | 90.0% | $6,116,336 | 14.4% |
| Clothing and Clothing Accessories Stores | 4.6% | $1,041,891 | 90.0% | $937,702 | 3.3% | 4.6% | $1,569,540 | 90.0% | $1,412,586 | 3.3% |
| General Merchandise Stores | 19.3% | $4,348,533 | 90.0% | $3,913,680 | 13.9% | 19.3% | $6,550,776 | 90.0% | $5,895,698 | 13.9% |
| Food Services and Drinking Places | 17.0% | $3,840,228 | 90.0% | $3,456,205 | 12.3% | 17.0% | $5,785,049 | 90.0% | $5,206,544 | 12.3% |
| Other Retail | 18.8% | $4,226,114 | 90.0% | $3,803,503 | 13.5% | 18.8% | $6,366,360 | 90.0% | $5,729,724 | 13.5% |
| **Total New Employee Market Area Demand** | **100.0%** | **$22,529,073** | **90.0%** | **$20,276,166** | **72.0%** | **100.0%** | **$33,938,553** | **90.0%** | **$30,544,697** | **72.0%** |

Source: U.S. Census OnTheMap 2019; EPS.

[2] Estimates are for Office workers only. See Table 2-2.
[2] See Table A-3 for estimated office worker spending.
[3] Average annual spending per employee is calcuated by multiplying the average weekly spending per new employee by the number of work weeks per year.
[4] This analysis assumes nonresident employees comprise 85% of the Upper Westside employee population based on Census-based research through OnTheMap for North Natomas and the northern portion of West Sacramento, which had less than 15% of all workers both living and working in the area in 2019.
[5] This analysis assumes 80% of Market Area household spending will be captured by retail within the Market Area, conversely 20% will be captured by retail outside of the Market Area.

Given the size of the Market Area, the location of competitive retail, and the amount of planned retail in the Project, it is estimated that Project employees likely will stay close to their place of employment for their weekly spending. EPS estimates the Market Area will capture 80 percent of Upper Westside office employee demand, and Upper Westside retail will capture a portion of this office employee spending in the Market Area. After applying the capture rates by category, the Project is estimated to capture $30.5 million of Project-generated new office employee spending, equating to about 90 percent of spending captured in the Market Area and 72 percent of total office employee spending as shown in **Table 4-3.**[49]

Spending by employees at the other nonresidential land uses in the Project including retail, hotel, and institutional is estimated by benchmarking these employees' salaries to office employee salaries.[50] Other nonresidential land use Project employees will generate an estimated $5.2 million in demand for retail space at buildout. See **Table 4-4**. Total estimated spending by Project other nonresidential employees is then broken down by retail category, also based on office-worker spending data from the ICSC.[51]

Similar to Project office employees, it is estimated that other nonresidential Project employees will likely stay close to their place of employment for their weekly spending. EPS estimates the Market Area will capture 80 percent of Upper Westside other nonresidential employee demand, and Upper Westside retail will capture a portion of this employee spending in the Market Area. After applying the capture rates by category, the Project is estimated to capture $3.8 million of Project-generated new other nonresidential employee spending, equating to about 90 percent of spending captured in the Market Area and 72 percent of total employee spending as shown in **Table 4-4**.[52]

As mentioned previously in the Study, EPS's employment density assumptions are based on average industry standards and differ from the employment density assumptions provided in the traffic analysis. The square feet per employee in the traffic analysis are generally lower than EPS's assumptions and therefore provide a higher estimate of 11,857 total employees compared to EPS's estimate of 8,912 employees generated by the Project. EPS's employment density assumptions provide a more conservative analysis as the traffic study's higher employment count increases estimated demand from new Project employees. Applying the traffic study assumptions reflects that an estimated $43.6 million in spending from new Project office and other nonresidential employees will be captured by the Project at buildout compared to the $34.3 million estimated by EPS.

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[49] EPS estimates that 90 percent of weekly spending by net new Project office employees will occur within the Market Area.

[50] Refer to **Appendix A**, **Table A-6** for estimated other nonresidential employee salaries benchmarked to office worker salaries. Other nonresidential employee spending are based on office worker spending patterns as there are no readily available data on retail, hotel, and institutional worker spending.

[51] Refer to **Appendix A**, **Table A-3** for worker spending calculations.

[52] EPS estimates that 90 percent of weekly spending by net new other nonresidential Project employees will occur within the Market Area.

## Table 4-4. Project New Other Nonresidential Employee-Generated Demand for Market Area and UWSP Retail (2022$) (2 pages)

| Item | Source | | Assumption | OTHER NONRESIDENTIAL EMPLOYEES<br>Phase 1 20-Year Buildout<br>Total Spending Captured in the MA<br>Retail | Hotel | Institutional | Total | UWSP as % of MA<br>Capture Rate | Total in UWSP | % of Total Spending |
|---|---|---|---|---|---|---|---|---|---|---|
| **Estimated New Other Nonres. Employee Spending** | | | | | | | | | | |
| Average Annual Office Worker Spending per Employee | *Table 4-3* | *a* | $7,337 | | | | | | | |
| Spending Benchmarked to Office Salary | *Table A-6* | *b* | - | 41% | 26% | 90% | - | - | - | - |
| Percentage of Nonresident Employees | *Table 4-3* | *c* | 85% | - | - | - | - | - | - | - |
| Estimated Project Employees | *Table 2-2* | *d* | - | 765 | 509 | 113 | 1,387 | - | - | - |
| **Total New Employee Annual Spending** | ***e = a * b * c * d*** | | **-** | **$1,967,493** | **$834,519** | **$635,135** | **$3,437,147** | - | - | - |
| **Market Area Capture [1]** | | | | | | | | | | |
| Percentage | | | 80% | | | | | | | |
| **Total New Employee Spending Captured in the Market Area** | | | | **$1,573,995** | **$667,615** | **$508,108** | **$2,749,718** | - | - | - |
| **Estimated New Employee Market Area Sales** | | | *% of spending [2]* | | | | | | | |
| Motor Vehicle and Parts Dealers | - | - | 2.2% | $35,020 | $14,854 | $11,305 | $61,179 | 90.0% | $55,061 | 1.6% |
| Home Furnishings and Appliance Stores | - | - | 5.3% | $83,018 | $35,212 | $26,799 | $145,030 | 90.0% | $130,527 | 3.8% |
| Bldg. Matrl. and Garden Equip. and Supplies | - | - | 0.0% | $0 | $0 | $0 | $0 | 90.0% | $0 | 0.0% |
| Food and Beverage Stores | - | - | 12.7% | $200,619 | $85,093 | $64,763 | $350,475 | 90.0% | $315,427 | 9.2% |
| Gasoline Stations | - | - | 20.0% | $315,180 | $133,685 | $101,745 | $550,609 | 90.0% | $495,548 | 14.4% |
| Clothing and Clothing Accessories Stores | - | - | 4.6% | $72,792 | $30,875 | $23,498 | $127,165 | 90.0% | $114,448 | 3.3% |
| General Merchandise Stores | - | - | 19.3% | $303,810 | $128,862 | $98,074 | $530,747 | 90.0% | $477,672 | 13.9% |
| Food Services and Drinking Places | - | - | 17.0% | $268,298 | $113,799 | $86,610 | $468,707 | 90.0% | $421,837 | 12.3% |
| Other Retail | - | - | 18.8% | $295,258 | $125,234 | $95,313 | $515,805 | 90.0% | $464,225 | 13.5% |
| **Total New Employee Market Area Demand** | **-** | **-** | **100.0%** | **$1,573,995** | **$667,615** | **$508,108** | **$2,749,718** | **90.0%** | **$2,474,746** | **72.0%** |

Source: EPS.

[1] This analysis assumes 80% of Market Area employee spending will be captured by retail within the Market Area, conversely 20% will be captured by retail outside of the Market Area.

[2] Other nonresidential employees spending by retail category based on office worker spending patterns. See Table A-3 for estimated office worker spending.

## Table 4-4. Project New Other Nonresidential Employee-Generated Demand for Market Area and UWSP Retail (2022$) (page 2)

| Item | Source | | Assumption | OTHER NONRESIDENTIAL EMPLOYEES<br>Cumulative Total 30-Year Buildout<br>Total Spending Captured in the MA<br>Retail | Hotel | Institutional | Total | UWSP as % of MA<br>Capture Rate | Total in UWSP | % of Total Spending |
|---|---|---|---|---|---|---|---|---|---|---|
| **Estimated New Other Nonres. Employee Spending** | | | | | | | | | | |
| Average Annual Office Worker Spending per Employee | *Table 4-3* | *a* | $7,337 | | | | | | | |
| Spending Benchmarked to Office Salary | *Table A-6* | *b* | - | 41% | 26% | 90% | - | - | - | - |
| Percentage of Nonresident Employees | *Table 4-3* | *c* | 85% | - | - | - | - | - | - | - |
| Estimated Project Employees | *Table 2-2* | *d* | - | 1,164 | 774 | 172 | 2,110 | - | - | - |
| **Total New Employee Annual Spending** | ***e = a * b * c * d*** | | **-** | **$2,992,912** | **$1,269,453** | **$966,155** | **$5,228,521** | - | - | - |
| **Market Area Capture [1]** | | | | | | | | | | |
| Percentage | | | 80% | | | | | | | |
| **Total New Employee Spending Captured in the Market Area** | | | | **$2,394,330** | **$1,015,563** | **$772,924** | **$4,182,817** | - | - | - |
| **Estimated New Employee Market Area Sales** | | | *% of spending [2]* | | | | | | | |
| Motor Vehicle and Parts Dealers | - | - | 2.2% | $53,272 | $22,595 | $17,197 | $93,064 | 90.0% | $83,758 | 1.6% |
| Home Furnishings and Appliance Stores | - | - | 5.3% | $126,285 | $53,564 | $40,767 | $220,616 | 90.0% | $198,555 | 3.8% |
| Bldg. Matrl. and Garden Equip. and Supplies | - | - | 0.0% | $0 | $0 | $0 | $0 | 90.0% | $0 | 0.0% |
| Food and Beverage Stores | - | - | 12.7% | $305,178 | $129,442 | $98,516 | $533,136 | 90.0% | $479,822 | 9.2% |
| Gasoline Stations | - | - | 20.0% | $479,446 | $203,358 | $154,772 | $837,576 | 90.0% | $753,819 | 14.4% |
| Clothing and Clothing Accessories Stores | - | - | 4.6% | $110,729 | $46,966 | $35,745 | $193,441 | 90.0% | $174,097 | 3.3% |
| General Merchandise Stores | - | - | 19.3% | $462,150 | $196,023 | $149,189 | $807,362 | 90.0% | $726,626 | 13.9% |
| Food Services and Drinking Places | - | - | 17.0% | $408,129 | $173,109 | $131,750 | $712,989 | 90.0% | $641,690 | 12.3% |
| Other Retail | - | - | 18.8% | $449,140 | $190,504 | $144,989 | $784,633 | 90.0% | $706,170 | 13.5% |
| **Total New Employee Market Area Demand** | **-** | **-** | **100.0%** | **$2,394,330** | **$1,015,563** | **$772,924** | **$4,182,817** | **90.0%** | **$3,764,535** | **72.0%** |

Source: EPS.

[1] This analysis assumes 80% of Market Area employee spending will be captured by retail within the Market Area, conversely 20% will be captured by retail outside of the Market Area.
[2] Other nonresidential employees spending by retail category based on office worker spending patterns. See  for estimated office worker spending.

## Summary of Project-Generated Retail Demand

As shown in **Table 4-5**, the total Project-generated demand for Project retail at buildout is $139.0 million for Upper Westside. This amount of retail spending is based on estimated demand from new Project households and employees. Project-generated demand in the remainder of the Market Area is $58.5 million. The total Project-generated demand for retail space in the Market Area (including the Project) is estimated to be $197.4 million.

## Existing Retail Demand

### Existing Household Spending in the Market Area

In addition to demand from incremental Project households, the Project can capture demand from existing household spending within the Market Area. To quantify the retail demand of existing Market Area households, EPS developed an analytical model that relies on current Market Area households, household income, and consumer spending patterns.[53] Assumptions underlying each component of existing Market Area household demand can be found in **Appendix A**.[54] Similar to the estimate for Project households from **Table 4-2**, **Table 4-6** shows expenditure estimates per Market Area household. EPS estimates that, on average, Market Area households have a household income of approximately $82,000 and spend about 24 percent of their income on retail goods and services (approximately $19,600 per year).[55] The total annual retail spending estimate from existing Market Area households is $444.4 million.

### Project Capture of Market Area Demand (Excluding Project-Based Sources)

The Project is estimated to be built over a 30-year time frame, from 2022 to 2052. During this time, the Market Area will experience residential growth outside of the Project as described in **Chapter 3** (refer to **Table 3-4**). As shown in **Table 4-7**, this Study is based on estimates there will be about 22,700 new households in the Market Area, excluding new households in the Project, through 2052. Using average estimated Market Area spending per household of approximately $19,600, new households in the Market Area are estimated to add $444.4 million in spending power by 2052. Existing and new retail development in the Market Area is estimated to capture 80 percent of incremental new Market Area household spending for a total of $355.6 million at buildout. Of the $355.5 million spent in the Market Area, a portion of Market Area household spending is estimated to be captured by retail outlets in Upper Westside.

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[53] Consumer spending patterns exclude spending on e-commerce retail goods and services, which are, as a conservative assumption, not anticipated to contribute to demand for physical retail space. This analysis subtracts the estimated "click and collect" e-commerce sales from total e-commerce as these sales are local and do contribute to demand for physical retail space.

[54] **Table A-7** calculates the projected weighted average household income for the Market Area. **Table A-4** estimates the household retail expenditures based on income level. **Table A-5** estimates the percentage of spending at retail stores by retail category.

[55] Includes retail spending on physical retail outlets only; excludes spending on e-commerce retail goods and services.

## Table 4-5. Total Project-Generated Demand from Project Populations for Market Area Retail (2022$)

| Item | PROJECT GENERATED DEMAND FOR MARKET AREA RETAIL [1] — Phase 1: 20-Year Buildout — Project Generated Demand for Market Area Retail — Project Households | Project Employees — Office | Project Employees — Other Nonres. | Total | UWSP as % of Total MA Spending — Project Households | Project Employees — Office | Project Employees — Other Nonres. | Total | % |
|---|---|---|---|---|---|---|---|---|---|
| *Formula* | *a* | *b* | *c* | *d = a + b + c* | *e* | *f* | *g* | *h = e + f + g* | *i = h / d* |
| **Retail and Food Services** | | | | | | | | | |
| Motor Vehicle and Parts Dealers | $7,147,689 | $501,252 | $61,179 | $7,710,120 | $3,573,844 | $451,127 | $55,061 | $4,080,032 | 52.9% |
| Home Furnishings and Appliance Stores | $13,422,295 | $1,188,262 | $145,030 | $14,755,587 | $3,355,574 | $1,069,436 | $130,527 | $4,555,536 | 30.9% |
| Bldg. Matrl. and Garden Equip. and Supplies | $8,835,119 | $0 | $0 | $8,835,119 | $2,208,780 | $0 | $0 | $2,208,780 | 25.0% |
| Food and Beverage Stores | $40,550,637 | $2,871,522 | $350,475 | $43,772,634 | $36,495,573 | $2,584,370 | $315,427 | $39,395,370 | 90.0% |
| Gasoline Stations | $13,225,614 | $4,511,270 | $550,609 | $18,287,493 | $11,903,052 | $4,060,143 | $495,548 | $16,458,744 | 90.0% |
| Clothing and Clothing Accessories Stores | $14,208,254 | $1,041,891 | $127,165 | $15,377,311 | $3,552,064 | $937,702 | $114,448 | $4,604,214 | 29.9% |
| General Merchandise Stores | $25,725,659 | $4,348,533 | $530,747 | $30,604,938 | $19,294,244 | $3,913,680 | $477,672 | $23,685,596 | 77.4% |
| Food Services and Drinking Places | $24,064,207 | $3,840,228 | $468,707 | $28,373,142 | $12,032,103 | $3,456,205 | $421,837 | $15,910,145 | 56.1% |
| Other Retail | $16,312,715 | $4,226,114 | $515,805 | $21,054,634 | $12,234,536 | $3,803,503 | $464,225 | $16,502,264 | 78.4% |
| **Total** | **$163,492,188** | **$22,529,073** | **$2,749,718** | **$188,770,978** | **$104,649,770** | **$20,276,166** | **$2,474,746** | **$127,400,682** | **67.5%** |

| Item | Total Buildout — Project Generated Demand for Market Area Retail — Project Households | Project Employees — Office | Project Employees — Other Nonres. | Total | UWSP as % of Total MA Spending — Project Households | Project Employees — Office | Project Employees — Other Nonres. | Total | % |
|---|---|---|---|---|---|---|---|---|---|
| | *j* | *k* | *l* | *m = j + k + l* | *n* | *o* | *p* | *q = n + o + p* | *r = q / m* |
| **Retail and Food Services** | | | | | | | | | |
| Motor Vehicle and Parts Dealers | $7,147,689 | $755,103 | $93,064 | $7,902,792 | $3,573,844 | $679,593 | $83,758 | $4,337,195 | 54.9% |
| Home Furnishings and Appliance Stores | $13,422,295 | $1,790,038 | $220,616 | $15,212,333 | $3,355,574 | $1,611,034 | $198,555 | $5,165,162 | 34.0% |
| Bldg. Matrl. and Garden Equip. and Supplies | $8,835,119 | $0 | $0 | $8,835,119 | $2,208,780 | $0 | $0 | $2,208,780 | 25.0% |
| Food and Beverage Stores | $40,550,637 | $4,325,757 | $533,136 | $44,876,394 | $36,495,573 | $3,893,182 | $479,822 | $40,868,577 | 91.1% |
| Gasoline Stations | $13,225,614 | $6,795,929 | $837,576 | $20,021,543 | $11,903,052 | $6,116,336 | $753,819 | $18,773,207 | 93.8% |
| Clothing and Clothing Accessories Stores | $14,208,254 | $1,569,540 | $193,441 | $15,777,795 | $3,552,064 | $1,412,586 | $174,097 | $5,138,747 | 32.6% |
| General Merchandise Stores | $25,725,659 | $6,550,776 | $807,362 | $32,276,435 | $19,294,244 | $5,895,698 | $726,626 | $25,916,568 | 80.3% |
| Food Services and Drinking Places | $24,064,207 | $5,785,049 | $712,989 | $29,849,255 | $12,032,103 | $5,206,544 | $641,690 | $17,880,337 | 59.9% |
| Other Retail | $16,312,715 | $6,366,360 | $784,633 | $22,679,075 | $12,234,536 | $5,729,724 | $706,170 | $18,670,430 | 82.3% |
| **Total** | **$163,492,188** | **$33,938,553** | **$4,182,817** | **$197,430,740** | **$104,649,770** | **$30,544,697** | **$3,764,535** | **$138,959,002** | **70.4%** |

Source: EPS.

[1] See Table 4-2, Table 4-3, and Table 4-4.
[2] Project generated demand in the "Remainder" of the Market Area is derived by taking the total Project generated demand in the Market Area from Project households from Table 4-2 and Project new employees from Table 4-3 and Table 4-4.

## Table 4-6. Estimated 2022 Retail Spending from Market Area Households (2022$)

| Item | | Percent Spent on Retail by Category [1] | Total Annual Retail Spending per Household [2] | Total Current MA Household Spending on Retail |
|---|---|---|---|---|
| **Assumptions** | | | | |
| 2022 Market Area Households [3] | 22,698 | | | |
| Weighted Average Household Income [4] | $81,906 | | | |
| Estimated Percent of HH Income Spent in Retail Stores [5] | 24% | | | |
| Estimated Annual HH Spending in Retail Stores | $19,580 | | | |
| **Retail and Food Services** | | | | |
| Motor Vehicle and Parts Dealers [6] | | 4.4% | $856 | $19,429,948 |
| Home Furnishings and Appliance Stores | | 8.2% | $1,607 | $36,486,549 |
| Bldg. Matrl. and Garden Equip. and Supplies | | 5.4% | $1,058 | $24,016,981 |
| Food and Beverage Stores | | 24.8% | $4,856 | $110,230,984 |
| Gasoline Stations | | 8.1% | $1,584 | $35,951,899 |
| Clothing and Clothing Accessories Stores | | 8.7% | $1,702 | $38,623,065 |
| General Merchandise Stores | | 15.7% | $3,081 | $69,931,445 |
| Food Services and Drinking Places | | 14.7% | $2,882 | $65,415,031 |
| Other Retail | | 10.0% | $1,954 | $44,343,733 |
| **Total Retail and Food Services** | | **100.0%** | **$19,580** | **$444,429,635** |

*ma hh spending*

Source: U.S. Census Bureau, Census 2010 Summary File 1. Esri forecasts for 2021; SACOG; U.S. Bureau of Labor Statistics, "Table 1203. Income before taxes: Annual expenditure means, shares, standard errors, and coefficients of variation, Consumer Expenditure Survey, 2020"; U.S. Retail Trade Sales - Total and E-commerce (1992-2020); Sales for U.S. Electronic Shopping and Mail-Order Houses (NAICS 4541) - Total and E-commerce by Primary Business Activity (2019); U.S. Bureau of Labor Statistics, "Table 1203. Income before taxes: Annual expenditure means, shares, standard errors, and coefficients of variation, Consumer Expenditure Survey, 2019"; U.S. Census of Retail Trade, "Estimated Quarterly U.S. Retail Sales: Total and E-commerce"; EPS.

[1] See Table A-5 for estimated spending by retail category.
[2] Total Market Area spending is derived by multiplying the estimated Market Area average household income of $81,906 by the estimated percentage of hosuehold income spent on retail of 24% and then multiplied by the percentages spent on retail for for each category.
[3] See Table 3-4.
[4] See Table A-7.
[5] See Table A-13. Excludes spending on e-commerce retail goods and services.
[6] Percent spent on Motor Vehicles and Parts Dealers only pertains to motor vehicle parts (omits spending at new and used vehicle dealers).

## Table 4-7. Projected Capture of New Market Area Demand (Excluding Project Households) (2022$)

| Item | Spending per HH [1] | PHASE 1: 20-YEAR BUILDOUT | | | | | TOTAL BUILDOUT | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Net New MA Household Spending (Demand) | | Estimated Project Capture of MA HH Spending (UWSP as % of MA) [3] | | | Net New MA Household Spending (Demand) | | Estimated Project Capture of MA HH Spending (UWSP as % of MA) [3] | | |
| | | Total [2] | Inside the Market Area | Capture Rate | Total [4] | % of Total Market Area | Total [2] | Inside the Market Area | Capture Rate | Total [4] | % of Total Market Area |
| *Formula* | *a* | *b = a * 20,875* | *c = b * 80%* | *d* | *e = c * d* | *f = e / b* | *g = a * 22,698* | *h = g * 80%* | *i* | *j = h * i* | *k = j / g* |
| | | | Capture Rate [5] | | | | | Capture Rate [5] | | | |
| **Projected New Households (excluding Project) [4]** | | **20,875** | **80%** | | | | **22,698** | **80%** | | | |
| **Retail and Food Services** | | | | | | | | | | | |
| Motor Vehicle and Parts Dealers | $856 | $17,869,665 | $14,295,732 | 5% | $714,787 | 4% | $19,429,948 | $15,543,958 | 5% | $777,198 | 4% |
| Home Furnishings and Appliance Stores | $1,607 | $33,556,570 | $26,845,256 | 15% | $4,026,788 | 12% | $36,486,549 | $29,189,239 | 15% | $4,378,386 | 12% |
| Bldg. Matrl. and Garden Equip. and Supplies | $1,058 | $22,088,345 | $17,670,676 | 15% | $2,650,601 | 12% | $24,016,981 | $19,213,585 | 15% | $2,882,038 | 12% |
| Food and Beverage Stores | $4,856 | $101,379,105 | $81,103,284 | 50% | $40,551,642 | 40% | $110,230,984 | $88,184,787 | 50% | $44,092,393 | 40% |
| Gasoline Stations | $1,584 | $33,064,854 | $26,451,883 | 50% | $13,225,942 | 40% | $35,951,899 | $28,761,519 | 50% | $14,380,760 | 40% |
| Clothing and Clothing Accessories Stores | $1,702 | $35,521,517 | $28,417,213 | 15% | $4,262,582 | 12% | $38,623,065 | $30,898,452 | 15% | $4,634,768 | 12% |
| General Merchandise Stores | $3,081 | $64,315,741 | $51,452,593 | 50% | $25,726,296 | 40% | $69,931,445 | $55,945,156 | 50% | $27,972,578 | 40% |
| Food Services and Drinking Places | $2,882 | $60,162,008 | $48,129,606 | 25% | $12,032,402 | 20% | $65,415,031 | $52,332,025 | 25% | $13,083,006 | 20% |
| Other Retail | $1,954 | $40,782,798 | $32,626,239 | 50% | $16,313,119 | 40% | $44,343,733 | $35,474,986 | 50% | $17,737,493 | 40% |
| **Total** | **$19,580** | **$408,740,603** | **$326,992,482** | **37%** | **$119,504,159** | **29%** | **$444,429,635** | **$355,543,708** | **37%** | **$129,938,620** | **29%** |

Source: EPS.

[1] See Table 4-6.
[2] The demand from Market Area household growth is derived by multiplying total households by the amount of spending per household for each retail category.
[3] Capture rate assumptions reflect the portion of retail spending leakage the Market Area and Upper Westside retail may be able to capture and are based on the type of retail that may locate in the Market Area and Project as well as the relative proportion of Project retail to total Market Area retail space.
[4] See Table 3-4.
[5] This analysis assumes 80% of Market Area household spending will be captured by retail within the Market Area. Conversely 20% will be captured by retail outside of the Market Area.

Applying a 37 percent capture rate, which is the average of the estimated capture rates by retail category, the total estimated new Market Area household spending captured by the Project is $130.0 million, equating to about 29 percent of new Market Area household spending (excluding Project households).

# 5. COMPETITIVE RETAIL SUPPLY

This chapter provides an overview of the existing and proposed supply of competitive retail outlets in the Market Area.

## Existing Competitive Retail Supply

As discussed in **Chapter 3**, the Market Area has a current estimated retail supply of nearly 5.2 million leasable square feet. See **Table 3-1** and **Map 3-2** in **Chapter 3**. The Market Area contains about 1.4 million square feet of neighborhood-serving retail, 879,000 square feet of community-serving retail, 2.0 million square feet of regional-serving retail, and 1.1 million square feet of freestanding retail.

### Existing Retail Sales in the Market Area

EPS obtained estimated total retail sales as of 2017 for the Market Area boundary from Esri Business Analyst Online (BAO).[56] Esri BAO data were used in lieu of publicly available sources of data such as the California Department of Tax and Fee Administration (CDTFA) because data from Esri could be aligned with the defined Market Area boundary, whereas CDTFA data are consistent with broader jurisdictional boundaries only (i.e., City of Sacramento, City of West Sacramento, and Sacramento County).[57] EPS validated the Esri BAO retail sales data by estimating and comparing total retail sales per capita with data from CDTFA.[58] This comparison revealed consistency across the two data sources, supporting the usage of BAO data in this Analysis.[59]

Total retail sales for the Market Area were allocated to each retail category based on the proportion of estimated retail sales by retail category in the County, based on data from the most recently available taxable sales report for the County from CDTFA including 4th quarter 2020 through 3rd quarter 2021. Specific retail categories, including Food and Beverage Stores, General Merchandise, and the Health and Personal Care Stores portion of the Other Retail Stores

[56] **Table A-18** and **Table A-9** comprise Esri BAO sales estimates by category for 2017 for the Market Area portion of the cities of Sacramento and West Sacramento.

[57] The CDTFA took over the management of the State of California's taxable sales data in 2016 from the State of California Board of Equalization (BOE).

[58] Note that the two data sources differ in the data reflected: BAO data reflects total retail sales whereas CDTFA data reflects taxable retail sales (omitting nontaxable retail sales). EPS compared the two data sources after adjusting CDTFA data to include estimated nontaxable retail sales, as described in the following paragraph of this section.

[59] Following a thorough review of BAO and CDTFA data sources, EPS determined that BAO data, which reflect retail sales in the Market Area, and CDTFA data, which reflect an estimate of Market Area retail sales based on Sacramento County data, resulted in no material difference in the conclusions of this Study.

category, are estimated to sell a significant portion of nontaxable goods. Thus, the taxable sales in these categories were adjusted to account for nontaxable items using the countywide

proportional difference between taxable and total sales from CDTFA (taxable sales) and the U.S. Economic Census (total sales). EPS used the approach of allocating the proportion of adjusted retail sales by retail category from County-level CDTFA data in lieu of using Esri's estimated retail sales by retail category based on an evaluation of both data sources. Calculations supporting this methodology for estimating retail sales in the Market Area can be found in **Appendix A**.[60]

As shown in **Table 5-1**, after escalating the 2017 estimated retail sales to 2022 dollars using the Bureau of Labor Statistics (BLS) Consumer Price Index for the West Urban Region between 2017 and 2022, total retail sales in the Market Area are estimated at approximately $1.4 billion.

## Projected Project Sales

The Project as planned is anticipated to comprise approximately 338,900 occupied retail square feet in Phase 1 and a remaining 179,300 occupied retail square feet at buildout for a total of 518,200 square feet of occupied retail space, as shown in **Table 2-2**. **Table 5-2** estimates sales for the Project by assigning each retail shopping center type an estimated sales-per-square-foot figure in 2022 dollars based on information from BizMiner, eMarketer, corporation annual 10-K reports, and ULI, which can be found in **Appendix A**.[61] The total projected sales for the Project at buildout are approximately $263.3 million. These projected sales are anticipated to increase existing Market Area retail sales by about 18 percent.

## Estimated Pipeline Supply

The identified competitive Market Area projects are listed and classified by shopping center type based on the project square footage in **Table 5-3**. These include Northlake located along the north boundary of the Market Area near the Highway 99-Interstate 5 Interchange; Northpointe located southwest of Northlake below Interstate 5; Innovation Park and CNU Campus located east of the Project on the other side of Interstate 5; and 681 W. Capitol Ave and Raley's Landing located south of the Project and Intestate 80 in West Sacramento as shown in **Map 5-1**. Projects located outside of the Market Area are included to reflect the continued expansion of the City's North Natomas CPA including Metro Air Park, Grandpark, the Panhandle, Town Center East, and North Natomas Square, as well as Sutter Pointe located within Sutter County just north of the Sacramento County boundary as shown in **Map 5-1** and **Table 5-3**.[62]

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[60] **Table A-10** and **Table A-11** reflect calculations made to estimate total retail sales data for the Market Area based on data obtained from Esri BAO, CDTFA (formerly accessible through the BOE), and the U.S. Economic Census.

[61] **Table A-12** estimates 2022 retail sales per square foot based on retail categories and shopping center types.

[62] The Panhandle is excluded form **Table 5-3** as this project proposes residential units only; no commercial retail uses are proposed at this time.

## Table 5-1. Estimated Market Area Total Retail Sales (2022$)

| Item | Total Market Area Retail Sales | | |
|---|---|---|---|
| | Market Area (2017$) [1] [2] | Market Area (2022$) [3] | % of Total |
| **CPI Adjustment from 2017$ to 2022$ [3]** | | 12.9% | |
| **Retail and Food Services** | | | |
| Motor Vehicle and Parts Dealers [4] | $7,590,350 | $8,566,370 | 0.6% |
| Home Furnishings and Appliance Stores | $82,912,555 | $93,574,033 | 6.5% |
| Bldg. Matrl. and Garden Equip. and Supplies | $133,064,185 | $150,174,512 | 10.5% |
| Food and Beverage Stores | $243,483,097 | $274,791,862 | 19.2% |
| Gasoline Stations | $122,761,414 | $138,546,938 | 9.7% |
| Clothing and Clothing Accessories Stores | $60,884,319 | $68,713,252 | 4.8% |
| General Merchandise Stores | $172,694,574 | $194,900,855 | 13.6% |
| Food Services and Drinking Places | $193,847,999 | $218,774,336 | 15.3% |
| Other Retail | $251,273,155 | $283,583,621 | 19.8% |
| **Total Retail and Food Services** | **$1,268,511,648** | **$1,431,625,779** | **100.0%** |

*retail sales*

Source: Esri BAO Retail MarketPlace Profile 2017, accessed February 2022; California Department of Tax and Fee Administration; Labor Statistics Consumer Price Index for the West Urban Region; EPS.

[1] Represents estimated total retail sales in the Market Area based on the most recent available sales data from Esri BAO, calendar year 2017. Only a small fraction of retail was added to the supply comprising less than 1 percent of the total inventory between 2017 and 2021. The method for estimating Market Area sales is provided in Table A-10 through Table A-14.
[2] See Table A-10 for the calculation of retail sales for the portion of the Market Area that falls in the City and County of Sacramento and Table A-11 for the portion of the Market Area that is in the City of West Sacramento.
[3] The 2017 estimated retail sales have been escalated to 2022 dollars using the Bureau of Labor Statistics Consumer Price Index for the West Urban Region for annual year-end 2017 and annual year-end 2021 of 12.9%.
[4] Sales estimates for Motor Vehicles and Parts Dealers pertains to motor vehicle parts only (omits sales at new and used vehicle dealers).

## Table 5-2. UWSP Nonresidential Commercial Retail Project Sales (2022$)

| Item | Retail Type | Projected Total Sales per Sq. Ft. [1] | Phase 1 20-Year Buildout: Total Occupied Square Feet [2] | Phase 1 20-Year Buildout: Projected Project Sales (2022-2042) | Phase 2 Remaining Development: Total Occupied Square Feet | Phase 2 Remaining Development: Projected Incremental Project Sales (2042-2052) | Total Project at Buildout (2022-2052): Total Occupied Square Fee [2] | Total Project at Buildout (2022-2052): Total Projected Sales |
|---|---|---|---|---|---|---|---|---|
| **Retail Land Use** | | | | | | | | |
| Commercial Mixed Use | Community Commercial Retail | $460 | 247,294 | $113,755,339 | 104,977 | $48,289,519 | 352,271 | $162,044,858 |
| Employment / Highway Commercial | Highway Commercial | $610 | 91,605 | $55,878,867 | 74,307 | $45,327,087 | 165,911 | $101,205,954 |
| **Total Retail** | | **$501** | **338,899** | **$169,634,206** | **179,284** | **$93,616,606** | **518,183** | **$263,250,812** |

*project sales*

Source: Bureau of Labor Statistics Consumer Price Index for the West urban region, All Urban Consumers; BizMiner 2016; ULI Dollars & Cents of Shopping Centers: 2008; EPS.

[1] Estimated using retail sales information from BizMiner and ULI's Dollars & Cents of Shopping Centers. Values inflated to 2018 dollars using the CPI for the West urban region, All Urban Consumers, see Table A-12.
[2] See Table 2-2.

## Table 5-3. Proposed Commercial Retail Supply in and Near the Market Area (Excluding UWSP) (3 Pages)

| Project Name [1] | Jurisdiction/ Area | Commercial Acreage | Retail Square Feet | Description | Location | Status |
|---|---|---|---|---|---|---|
| **MARKET AREA** | | | | | | |
| **Community Commercial** | | | | | | |
| Northlake (Community Commercial Portion) | City of Sacramento | 27.1 | 295,119 [2] | A master planned community with 2,275 single-family units, 500 multifamily units, including a 189-unit affordable senior project, a 295,119-square-foot community commercial center, a 16,335-square-foot neighborhood shopping center, a light rail station, and an elementary school. | I-5, Highway 99, and Metro Air Park | Infrastructure Under Construction |
| Innovation Park & CNU Medical Center Campus (former Sleep Train Arena) (Community Commercial Portion) | City of Sacramento | 183.0 | 177,090 [3] [4] | This project will be anchored by a California Northstate University hospital campus with a 14-story, 730,000-square-foot teaching hospital. The mixed-use urban village with 1.2 million square feet of gross commercial space and 2,017 residential units. | Del Paso Rd, East Commerce Way, Arena Blvd and Truxel Rd | Entitled |
| **Community Commercial Total** | | | **472,209** | | | |
| **Neighborhood Commercial** | | | | | | |
| Innovation Park & CNU Medical Center Campus (former Sleep Train Arena) (Neighborhood Commercial Portion) | City of Sacramento | 183.0 | 177,090 [3] [4] | This project will be anchored by a California Northstate University hospital campus with a 14-story, 730,000-square-foot teaching hospital. The mixed-use urban village with 1.2 million square feet of gross commercial space and 2,017 residential units. | Del Paso Rd, East Commerce Way, Arena Blvd and Truxel Rd | Entitled |
| Raley's Landing | City of West Sacramento | - | 102,000 | At buildout, the proposed project would contain approximately 900 multifamily residential units, 845,000 gross square feet of office space, 102,000 square feet of commercial/retail uses, and possibly 100–300 hotel rooms with a 7,000- to 15,000-square-foot conference center; it would provide between 4,351 and 4,651 on-site parking spaces, including surface and multilevel parking spaces. | 707 Third St | Approved |
| NorthPointe | County of Sacramento / City of Sacramento | 23.0 | 125,235 [5] | This 450-acre project is proposed to annex into the City of Sacramento and will comprise up to 6.6 million square feet of industrial and 250,470 square feet of commercial. | Southeast of Powerline Rd and I-5 | Early Planning Stages |
| 681 West Capitol | City of West Sacramento | - | 19,166 | This project in the Bridge District comprises a 6-story, 27,000-square-foot building with office and retail. | 681 West Capitol | Under Review |
| Northlake (Neighborhood Commercial Portion) | City of Sacramento | 1.5 | 16,335 [2] | A master planned community with 2,275 single-family units, 500 multifamily units, including a 189-unit affordable senior project, a 295,119-square-foot community commercial center, a 16,335-square-foot neighborhood shopping center, a light rail station, and an elementary school. | I-5, Highway 99, and Metro Air Park | Infrastructure Under Construction |
| **Neighborhood Commercial Total** | | | **439,826** | | | |
| **TOTAL PROPOSED SUPPLY IN THE MARKET AREA** | | | **912,035** | | | |
| ***UWSP RETAIL AS % OF TOTAL PROPOSED MA SUPPLY*** | | | **37.2%** | | | |

## Table 5-3. Proposed Commercial Retail Supply in and Near the Market Area (Excluding UWSP) (page 2)

| Project Name [1] | Jurisdiction/ Area | Commercial Acreage | Retail Square Feet | Description | Location | Status |
|---|---|---|---|---|---|---|
| **OTHER RETAIL NEAR THE MARKET AREA** | | | | | | |
| **Regional Commercial** | | | | | | |
| Sutter Pointe (Regional Commercial Portion) | Sutter County | 171.2 | 500,000 [6] [7] | A master planned community with 17,500 residential units, 4.3 million square feet of office, 41.4 million square feet of industrial, a K-8 school, and a high school, plus 1.9 million square feet of gross planned retail. | Highway 99 and Sankey Rd | Entitled |
| Metro Air Park (Regional Commercial Portion) | Sacramento County | 65.0 | 368,082 [8] [9] | Special Planning Area near the Sacramento Metro Airport allows the development of a multi-use, commercial and industrial business park with 20.8 million square feet of commercial and industrial space. Retail, Sales, and Service uses are limited to a 65-acre maximum per the Metro Air Park Special Planning Area Process Guide. | Bounded by Elverta Rd, Lone Tree Rd, I-5, and Power Line Rd | Entitled |
| **Regional Commercial Total** | | | **868,082** | | | |
| **Community Commercial** | | | | | | |
| Grandpark (Community Commercial Portion) | Sacramento County | 700.0 | 1,494,065 [10] | Grandpark is a master-planned community that will accommodate a range of land uses, including single-family and multifamily housing units; employment-generating uses, including retail, office, medical, and hotel uses; educational uses; and recreation, open space, and other public/quasi-public land uses. | Elkhorn Blvd, Highway 99, Sacramento/Sutter County line | Under Review |
| Metro Air Park (Community Commercial Portion) | Sacramento County | 65.0 | 368,082 [8] [9] | Special Planning Area near the Sacramento Metro Airport allows the development of a multi-use, commercial and industrial business park with 20.8 million square feet of commercial and industrial space. Retail, Sales, and Service uses are limited to a 65-acre maximum per the Metro Air Park Special Planning Area Process Guide. | Bounded by Elverta Rd, Lone Tree Rd, I-5, and Power Line Rd | Entitled |
| Sutter Pointe (Community Commercial Portion) | Sutter County | 171.2 | 170,625 [6] [7] | A master planned community with 17,500 residential units, 4.3 million square feet of office, 41.4 million square feet of industrial, a K-8 school, and a high school, plus 1.9 million square feet of gross planned retail. | Highway 99 and Sankey Rd | Entitled |
| **Community Commercial Total** | | | **2,032,772** | | | |

## Table 5-3. Proposed Commercial Retail Supply in and Near the Market Area (Excluding UWSP) (page 3)

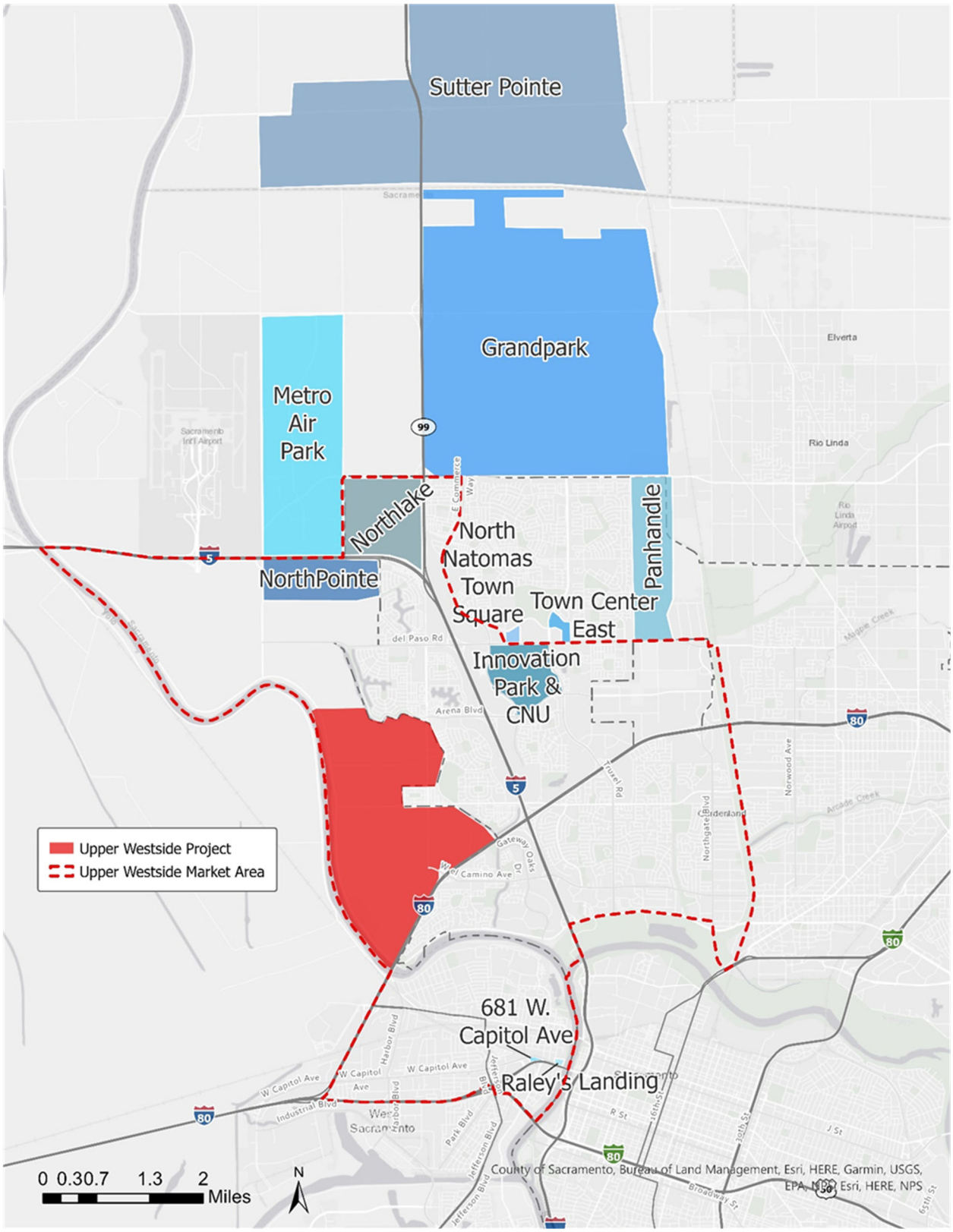
| Project Name [1] | Jurisdiction/ Area | Commercial Acreage | Retail Square Feet | Description | Location | Status |
|---|---|---|---|---|---|---|
| **OTHER RETAIL NEAR THE MARKET AREA** | | | | | | |
| **Neighborhood Commercial** | | | | | | |
| Grandpark (Neighborhood Commercial Portion) | Sacramento County | 700.0 | 710,667 [10] | Grandpark is a master-planned community that will accommodate a range of land uses, including single-family and multifamily housing units; employment-generating uses, including retail, office, medical, and hotel uses; educational uses; and recreation, open space, and other public/quasi-public land uses. | Elkhorn Blvd, Highway 99, Sacramento/Sutter County line | Under Review |
| Sutter Pointe (Neighborhood Commercial Portion) | Sutter County | 171.2 | 170,625 [6] [7] | A master planned community with 17,500 residential units, 4.3 million square feet of office, 41.4 million square feet of industrial, 4.0 million gross square feet of retail, a K-8 school, and a high school, plus 1.9 million square feet of gross planned retail. | Highway 99 and Sankey Rd | Entitled |
| Town Center East | City of Sacramento | 11.6 | 77,553 [11] | Prospective tenants include a 38,295-square-foot gym, 12,000 square-foot child care center, bank, and 6 retail buildings ranging from 2,400-8,005 square feet. | Del Paso Rd and Town Center Dr | Under Review |
| North Natomas Town Square | City of Sacramento | - | 69,470 | This proposed project is the commercial portion of Creekside Natomas Master Planned Community and is anticipated to include a 38,000-square-foot anchor and remaining space for restaurants and other local retail. | 2631 Del Paso Rd | Proposed |
| **Neighborhood Commercial Total** | | | **1,028,315** | | | |
| **TOTAL OTHER RETAIL NEAR THE MARKET AREA** | | | **3,929,169** | | | |

*retail supply*

Source: Planning Departments in the cities of Sacramento and West Sacramento and the County of Sacramento; Sacramento Business Journal; Sacramento Bee; EPS.

[1] Identified projects comprising 20,000 or more square feet of commercial space organized by classification of center based on square footage, see Table A-1 for commercial space that has not been classified by project descriptions.
[2] Project information per the Sacramento Business Journal and the Wood Rodgers Public Facilities Financing Plan dated May 2017.
[3] For projects that give only acreage for development size, square footages are calculated based on maximum Floor-Area-Ratios or Lot Coverage from the respective jurisdiction's municipal code.
[4] EPS assumes a 50/50 split between Community and Neighborhood Commercial for the retail portion of the project.
[5] For projects with ambiguous commercial designations, EPS assumes that 50% will comprise retail and 50% will comprise office.
[6] Project information per the Sutter Pointe Specific Plan Chapter 3: Land Use, Table 3-4, page 3-22.
[7] EPS assumes Regional Commercial comprises 500,000 square feet and Community and Neighborhood Commercial split the remainder 50/50 with an applied FAR of 0.25 per the Specific Plan.
[9] Metro Air Park applied the County-given .26 FAR to the maximum Retail, Sales, and Services uses square footage.
[9] EPS assumes a 50/50 split between Regional and Community Commercial for the retail portion of the project.
[10] Project information per EPS's Grandpark Specific Plan Urban Decay Analysis Draft Report, October 2020, including shopping center type designations.
[11] Project information per the City of Sacramento, Natomas Town Center II (East) Intimal Study/Mitigated Negative Declaration for Anticipated Subsequent Projects under the 2035 General Plan Master EIR.

**Map 5-1. Proposed Commercial Retail Supply**



Many approved and proposed projects contain broad project descriptions that provide a gross amount of commercial or retail acreage. The provided commercial retail acreage generally is shown as the maximum allowable square footage and also includes other land uses beyond the building square footage such as parking, landscaping, etc. To better estimate the amount of commercial retail space for these projects, EPS applied the project's respective jurisdictional FAR or Maximum Lot Coverage from their municipal code to the total acreage to estimate potential future development square footage. In addition, many of the projects include a large amount of commercial retail square footage located in large geographic areas, which are likely to comprise a multitude of shopping center types in different locations within the plan boundary. To better estimate retail buildout, EPS applied an estimated allocation of commercial retail space between regional, community, and neighborhood designations based on project descriptions and locations (as shown in **Table 5-3**) using shopping center classifications as shown in **Appendix A**.[63] For projects with ambiguous commercial designations, EPS assumed a 50 percent split between retail and office space. Detailed assumptions for each project can be found in **Table 5-3**.

The commercial retail supply pipeline is projected to total almost 912,000 square feet of retail in the Market Area, excluding proposed retail development in the Project. This amount of retail space, which includes 472,200 square feet of community retail and 440,000 square feet of neighborhood retail, would increase the existing retail supply in the Market Area (5.2 million square feet) by about 18 percent. It is important to note that some of these projects have not been approved or have speculative development timelines and the buildout of all proposed acreage will be dependent on a variety of factors, including the dynamic retail sector, the pace and extent of various sources of demand, and other future market conditions. EPS assumes the projected square footage of the planned retail in Northlake, Invocation Park & CNU Medical Campus, Raley's Landing, and 681 West Capitol will be fully developed by 2052 and that approximately 50 percent of the NorthPointe project will be developed as this is a newly proposed project, see **Table 5-4**.

The community-serving projects of Northlake and Innovation Park & CNU will likely have other sources of demand beyond project households and employees and Market Area households beyond the defined Upper Westside Market Area (e.g., pass-by traffic, including airport patrons; employees outside of the Project but within the Market Area; households outside of the Market Area). EPS applied a market adjustment factor of 80 percent to account for external sources of demand outside of the Market Area. Following these adjustments, as well as a 6 percent frictional vacancy rate assumption, the total proposed retail supply in the Market Area estimated to be absorbed by 2052 is 638,800 square feet—or an increase of about 13 percent in occupied retail space—with 355,100 square feet of community retail and 283,700 square feet of neighborhood retail.

[63] Shopping center classifications given by the ICSC can be found in **Table A-11**.

## Table 5-4. Proposed Commercial Retail Supply Summary

| Item | Cumulative Retail Completed by 2052 | | | | | |
|---|---|---|---|---|---|---|
| | Total Sq. Ft. [1] | Estimated Built and Absorbed by 2052 [2] % | Estimated Built and Absorbed by 2052 [2] Total Sq. Ft. | Market Area Adjustment Factor [3] | Estimated Adj. Occupied Sq. Ft. | Estimated Sales |
| Estimated Vacancy [4] | | | | | 6.0% | |
| **Estimated Sales per Sq. Ft. [5]** | | | | | | |
| Community Commercial | | | | | | $460 |
| Neighborhood Commercial | | | | | | $430 |
| Regional Commercial | | | | | | $430 |
| **MARKET AREA** | | | | | | |
| **Community Commercial** | | | | | | |
| Northlake | 295,119 | 100% | 295,119 | 80% | 221,929 | $102,087,564 |
| Innovation Park & CNU Medical Center Campus | 177,090 | 100% | 177,090 | 80% | 133,172 | $61,259,025 |
| **Total** | **472,209** | **-** | **472,209** | **-** | **355,101** | **$163,346,589** |
| **Neighborhood Commercial** | | | | | | |
| Innovation Park & CNU Medical Center Campus | 177,090 | 100% | 177,090 | 80% | 133,172 | $57,263,871 |
| Raley's Landing | 102,000 | 100% | 102,000 | 80% | 76,704 | $32,982,720 |
| NorthPointe [6] | 125,235 | 50% | 62,618 | 80% | 47,088 | $20,247,995 |
| 681 West Capitol | 19,166 | 100% | 19,166 | 80% | 14,413 | $6,197,518 |
| Northlake | 16,335 | 100% | 16,335 | 80% | 12,284 | $5,282,086 |
| **Total** | **439,826** | **-** | **377,209** | **-** | **283,661** | **$121,974,189** |
| **TOTAL MARKET AREA** | **912,035** | **-** | **849,418** | **-** | **638,762** | **$285,320,778** |
| | | | | | | *cumulative sales* |

Source: EPS.

[1] See Table 5-3 for retail square feet.
[2] It is important to note that some of these projects have not been approved or have speculative development timelines and buildout of all proposed acreage will be dependent on a variety of factors, including the dynamic retail sector, the pace and extent of various sources of demand, and other future market conditions. Square footaged estimated to build and absorb by 2042, and therefore by 2052.
[3] The Market Adjustment Factor reflects the estimated percentage of retail demand from households and other sources of demand within the defined Market Area. The remaining sources of demand will be derived from other sources not accounted for in this analysis (e.g., pass-by traffic from business and airport travel; households outside of the defined Market Area).
[4] The vacancy rate assumption applied to gross development totals is based on the average vacancy rate in the Market Area since 2010, as well as a standard frictional vacancy rate.
[5] Estimated using retail sales information from BizMiner, ULI's Dollars & Cents of Shopping Centers, and other sources listed in detail in Table A-12. Values inflated to 2018 dollars using the CPI for the West urban region, All Urban Consumers.
[6] The Northpointe project is anticipated to only partially absorb by 2052 as this project in the very early planning stages compared to the other projects that have been entitled or have infrastructure under construction.

### Pipeline Sales

**Table 5-4** estimates sales for estimated new retail projects in the Market Area, excluding the Project. To project total sales, each retail shopping center type is assigned an estimated sales-per-square-foot figure in 2022 dollars based on information from BizMiner, eMarketer, corporation annual 10-K reports, and ULI, which can be found in **Appendix A**.[64] The total projected sales for cumulative retail projects are approximately $273.2 million. These projected sales, excluding the Project, are anticipated to increase existing Market Area retail sales by about 17 percent.

[64] **Table A-12** estimates 2018 retail sales per square foot based on retail categories and shopping center types.

# 6. URBAN DECAY IMPLICATIONS OF PROPOSED RETAIL

This chapter defines urban decay, describes the analysis methodology and assumptions, and evaluates the potential impact of the retail portion of the proposed Upper Westside, as well as other known major retail projects planned in the defined Market Area. The results of this analysis are used to evaluate the degree to which the potential impacts might result in the physical deterioration of the environment in the Market Area and to examine whether Project retail has the potential to start an economic chain reaction that leads to physical deterioration and urban decay.

## Urban Decay Description

Urban decay is defined as the substantial and prolonged physical deterioration of properties or structures, resulting in discontinued use and investment, and adversely affecting the health, safety, and welfare of the surrounding community. Manifestations of urban decay may include various signs of physical blight such as abandoned buildings, boarded storefronts, litter, uncontrolled vegetation, vandalism, and graffiti.

State case law has determined that environmental documents must consider the potential for "urban decay" for projects that include retail development, "when there is evidence suggesting that the economic and social effects caused by the proposed shopping center ultimately could result in urban decay or deterioration, then the lead agency is obligated to assess this indirect impact".[65] In *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004), experts warned "about land use decisions that cause a chain reaction of store closures and long-term vacancies, ultimately destroying existing neighborhoods and leaving decaying shells in their wake."[66] It is important to note that case law establishes that urban decay is not defined as the closing of one specific or even multiple stores, and new development does not trigger an automatic presumption of urban decay; many factors are relevant, including the size of the project, the type of retailers and their market areas, and the proximity of other retail shopping opportunities.[67]

The primary impetus of urban decay often stems from financial conditions faced by the individual property owners; if a landlord is unable to collect rent on a vacant property with minimal likelihood that it can be leased again, the landlord may lose the incentive to maintain it. The effect can spread to adjacent properties and become a self-fulfilling prophecy as customers start to avoid an area and other property owners or tenants perceive an area as no longer vital or safe. Urban decay can be reinforced by a reduction in the fiscal resources of local governing entities because of declining sales and property revenue.

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[65] *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004), 124 Cal. App. 4th 1184.

[66] Ibid.

[67] Ibid.

The urban decay process generally takes several years to fully materialize and is reinforced by declining economic conditions in a broader area. It is generally not the result of a single property standing vacant for 1 or 2 years in an otherwise vibrant market.

## Estimated Project-Specific Retail Impacts

As described previously, the Project is estimated to add more than 8,800 households (roughly 24,200 residents) from now until the anticipated buildout of the Project (2022 through 2052). This household growth, as well as new Project employment, will generate demand for retail space both in and outside the Project and Market Area. The Project is anticipated to add about 541,200 occupied building square feet of retail space at buildout, comprising community- and highway-serving retail.

This Study estimates the proposed additional occupied space in Upper Westside will contribute approximately $170.0 million in annual retail sales to the Market Area for Phase 1 and $263.3 million at buildout.[68] Estimated Upper Westside retail sales represent an approximate 12 percent increase over the existing normalized supply for Phase 1, increased to 18 percent at buildout, measured in terms of sales. Of projected sales in Upper Westside, this Study estimates that about $127.4 million (75 percent of UWSP retail sales) in Phase 1 and $139.0 million (53 percent of UWSP retail sales) at buildout represent the estimated Project's capture of the new Project development spending (from new households and employees within the Project).

The remaining Project sales that will need to be captured by external sources of demand outside of the Upper Westside are $42.2 million in Phase 1 and $124.3 million at buildout. The Market Area is estimated to capture $61.4 million in Phase 1, and $58.5 million at buildout, of the new Upper Westside household spending, excluding the spending captured within the Project itself.

There is an estimated surplus of demand from Project households and new Market Area households of $19.1 million (1.3 percent of current Market Area sales) for Phase 1, stemming from the projected total buildout of residential units within the Project during Phase 1. The addition of the remainder of the nonresidential development at buildout creates an estimated deficit of about $65.8 million in sales (4.6 percent of current Market Area sales) that will need to be captured from households and other sources of demand outside of the Market Area. The remaining $65.8 million of total retail sales generated by Upper Westside would be attributable to a shift of sales from existing retail establishments in the Market Area. The estimated impact of retail development proposed in Upper Westside on total retail sales in the Market Area through Phase 1 (2042) and at Project buildout (2052) is shown in **Table 6-1**.

The Project-specific analysis excludes other new sources of demand that will certainly offset the estimated Project sales not captured by new households and employees in the Project. Notably, the project-specific analysis excludes estimates of sales from pass-by traffic for the Project's highway-oriented retail along Interstate 5 and Interstate 80. In addition, the analysis excludes market support from the incremental growth in households and employees in the Market Area, outside of the Project, which will patronize existing and new retail establishments in the Market Area, including the mixed-use retail uses in the Project town center.

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[68] Refer to **Table 5-2** for information on estimated Project sales.

## Table 6-1. Project-Specific Impacts on Existing Retail Supply

| Item | Source | Formula | Phase 1: 20-Year Buildout (2022-2042) | Total Project Buildout (2022-2052) |
|---|---|---|---|---|
| **Current Market Area Retail Sales (2022)** | *Table 5-1* | *a* | $1,431,625,779 | $1,431,625,779 |
| **Estimated Project Retail Sales (Supply)** | | | | |
| Estimated Projected UWSP Retail Sales (New Development Only) [1] | *Table 5-2* | *b* | $169,634,206 | $263,250,812 |
| *UWSP as % of Current Market Area Retail Sales* | | *c = b / a* | *11.8%* | *18.4%* |
| **UWSP Capture of New Project Development Spending (Demand)** | *Table 4-5* | *d* | $127,400,682 | $138,959,002 |
| *% of UWSP Sales Supported by UWSP Development* | | *e = b / d* | *75.1%* | *52.8%* |
| **Remaining Project Retail Sales Requiring External Sources of Demand** | | *f = d - b* | $42,233,524 | $124,291,809 |
| Less Market Area Capture of New Project Development Spending (Excl. UWSP Capture) | *Table 4-5* | *g* | $61,370,297 | $58,471,738 |
| **Estimated Net Project-Specific Retail Sales Impact Surplus/(Deficit)** | | *h = g - f* | **$19,136,772** | **($65,820,072)** |
| *Estimated Net Project-Specific Impact as % of Current Market Area Sales* | | *i = h / a* | *1.3%* | *(4.6%)* |

*impact*

Source: EPS.

[1] Excludes retail sales of existing uses in the Project, which are captured in current Market Area retail sales.

As shown, while Upper Westside would capture most of the incremental new demand, it would also result in a nominal sales deficit of about 4.6 percent from existing establishments in the Market Area. Although there is no absolute rule, most establishments usually can withstand a short-term sales shift of 5 percent to 7 percent over a 3- to 5-year timeframe, as this typically represents a business cycle downturn.[69] EPS estimates this nominal sales shift will decline as population and employment growth continues in the Market Area.

In EPS's professional opinion, the estimated nominal shift from existing retail establishments is unlikely to create conditions in the Market Area conducive to urban decay, defined as the substantial and prolonged physical deterioration of properties or structures resulting in discontinued use and investment. This is because the degree to which the market would be affected does not exceed thresholds in which a healthy retail sector could recover. In other words, property owners and tenants are likely to have an economic incentive to maintain their businesses (and properties) with the expectation that longer-term market trends are likely to be favorable. As mentioned, EPS estimates the sales shift will continue to decline as demand in the Market Area continues to expand based on population growth.

That being said, there are uncertainties regarding how the retail sector will continue to respond to changing dynamics, as discussed in **Chapter 3**. The retail sector has a history of dynamism and flexibility but the technological changes in the sector are unprecedented. EPS estimates that any impacts related to the long-term health of the retail sector in and outside the Market Area will be based on structural sector changes rather than the introduction of new Project retail.

## Estimated Cumulative Retail Impacts

There is a moderate amount of retail space in future planned and proposed projects located in the Market Area. As described in **Chapter 5**, planned and proposed projects in the Market Area (excluding the Project) are estimated to comprise 912,000 gross building square feet of retail space. Approximately 93 percent of this retail space (849,400 gross building square feet) is anticipated to absorb by 2052, concurrent with buildout of the Project. Applying a Market Area adjustment rate to the community- and neighborhood-oriented shopping centers and the same vacancy rate applied to Project retail space, this Study estimates that about 638,800 square feet of cumulative occupied space, excluding the Project, is planned to serve Market Area households by 2052. Adding in the estimated occupied retail space in the Project, the total net new occupied retail space planned by 2052 is 1.2 million square feet. The 1.2 million square feet of net new absorbed space, including the Project, represents an approximate 23 percent increase relative to existing inventory in the Market Area. In comparison, total households in the Market Area, including the Project, are estimated to increase by about 84 percent.

In estimating the cumulative impacts of the Project and other future planned retail in the Market Area on existing retail outlets, this Study applies a similar methodology used to examine Project-specific impacts. In addition to the Upper Westside retail sales estimate of approximately $263.3 million at buildout (2052), other future planned retail space in the Market Area will add

[69] This metric is based on decades of retail market research conducted by EPS, including an evaluation of retail sales and total establishment data collected from the California BOE and Department of Tax and Fee Administration.

approximately $285.3 million in annual retail sales to the Market Area, for total new retail sales of nearly $548.6 million annually with Upper Westside accounting for 48 percent of the future pipeline supply at buildout in the Market Area. The Market Area is estimated to capture $327.0 million in Phase 1 (2042) and $355.5 million at buildout (2052) of net new Market Area spending, excluding net new Upper Westside household and employee spending. Retail within Upper Westside is estimated to capture Project-generated household and employee spending of $186.0 million in phase 1 and $197.4 million at buildout. Total estimated net new spending in the Market Area is estimated to be $513.0 million in Phase 1 and $553.0 million at buildout. After accounting for the net new spending captured in the Market Area for the Project and the other cumulative Market Area retail projects there is an estimated surplus of demand available to support existing Market Area retailers from Project households and new Market Area households of $58.1 million (4.1 percent of current Market Area sales) for Phase 1 and $4.4 million at buildout (0.3 percent of current Market Area sales) as shown in **Table 6-2**.

The small percentage of available spending for Market Area retailers after the absorption of the Project and the cumulative projects indicates an appropriate amount of retail planned for future household growth. As the Sacramento Region, including the Market Area, continues to experience residential and employment growth, this percentage is expected to increase over time and indicates that development within the Market Area is unlikely to result in existing retail outlets becoming vacant or remaining vacant for a sustained period. Thus, it is EPS's professional opinion that this percentage of available spending is unlikely to lead to conditions conducive to urban decay. With the Market Area exhibiting strong market fundamentals, property owners and tenants will have an economic incentive to maintain their properties and businesses.

Further, with much of the existing supply of retail space in the Market Area being relatively new and well maintained as shown in **Appendix B**, there is no evidence to suggest that the existing retail space would be susceptible to vacancies based on the sole introduction of new retail space elsewhere in the Market Area.

The character of new retail space planned in the Market Area, including the Project, primarily is either community- (61 percent of total) or neighborhood-serving (25 percent of total), with the remainder identified as highway-serving (14 percent of total). New neighborhood-serving retail is developed to serve proximate new residents and will be financed and developed only when sufficient surrounding residential support exists, ensuring that impacts on existing retail outlets in the Market Area are minimal. With the plentiful inventory of existing community- and regional-serving retail in the Market Area and adjacent jurisdictions and the larger Sacramento Region, new community- and regional-serving retail also will be financed and developed only if sufficient net new market support exists. This type of retail space will require differentiation from the existing community and regional retail outlets in and beyond the Market Area to successfully attract sufficient consumer demand. With the Market Area exhibiting strong market fundamentals, it is unlikely existing retail space would be susceptible to vacancies based on the sole introduction of identified new retail space elsewhere in the Market Area.

## Table 6-2. Cumulative Impacts on Existing Retail Supply

| Item | Source | Formula | Phase 1: 20-Year Buildout (2022-2042) | Total Project Buildout (2022-2052) |
|---|---|---|---|---|
| **Estimated Current Market Area Retail Sales (2022)** | *Table 5-1* | *a* | $1,431,625,779 | $1,431,625,779 |
| **Estimated Cumulative Projected Retail Sales (Supply)** | | | | |
| Estimated Projected Retail Sales of Proposed New Retail in Market Area | *Table 5-4* | *b* | $285,320,778 | $285,320,778 |
| Estimated Projected UWSP Retail Sales (New Development Only) [1] | *Table 5-2* | *c* | $169,634,206 | $263,250,812 |
| **Total Cumulative Projected Retail Sales** | | ***d = b + c*** | **$454,954,984** | **$548,571,590** |
| *UWSP as % of Projected New Retail* | | *e = c / d* | *37.3%* | *48.0%* |
| **Estimated Net New Spending in the Market Area (Demand)** | | | | |
| Net New Market Area Demand (Excluding Project) | *Table 4-7* | *f* | $326,992,482 | $355,543,708 |
| Project Market Demand Captured in Market Area | *Table 4-2 and Table 4-3* | *g* | $186,021,261 | $197,430,740 |
| **Total Estimated Net New Spending in the Market Area** | | *h = f + g* | **$513,013,743** | **$552,974,448** |
| **Remaining Cumulative Demand to Support Existing Market Area Retailers** | | ***i = h - d*** | **$58,058,759** | **$4,402,858** |
| *Estimated Cumulative Impact as % of Current Market Area Sales* | | *k = j / a* | *4.1%* | *0.3%* |

*cumul impact*

Source: EPS.

[1] Excludes retail sales of existing uses in the Project, which are captured in current Market Area retail sales.

Further, it is important to note that the estimate of net new sales excludes other sources of demand for retail space in the Market Area, including demand from employment growth in the Market Area outside of the Project, and demand from residents and pass-by trips originating from outside the Market Area. These additional sources of demand would bolster the estimated demand for existing retail businesses in the Market Area.

## Urban Decay Conclusions

This Study evaluates whether the proposed Upper Westside has the potential to cause or contribute to urban decay, defined as the substantial and prolonged physical deterioration of properties or structures, resulting from extended vacancy, deferred maintenance, and abandonment.

**This analysis concludes that the prospects for urban decay are unlikely based on development of the Project or the cumulative development of the Project *and* other planned retail projects in the Market Area, based on the level of absorption estimated in this Study.** The conclusions drawn in this Study rely on current retail market conditions in the Market Area, findings regarding the capture of and demand for sales, the ability of landowners to adapt to changing market conditions, and jurisdictions' ability to address any instances of physical deterioration stemming from discontinued use and investment. These factors are discussed further below.

**Existing Conditions of Retail Sector.** All other things being equal, a weak or faltering retail sector will be more susceptible to urban decay. Conversely, a new competitive retail project is less likely to precipitate urban decay if existing market conditions are strong. Based on market performance indicators and corroborated with information obtained from real estate broker reports, the retail market in the Market Area is relatively healthy, with a consistently expanding inventory and a 3.4 percent vacancy rate, as described in detail in **Chapter 3**.[70]

**Extent of Demand.** Urban decay is more likely if a new competitive project results in a relatively large quantity of oversupplied retail space in the affected market area, which can contribute to increased vacancy. It is noteworthy that during the Great Recession, the Market Area experienced higher than usual year-over-year vacancy rates—reaching about 9 to 10 percent over three years (2010-2012). During economic recovery from the Great Recession (2013-2018), vacancy rates declined, and the retail market never experienced a long-standing chain reaction of store closures, long-term vacancies, or other physical manifestations of urban decay as evidenced by re-tenanting activity (see **Table 6-3**) and stabilized vacancy rates within 4 to 5 percent (see **Table 3-2**). The vacancy rates since 2019 have fallen below the healthy range of 5 to 10 percent, higher vacancy rates provide prospective renters and buyers with more options when searching for space, helping to stabilize prices. Below this 5.0 percent rate, those looking for space have fewer options, allowing landlords to charge higher prices. Research has consistently found that a vacancy rate below this 5.0 percent threshold leads to increasing rents and sales prices. To that end, the current vacancy rate of 3.4 percent and the estimated

[70] CoStar Retail Submarket Report, Natomas and West Sacramento reports pulled April 2022; and CBRE Marketview, Sacramento Retail, Q4 2021.

## Table 6-3. Re-Tenanted Spaces in the Market Area

| Item | Transaction Year [1] | Square Feet | Former Tenant | Shopping Center / Address |
|---|---|---|---|---|
| **Current Tenant** | | | | |
| La Terra Development Industrial Park | 2022 | 155,000 | Fry's Electronics | 4100 Northgate Blvd |
| Ross | 2020 | 27,384 | NA | 735 Riverpoint Ct |
| Planet Fitness | 2019 | 25,000 | Borders | 4750 Natomas Blvd |
| Michaels | 2019 | 24,000 | Sports Authority (space split into 2) | The Promenade |
| Planet Fitness | 2019 | 20,738 | BigLots | 1250 W Capitol Ave |
| Boot Barn | 2020 | 19,991 | OfficeMax | 3678 N Freeway Blvd |
| Big 5 Sporting Goods | 2019 | 11,000 | Sports Authority (space split into 2) | The Promenade |
| Five Below | 2020 | 10,800 | Pier 1 Imprts | The Promenade |
| Yue Huang Restaurant | 2021 | 6,842 | Re-lease | 3860 Truxel Rd |
| Victory Heating and A/C | 2023 | 6,000 | Dominos | 1500 W El Camino Ave |
| Mr. Crab Seafood Grill & Bar | 2020 | 5,203 | Sketchers | 3551 Truxel Rd |
| Kesa Sushi & Grill Buffet | 2021 | 4,000 | Hooters | 3541 Truxel Rd |
| The Pizza Press | 2019 | 4,000 | Corner Bakery Café | 2281 Del Paso Rd |
| Wingstop | 2019 | 2,760 | - | The Promenade |
| Gracie Brazilian Jiu-Jitsu Academy | 2019 | 2,500 | - | 4000 Truxel Rd |
| Panera Bread | 2021 | 1,800 | - | 2731 Del Paso Rd |
| My Kid's Dentist & Orthodontics | 2019 | 1,680 | - | 4690 Natomas Blvd |
| Smart & Final | 2020 | 1,485 | - | 3307 Northgate Blvd |
| Dames Beauty Salon | 2020 | 1,450 | - | 316 3rd St |
| Railroad Fish & Chips | 2019 | 1,400 | - | 1035 Drever St |
| Dickey's BBQ Pit | 2019 | 1,400 | - | 4630 Natomas Blvd |
| Pigtails and Crewcuts | 2019 | 1,397 | - | The Promenade |
| Curves | 2019 | 1,289 | - | 4331 Truxel Blvd |
| Q is Your Barber | 2020 | 1,140 | - | 1600 W El Camino |
| Dutch Brothers Coffee | 2032 | 900 | - | 764 IKEA Ct |

Source: CoStar; respective business websites; EPS.

[1] The length of vacancy ranges from less than one year up to 11 years.

remaining additional cumulative demand to support existing Market Area retailers of 0.3 percent indicate enough retail demand in the Market Area to support the cumulative projects, including the Project and thus not estimated to result in conditions conducive to urban decay.

**Reuse Options of Affected Properties.** Retail is a highly competitive and adaptable sector that is affected by a variety of evolving trends, including consumer preferences, demographics, travel patterns, technology, and innovation (e.g., e-commerce), as well as commodity production and distribution markets. Individual tenants or property owners will respond to these trends with varying degrees of success, depending on their entrepreneurial skills, local planning, business development efforts, and other factors. In the event vacancies occur in the market, either as a result of new retail space in the market or changing market dynamics, vacated spaces have the potential to be re-tenanted or repositioned with another specialization or use, see **Table 6-3** for examples of re-tenanting in and adjacent to the Market Area.

**Regulatory Controls.** Commercial property owners ordinarily want to maintain their property in a state that will attract and retain tenants. In addition, most municipalities have regulations that require private property owners to maintain their properties to prevent signs of disrepair. In the Market Area, both cities and Sacramento County require property owners to maintain their

properties by preventing poor property conditions and nuisances that may lead to blight. In addition, both the cities of Sacramento and West Sacramento have municipal ordinances to address the myriad physical manifestations related to urban decay.

The City of Sacramento's relevant ordinances include Municipal Code Chapters 8.04 Nuisances Generally, 8.04.060 Responsibility for proper property maintenance, 8.16 Abatement Procedure for Abandoned, Wrecked, Dismantled or Inoperative Vehicles, 8.04.360—Summary abatement of graffiti., 8.28 Weed and Rubbish Abatement, 8.76 Securing Unimproved or Unoccupied Real Property, 8.136 Registration of Vacant Lots, 12.32 Sidewalk Repair, Maintenance and Liability, and 8.96 Dangerous Buildings Code.[71] In particular, the City of Sacramento's Nuisance Code Ordinance is intended to prevent anything that "constitutes visual blight or reduces the aesthetic appearance of the neighborhood, is offensive to the senses, or is detrimental to nearby real property or property value." Sacramento's Code Enforcement Division comprises the Code and Housing Enforcement Chief, 2 Supervising Building Inspectors, 1 Principal Building Inspector, 3 Senior Code Enforcement Offices, 1 Code Enforcement Manager, 2 Code Liaisons, 1 Program Manager, and 1 Customer Service Supervisor. City staff process around 4,200 cases per year for the Natomas-area zip codes (95833, 95834, and 95835). Approximately 99 percent of the opened cases are resolved each year. Commercial complaints typically include development standards and signage.[72] The regulations in place would ameliorate any potential physical impacts leading to urban decay.

The City of West Sacramento's relevant ordinances includes Municipal Code Chapter 19 Nuisance Abatement Code which includes Section 19.05 Property Maintenance, and 19.10 Abandoned, Wreck, Dismantled, or Inoperative Vehicles.[73] In particular, the City of West Sacramento's Nuisance Code Ordinance is intended to "Provide for the protection of life, limb, health, safety, property or welfare of the general public and occupants of, and neighbors to, properties or conditions constituting public nuisances," and, "Provide the citizens of the city with an attractive community and protect property values."[74] West Sacramento's Code Enforcement Division comprises a Code Enforcement Manager, 4 Code Enforcement Officers, and 1 administrative support staff. The City of West Sacramento staff processes around 1,200 cases per year with an average of about 60 days to resolve the cases. [75] The regulations in place would ameliorate any potential physical impacts leading to urban decay.

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[71] Sacramento, California City Code, https://library.qcode.us/lib/sacramento_ca/pub/city_code (accessed May 2022).

[72] Data provided by the City of Sacramento Office of the City Clerk – Records Division, June 2022.

[73] West Sacramento Municipal Code, https://qcode.us/codes/westsacramento/ (accessed May 2022).

[74] Ibid.

[75] Data provided by the City of West Sacramento Community Development Department, July 2022.

# APPENDICES:

Appendix A: Retail Urban Decay Analysis Support Tables

Appendix B: Physical Conditions of Existing Retail Centers in the Market Area

# APPENDIX A:

## Retail Urban Decay Analysis Support Tables


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# APPENDIX B:

## Physical Conditions of Existing Retail Centers in the Market Area